A Lecture

ON

RECURRENT EFFUSION INTO THE KNEE-JOINT AFTER INJURY,

BASED ON A SERIES OF 750 CASES.

Delivered at St. George's Hospital

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GENTLEMEN,—Effusion into the knee-joint following upon jury direct or indirect is so commonly met with in actice that it is not difficult to obtain a large experience of it; indeed, any practitioner of a few ears' standing can hardly fail to have acquired a conderable practical knowledge of the condition. The 750 ses which I propose to consider now include those only which the effusion was recurrent either spontaneously or ter another injury, generally so slight that its effect upon normal joint would have probably been unnoticed. though the number of cases is at first sight large they nnot, of course, be regarded as an exceptional experience,
t it is thought that a consideration of such a series represent-
ears may afford some useful
common conditions, of which
in times like these, when the
ention of most people is concentrated upon the finding of mething that is new or rare, frequently looked upon as ing of poor account, merely, I suppose, because they are frequently met with. For the purpose of this lecture urrent effusion is held to mean a recurring effusion er an interval or intervals during which the joint, far as can be seen, has resumed its normal condition, ling the patients to consider themselves "quite ll," a limitation which necessarily excludes nearly all es in which a diagnosis of tubercle can be made with ficient certainty to justify its acceptance. Care has been en to be sure, as far as possible, that the injuries menned by the patients were really the cause of the original usion, all cases in which there was any doubt whatever ut this having been carefully excluded. The accompany- table (Table I.) gives a general idea of the character of cases dealt with.

I. CASES (509) ENTIRELY INDEPENDENT OF ANY CONSTITUTIONAL CONDITIONS.

(a) *Cases (428) in which the symptoms of internal derangement were very precise.*—In the 428 cases occurring under this heading are included some which I have already published elsewhere.[1] The difference shown in the implication of the sexes is, as would naturally be expected, very large, the proportion being 16 males to one female. This difference, although so large, is probably less than it would have been some years ago and unless the teachings of my later experience are at fault the increasing pursuit by women of athletic and various active exercises will before long largely increase the proportion on the feminine side. With
atient seen was nine years old
The left limb was concerned in
the cases, whilst in 15 (1 in 28½
of the total number) both sides were involved. With one exception the defect in the second knee followed that in the first after an interval, but in one case, a most remarkable one, both knees were found to be "locked" in a semi-flexed position after a fall downstairs, the patient having apparently alighted simultaneously on both knees; this case was subsequently operated upon, the anterior two-thirds of the
being found displaced into the
placed part was intact; on the
other things being equal, the
symptoms arising from lesions of the outer side of the joint were less acute than those connected with defects on the inner side; it was also noticed that when the outer semilunar cartilage seemed to be at fault the symptoms of pain and locking were referred to the popliteal space in at least half the cases. In all the cases operated upon in which the symptoms were referred posteriorly complete recovery followed the removal of the obviously displaced anterior part of the semilunar cartilage. In the total number of 428 cases the symptoms pointed to the inner side of the joint being concerned in 304, to the outer side in 113, and to both the inner and the outer side being involved in 11 (in two of these the diagnosis was subsequently confirmed by operation). 80 patients—i.e., about
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with the result seen
in Ta
the operative treat-
ment
ght the percentage
of cases operated upon may seem small, but it must be borne in mind that the patients seen were of all ages, some being too advanced in life to justify any pressure in the direction of operating. Some were in a

TABLE I.—CASES OF RECURRENT EFFUSION INTO THE KNEE-JOINT AFTER INJURY.

—	Class of case.	No.	Sex		Side.			Operations	Nature of operation.
			M.	F.	L	R.	Both		
— Cases ntirely inependent f constitutional onditions 509).	Presenting definite signs of internal derangement.	428	402	26	293	120	15	80	Removal of semilunar cartilage and pedunculated bodies (see Table II.).
	Without signs of any kind excepting recurrent effusion	56	56	—	25	31	—	12	Exploratory (see Table II.).
	Obvious loose body (exclusive of osteo-arthritis).	21	12	9	7	14	—	16	Removal of loose bodies.
	Genu valgum.[1]	4	4	—	—	4	—	2	Osteotomy.
.—Cases nfluenced y constitutional onditions 241).	Osteo-arthritis.	107	84	23	31	43	33	8	Removal of loose bodies.
	Rheumatism and gout.	30	27	3	11	19	—	4	Incision 2; aspiration 2.
	Syphilis.	42	33	4	13	29	—	—	—
	Gonorrhœal rheumatism.	28	27	1	8	20	—	3	Incision 1; aspiration 2.
	Malaria	18	18	—	7	11	—	1	Incision.
	Hæmophilia.	3	3	—	1	2	—	1	Aspiration.
	Quiet effusion in young people.	13	—	13	6	7	—	—	—
otal 750.	—	750	671	79	402	300	48	127	—
			750		750				

[1] It will be seen that in the cases influenced by const
ses coming under observation whilst this series was t
gressed beyond the point at which effusion only was
between the attacks of swelling described the joints

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condition of health which negatived the propriety of active interference, others d [illegible] considerable number [illegible] to the radical treatment.

(*b*) *Cases (56) presenting no other symptoms than mere recurrence of effusion without noticeable further injury.*—This is a very interesting class. The complaints made were simply that the affected knee occasionally swelled up without any apparent reason and without inconvenience beyond a slight feeling of weakness. The original effusion had, with two exceptions, come on after a twist or sprain of so slight a kind that it attracted little or no notice at the time; in the two exceptions a blow from a cricket ball in c[illegible] case and a knock against the edge of a fender [illegible] the other accounted for the original lesion. In spite of the entire absence of other symptoms, in 12 of these cases which were subjected to operation the internal semilunar cartilage was found to be detached and displaced in five, the external in one, and in one of the cases both semilunar cartilages were displaced (*vide* Table II.) to such an extent that the displaced portions lay under the intercondyloid notch; in the five instances in which the internal [illegible] upied a similar position; [illegible] upon nothing abnormal could be detected in the joint. In two of th[illegible] in which nothing abnormal was found no recu[illegible] effusion had occurred after an interval of twc [illegible] it may fairly be assumed that the recovery wa[illegible] complete; in the three other cases the peri[illegible] which they were under observation was too short to [illegible] definite conclusion with regard to their recovery. [illegible] cases which were not operated upon 30 were tre[illegible] complete success by massage, exercises, electricit[illegible] the remaining 14 the ultimate effect of the same is not known.

TABLE II.—*Operations for Internal Derangement of the Knee-joint.*

Nature of operation.	No. of cases.	Sex.		Side.			Remarks.
		M.	F.	Left.	Right.	Both.	
Removal of pedunculated bodies, cartilage normal.	12	11	1	7	5	—	These cases all presented typical symptoms of internal derangement, occasional locking of the joint, &c.
Removal of internal semilunar cartilage.	56	54	2	41	13	2	Ditto, with the exception of five in which the only symptom was recurrent effusion.
Removal of external semilunar cartilage.	17	16	1	9	8	—	Ditto, with the exception of one case in which recurrent effusion was the only symptom.
Removal of both semilunar cartilages in the same knee.	2	2	—	1	1	—	In one of these there were typical symptoms of internal derangement, in the other there was recurrent effusion only.
Totals ...	87	83	4	53	27	2	—
		87		87			

In all these operations the abnormal parts were removed through a longitudinal incision from one and a half to two and a half inches long parallel with the ligamentum patellæ extending downwards to a point immediately below the line of the joint. In the two cases in which both th[illegible] were displaced they were readily removed [illegible] longitudinal incision; in one case the incision [illegible] the joint; in the other case it was on the inner side.

Two practical lessons may clearly be learned from these cases: (1) that in recurrent effusion into the knee-joint after injury, independent of constitutional conditions, when the usual methods of treatment have failed to effect a cure exploratory operation is indicated on the grounds of the probability of internal derangeme[illegible] extensive displacement of one or eve[illegible] may take place without the recu[illegible] ptoms which are commonly regarded as characteristic of the lesion.

The remarkable absence of characteristic symptoms in some of these cases of semilunar detachment seems to be due to the displacement being so great that the affecte[illegible] cartilages lie under the intercondyloid notch and so escap[illegible] in a great degree the liability to getting nipped between the bone ends. So far as my experience goes it may be said, speaking generally, that the cases in which the displacement is greatest give rise to fewer symptoms than those in which it is, although distinct, not very great, in consequence of the cartilage in the latter being more liable to be caught between the bones, a contention which receives further support from the fact that the trouble in the joint in many of these cases becomes less after a series of repeated attacks by which it is reasonable to assume the damaged structure has become [illegible] The position attained by some of [illegible] very remarkable. It is not, for an example, easy to understand the mechanism by which a diplacement like that shown in Fig. 6 is produced but much more extraordinary abnormality is sometimes seen. In a case in this hospital some years ago in which amputation was performed in consequence of [illegible] he knee-joint after an injury the internal [illegible] entirely wanting in its proper place was [illegible] ind the patella.

(*c*) *Obvious cases (21) of loose bodies in the joint.*—These call for little remark. The injury in each case was severe and was followed by excessive immediate swelling (from blood). In 14 of the cases operated upon a single fibrous loose body was found in each, the smallest mass being of the size of a horse-bean and the largest of the size of a cherry. In one of the two remaining cases two ovoid bodies were found; in the other the shape and structure of the body justified the diagnosis that it had been broken off the edge of the articular surface of the femur but no investigation was made to ascertain the point from which it came. The symptoms produced bore no accurate relation to the size of the loose body; speaking generally, however, the larger the body the less acute were the symptoms although the attacks in cases in which the larger bodies existed appeared to be more frequent.

(*d*) *Genu valgum (4).*—Although only four cases of this kind were met with in the series they are interesting because so far as n[illegible] into the joint in genu valgum is [illegible] of the disadvantage at which [illegible] existing under such conditions would seem to be placed in the event of injury. The injury in all the cases was indirect and in each a rapid increase in the deformity was said to have followed. The two cases operated upon were treated by osteotomy of the lower end of the femur for the rectification of the deformity, after which no further attacks of effusion occurred. In the remaining two cases operation was declined. The patients were aged 12, 13½, 14, and 15 years respectively.

OPERATIONS FOR INTERNAL DERANGEMENT OF THE KNEE-JOINT.

The principal points in relation to these cases are set down in Table II.

In none of the 87 cases was a more extensive exploration [illegible] d. I have [illegible] y in cases of this kind, as I have invariably been able to remove the original mechanical cause of defective movement or pain [illegible] , in the cases here [illegible] e detached cartilage [illegible]

cartilage is from an incision on th[illegible] therefore, in which there is [illegible] suspect detachment of both cartilage[illegible] xploration through an incision o[illegible] joint. [illegible]

thus obta[illegible] the restor[illegible] such an [illegible] very imp[illegible] operations. It is often laid down as an axiom that no operation for internal derangement [illegible] sidered complete in cases in [illegible] extension is defective unless [illegible] immediately possible; the movements of the joint, in fact, at the end of the operation should be as perfect as those of the opposite limb. I [illegible] cartilage this i[illegible] tainly not so in [illegible] movements—no [illegible] removal of the mechanical obstacle in the joint itself does not always allow of *immediate* normal extension which is, however, recovered gradually by the aid of massage and exercises.

The importance of an appreciation of this point lies in the fact that no matter what operation is performed or how freely the joint is opened there are a certain number of cases in which a resumption of normal movement does not immediately follow the removal of the objective abnormality [illegible] of all natural move[illegible] ich has a practical [illegible] ion, as the following case which came under my notice after ankylosis had taken place will show. A man with a long-standing displacement of a semilunar cartilage, the knee being fixed in a slightly bent position, was operated upon by a surgeon of repute, the lateral incision being employed and the displaced structure removed. Complete extension being still impossible the joint was explored by the transpatellar method with a view to finding the obstacle to free movement. Nothing further was found and the defective movement remained as before; suppuration unfortunately followed and a stiff joint in the same slightly bent position resulted. The transpatellar exploration was obviously superfluous here and had the operator been content with the slighter operation complete movement would have been almost certainly obtained by the usual means—at least such is the conclusion that my experience in these cases leads me to. I very much doubt whether any obstacle to movement in conditions of this sort could exist which the finger introduced in the manner I have mentioned would fail to detect, assuming, of course, that it is endowed with sensation of average acuteness. An additional point of interest connected with the method of operation was very plainly demonstrated by the condition of the parts in every one of the cases operated upon in which the cartilage was displaced—viz., that not only would it have been useless but impossible to fix effectually in their normal place any of the displaced cartilages with the least prospect of their remaining in their restored position, a fact which, considering the number of cases dealt with, ought, I think, to be sufficient to dispose of the idea which I understand still exists, with some people, that a truly displaced cartilage can be *effectually* stitched in position. The result in all the cases but two was perfect, the mechanics of the joint being entirely normal. In one of the two exceptions the movements were slightly restricted as the patient declined to submit to the necessary manipulation; the defect, however, was not sufficient to interfere with ordinary occupations and no lameness was apparent. The other defective example occurred in a boy in whom the power of complete extension has not been quite regained, but as the operation in his case is comparatively recent (about eight months) a perfect result may yet ensue.[3]

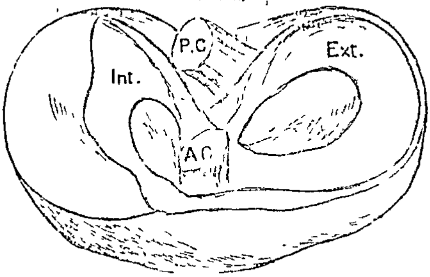
Conditions of the damaged cartilages—The injuries to the cartilages arranged themselves into seven groups which will be perhaps most readily understood from the following diagrams. Each diagram shows the condition found in an operation and forms the basis of a group in which are included all the cases presenting injuries either identical with, [illegible] depicted. It [illegible] generally, in cases affect[illegible] the structure itself is m[illegible] r torn) than is the case with the internal cartilage. This is precisely what [illegible] on to the knee in jumping, and apart from the damage to the structure itself the violence resulting in detachment of the external cartilage was, with the few exceptions in which the internal cartilage was split or torn, greater than that leading to displacement of the opposite cartilage—a fact which is quite in accordance with what would be anticipated on anatomical grounds.

II. CASES (241) INFLUENCED BY CONSTITUTIONAL CONDITIONS.

As would naturally be expected, the existence of a constitutional dyscrasia exercises a considerable influence in these (1) in leading to the occurrence of symptoms from very slight causes and (2) in rendering recovery difficult or impossible unless the constitutional conditions be treated or, at all events, taken into account—a matter also of consequence in relation to prognosis.

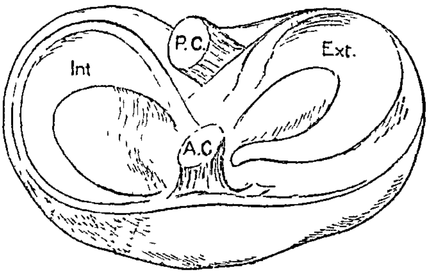
(*a*) *Osteo-arthritis* (107).—*It is, I am aware, open to* question whether cases of this type should be included in a series like that I am considering, but as in all of those which I have included here the condition undoubtedly followed upon injury and the effusion was recurrent after an interval or intervals of apparent recovery they may fairly be considered as coming within the category. All when first coming under observation were very early instances of osteo- [illegible] the diagnosis of osteo- [illegible] rtainty after repeated [illegible] owed by some charac- [illegible] ne initiating injury was [illegible] rect—e.g., a twist or sprain. Of the cases operated upon in only two was a loose body felt before the treatment; in the remainder attacks of acute pain, in three cases leading to sudden falls, led to operative investigation; in all the cases explored the loose bodies were found and removed through a longitudinal incision at the inner side of the joint. As would naturally be expected, males were affected largely in excess of females, about four to one, the right knee being concerned more frequently than the left. When the second knee became affected it was invariably the result of some twist, strain,

FIG. 1.



Anterior two thirds of cartilage displaced inwards; anterior extremity remaining attached (33 cases, 30 affecting the internal cartilage and three the external).

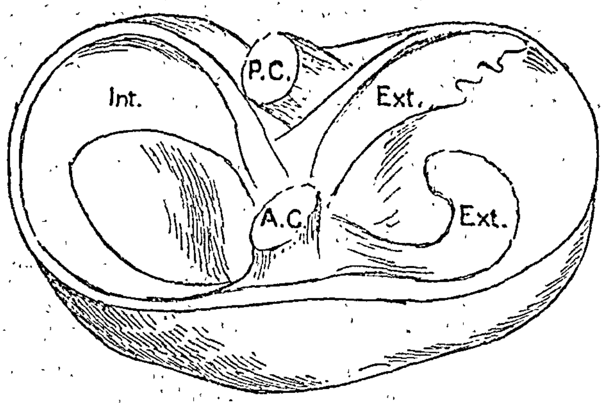
FIG. 2.



Anterior half of the cartilage displaced inwards; anterior extremity torn away from its attachments (20 cases, 18 affecting the internal cartilage and two the external)

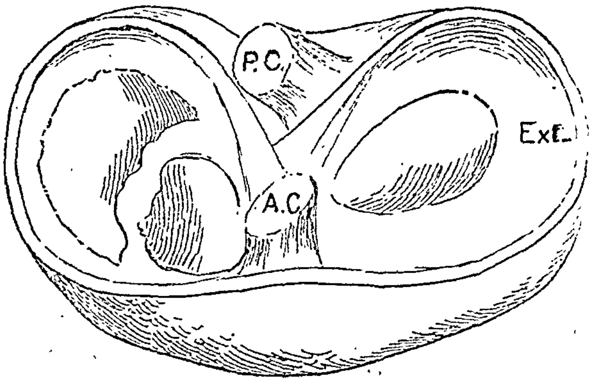
[illegible]

FIG. 3.



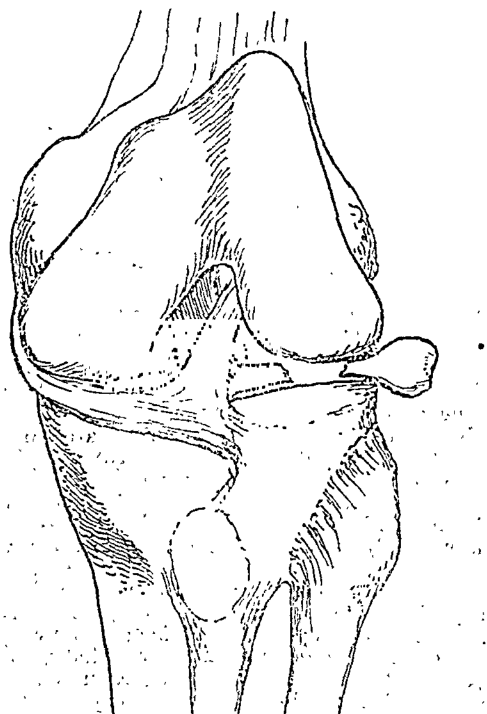
Cartilage torn across near the centre; posterior part of the anterior segment displaced inwards in some of the case; in the remainder the posterior segment was the displaced part (ten cases, three affecting the internal cartilage and seven the external).

FIG. 4.



Cartilage split longitudinally over the middle two-fourths, the inner portion remaining attached at both ends and displaced inwards (five cases, two affecting the internal cartilage and three the external). In each case the marginal portion of the cartilage was loosened but not displaced.

FIG. 5.

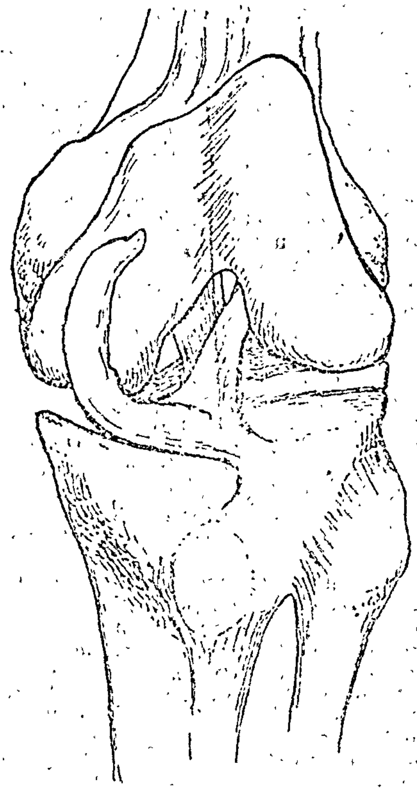


Cartilage torn from its connexions anteriorly and pushed outwards, thus producing a tumour readily felt under the soft parts (three cases, one affecting the internal cartilage and two the external).

or stumble in attempting to "save" the knee already involved.

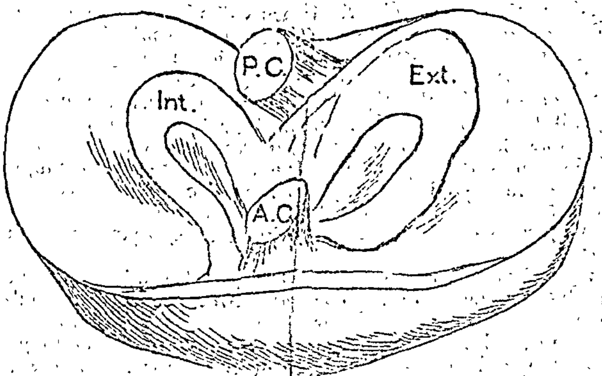
With regard to the treatment of these cases nothing seemed to have more than a palliative effect excepting the radiant heat-bath massage and electric vibration which in 23 cases of comparatively recent origin appeared to effect an actual cure. In a certain percentage the pain at the onset of effusion was very great but as a rule rapidly subsided. When persistent a gentle application of the thermo-cautery over the seat of intensity was followed by remarkable relief excepting in the cases where a loose body accounted for the symptoms.

FIG. 6.



Cartilage torn from the lateral connexions and turned up on to the articular surface of the femur (two cases, both involving the internal cartilage).

FIG. 7.



Both cartilages torn from connexions and greatly displaced inwards (two cases). In one case both cartilages were detached at the anterior extremities, in the other the anterior end of one cartilage remained attached.

(*b*) *Rheumatism and gout* (30).—Nothing of much practical account arises out of these cases. Those which were undoubtedly influenced by a gouty tendency all commenced after a direct injury; the rheumatic cases followed an indirect injury as a rule; in the gouty instances the skin over the joint showed the usual redness and acute sensitiveness to pressure; the effusion was rapid and excessive; in two instances, had the history of attacks of acute gout in other joints not been forthcoming, suppuration in the joint might easily have been suspected; indeed, in one case incision was seriously considered and would certainly have been carried out if the gouty history had not been so distinct. In the cases in which rheumatism was clearly a strong factor a cure was, as a rule, effected by the usual constitutional treatment combined with massage. The operations were performed for the relief of acute pain due to tension; incision appeared to possess no advantage over aspiration in the relief of the pain, whilst the healing of the wound was in both cases of incision slow and in one more reaction followed than was quite desirable; in the future, therefore, in such cases I shall be content to aspirate the joint, other means for reducing the tension having failed.

(c) *Syphilis* (42).—In the cases included in this category the longest period between the original infection of the constitutional disease and the receipt of the injury causing the effusion into the knee was 28 years, the shortest period being three years; in all the syphilis appeared to have been properly treated and to have been "cured." The injury in all the cases was direct and as a rule slight; the right knee as would be expected was much more frequently involved than the left (29 to 13). In no case was permanent benefit derived until a course of antisyphilitic treatment was adopted. In some it was the inveteracy of the condition which led to the searching inquiries which elicited the history of syphilis.

(d) *Gonorrhœal rheumatism* (28).—All the patients in this class had suffered from "rheumatism" after gonorrhœa within three years but were, so far as they knew, well until the injury started the effusion into the joint; the injuries were in the majority indirect and in each case the affected knee had been concerned in the gonorrhœal infection. In one case in which both knees were injured at the same time, one very severely, the other slightly, the former recovered rapidly and completely, whilst the latter, which had been affected at the time of the gonorrhœa, developed very inveterate recurrent attacks of effusion. In 17 of the cases there was an obvious gleet, although the patients were unaware of the fact. The operations were performed to relieve tension and acute pain. Aspiration effected the object as perfectly as incision, whilst it was less inconvenient, as there was, of course, no wound which required treatment.

(e) *Malaria* (18).
the number at first
portion came under
In all the cases the
malaria for some years and in none had any joint affection been noticed until the receipt of an injury causing in the first instance some swelling of the articulation. In the cases classified here, although the joints appeared to have regained the normal condition, succeeding attacks of "fever" were accompanied by effusion into the joint which had been injured. This behaviour of joints under the influence of malaria after injury is new to me, although it may possibly be familiar to those who are more intimately associated with tropical disease. In the case operated upon an incision was made as the extreme tension of the joint and the very high fever suggested the possibility of suppuration. The wound healed kindly.

(f) *Hæmophilia* (3).—These cases are of no particular interest with the exception of that which was aspirated in which after three attacks of effusion following injury a fourth occurred with so much tension and fever that it became desirable to ascertain the nature of the fluid; it was only upon the withdrawal of a large amount of blood that the diagnosis was made; the joint refilled but not to the extent it had done before the puncture. In none of the cases had there been any other joint involved: in two there was the usual family history; in one (that which was aspirated) no history of hæmophilia was forthcoming.

(g) *Quiet effusion in young people* (13).—In THE LANCET of Feb. 23rd, 1901, p. 527, I called attention to a passive effusion principally into the knee and ankle joints which is prone to occur in young girls during adolescence if the menstrual arrangements are irregular and especially if they are delayed in their onset. In ordinary circumstances upon the regulation of the catamenia the joint trouble disappears and no further inconvenience arises from it. In the event, however, of any injury being received whilst the quiet effusion is present the symptoms do not always subside with the rectification of the menstrual defect but may give trouble for a considerable time afterwards as a recurrent effusion. Of such a kind are the cases included under this heading. The injury, as a rule, was not severe, but the greatest difficulty in treatment arose when it was direct—e.g., a knock of the knee against the leg of a table.

Taken as a whole I cannot help thinking that this series of 750 cases affords a good deal of useful information, although it has been, of course, impossible, in the time at my disposal, to attempt anything more than a very superficial discussion of some of the obvious points which suggest themselves in connexion with the cases under consideration.

A Clinical Lecture

ON

A SIMPLE METHOD OF SEPARATING AND COLLECTING THE URINE WHICH IS SECRETED BY EACH OF THE TWO KIDNEYS.

Delivered at St. Bartholomew's Hospital,

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GENTLEMEN,—Many have been the attempts which have been made in times past to discover a method by which the urine of each of the kidneys could be collected and submitted to examination, with a view to ascertain the pathological condition of each of those two organs before any operative interference was attempted. It is needless to recapitulate the various methods that have been tried and so far found wanting. Some years ago methods of blocking the orifices of each of the ureters in turn were resorted to. This was effected either by the pressure of a bag of mercury, which was introduced by the urethra, or by employing a pair of forceps shaped somewhat like a lithotrite by means of which the mouth of each ureter in turn could be seized. Latterly attempts have been made to catheterise the ureters, a procedure which demands no small amount of skill and practice in the operator and even in trained hands is in some cases liable to failure. Small wonder that none of these have come into a general use. A method which is uncertain is worse than useless, for it is liable to engender a false sense of security and has more than once induced a surgeon to operate when, as the operation has proved, his patient should never have been submitted to such a procedure.

The instrument which I have in my hand[1] to-day (see illustration) has none of these objections. It is simple to introduce when reasonable skill is employed, practically infallible in action, innocuous so far as the patient is concerned, and does not require an anæsthetic for its employment. Needless to say, it is simple in construction—every good piece of mechanism is. The Luys separator, for such is its name, converts the bladder for the time being into two halves by means of a vertical septum. Each half of the base of the bladder receives the urine from the corresponding ureter and delivers it by a separate channel into a glass tube on its own side. Thus we can watch the urine flowing from each kidney as easily as if each ureter opened separately on the outside of the body. The instrument consists of two catheters placed side by side. They are fastened together by a screw and can easily be taken apart. Placed between them is a chain, actuated by a screw in the handle. The curve of this instrument is, you will see, more semicircular than that of the ordinary catheter. Before introducing it into the bladder its middle portion, to which the chain is attached, is covered by a thin rubber sheath. As soon as the instrument has reached its destination the handle, which actuates a screw, is turned round and the chain is tightened so that instead of lying in its semicircular groove between the two catheters it is stretched tightly across the semicircle. It forms, in other words, its diameter instead of lying along its circumference. The rubber sheath is by this manœuvre stretched so that it forms a vertical semicircular partition which divides the base of the bladder into two halves and each of these delivers its contents into its corresponding catheter. If slight pressure is exerted on the base of the bladder there is no difficulty in preventing the urine from one kidney from mingling with that of its fellow, in other words, complete intravesical separation is attained.

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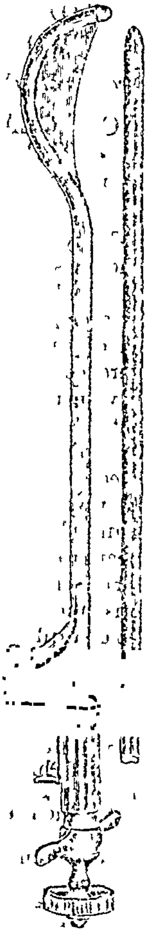
[1] I am indebted to Messrs Arnold and Sons, West Smithfield, for the use of the accompanying block.

When the instrument has been introduced the patient is kept in a recumbent position with the pelvis flat on the bed or couch. If he turns on his side it is, of course, obvious that an overflow will be liable to take place from one side of the septum to the other. In some instances it is necessary to carry on one's observations for half an hour, or even more, before a sufficient quantity of urine has been collected to enable one to draw an accurate inference as to the pathological condition of each of the kidneys, but as a general rule ten minutes are enough. As soon as a sufficient quantity of urine has been collected the handle is unscrewed and the *chain drops back into its place, the rubber* covering follows suit, and the instrument is withdrawn in the usual way. If you have found any difficulty in [illegible] this difficulty will at once vanish when you have had [illegible] instrument in your hands for a couple of minutes.



There is another form of this instrument in which the septum is formed in a slightly different manner. I need not do more than allude to it. The form [illegible] is, I believe, simpler and less liab[illegible] There is only one caution that I would give you with regard to its use. It is a somewhat delicate piece of mechanism and if you wish it to work efficiently see that it is carefully cleaned with a little spirit each time after use and then it will not be liable to get rusty a[illegible] that smoothness which is so neces[illegible] to be obtained. See also that yo[illegible] rubber sheaths.

If I relate to you some of [illegible] employed this instrument you will at once realise how important an aid it is to diagnosis and treatment.

The first instance in which I made use of it was one, as you will see, of obstructive suppression—that is to say, a case in which one kidney had been practically destroyed by a calculus and in which complete obstruction was being threatened owing to the impending blockage of the opposite ureter. Such cases when they are typical are not very difficult to detect but in this instance no history could be obtained of a previous attack of renal colic or any evidence of even the probability of such an attack. The illness from which the patient was suffering had come on suddenly in a man, aged 46 years. He had been seized without [illegible] pain in the region of the left kidney and ureter which had temporarily yielded to fomentations, hot baths, sedatives, and rest in bed. Each time one of these attacks supervened there was an arrest in the secretion of urine, though it could hardly be said to amount to complete suppression. There had been some six or seven attacks in the past three weeks. The longest one had lasted three days and the shortest only a few hours but latterly the pain had invaded both loins. The urine was highly coloured, tinged with blood sometimes, and there was a little pus in the specimen which I examined; it had a specific gravity 1014, gave an acid reaction, and contained a trace of albumin. The day before I saw the patient he had had a severe attack over the region of the right kidney and both loins were tender to touch. His temperature was a little raised and he was evidently ill. Though on the whole it seemed most probable that a stone in the pelvis of the l[illegible] the clue to his symptoms the rece[illegible] right kidney region made the condit[illegible] a matter of considerable doubt. In [illegible] I introduced the separator, and within a few seconds urine began to issue from the left catheter. It was not until nearly half an ounce had come from this side that urine began to issue from the [illegible] quarter of an hour quite enough ha[illegible] purposes of examination and the ins[illegible]

The appearance of the urine from the two sides was absolutely different. That from the right side was small in amount (scarcely more than a teaspoonful) whilst three-quarters of an ounce had come from the left kidney. The examination of the two specimens yielded the following result. The urine from the right kidney was slightly alkaline and contained a [illegible] that from the left kidney was a[illegible] ous or albumin. It was now [illegible] of doubt that the kidney [illegible] kidney and [illegible] contained a [illegible] kidne[illegible] so damaged by some previous attack as practically to be useless.

An operation was performed a few days later on the left kidney. The ston[e] [illegible] was extracted from its pelvis. A [illegible] still occasionally t[illegible] left side. I have suggested that the right kidney should therefore be explored and if necessary removed, for it is not only a useless organ but is liable to infect its neighbour by giving rise to a left-sided ascending pyelitis. So far the patient, who does not realise the danger of the situation, is unwilling to submit himself to a second operation.

The next case in which I employed this instrument was [illegible] of a patient in whom one kidney (the left) had been [illegible] years previously. I was anxious to test [illegible] for [illegible] of the instrument and to make sure that no urine could pass [illegible] le of the bladder to the other. Urine i[illegible] right catheter and [illegible] from the left side. I was, I confess, surprised to [illegible] difficult it was, even when the separator was loosely inserted, to get any urine to issue from that side of the bladder in whic[h] [illegible] was functionless. The case [illegible] effected was proved beyond doubt.

[illegible] case in which the separator was employed [illegible] There had been [illegible] which was in [illegible] the country, [illegible] by no means a successful one, and when I saw the patient her kidney was undoubtedly fixed, but it was quite low down and almost touched the crest of the ilium. There was in addition a condition of hydronephrosis which she at least attributed to the operation. There was no need to apply the separator to prove the presence of the hydronephrosis, as it was obvious without it. As, however, I had advised an operation for the refixation of the kidney in a higher position and for the relief of the hydronephrosis, I was anxious to have an exact record of the flow of urine both before the operation and subsequently to it and accordingly the separator was introduced with the following result. On two occasions no urine at all passed from the right ureter into the bladder for upwards of half an hour b[illegible] that time freely secreted by [illegible] bladder by the left ureter. [illegible] a third occasion, a period being chosen when the right kidney was very fully distended and therefore presumably liable to empty itself. For fully a quarter of an hour no urine came from the right kidney but the left secreted freely. At the end of the quarter of an hour the patient, who was suffering [illegible] nded [illegible] pain [illegible] issue from the right side in a small but quite continuous stream, two ounces being passed in very little more than five minutes. *Meanwhile the left kidney ceased to secrete at all.* I was unable to extend the sitting as long as I had wished because the patient was in considerable discomfort notwithstanding that the right kidney was slowly emptying itself, but it was curious to observe that the left kidney did not secrete one drop of urine during the time that the right kidney was emptying itself. The urine which was secreted by the hydronephrotic kidney only contained about 1·2 per cent. of urea —less than half the percentage secreted by the healthy organ.

A few days later the right kidney was explored by me and found [illegible] lumbar fascia but much lower [illegible] has already been described. [illegible] section it was freed from its bed and refixed as high up in the abdomen as was possible. The pelvis of the [illegible] bougie was passed right t[illegible] stricture or blockage of any [illegible] pelvis was accordingly closed by a catgut suture. The kidney itself appeared to be fairly healthy. The lumbar incision was likewise closed, a small drain being inserted at its lower end in case any leakage should take place. For a few days a slight amount of urine was passed by the wound but by the end of a week the leak had completely ceased and the patient felt perfectly comfortable. The separator was introduced at this period and again five days later. [illegible] same on both [illegible] hough slightly [illegible] the left side [illegible] h issued from [illegible] bandage and [illegible] at the kidney [illegible] e beyond any [illegible] operation was entirely successful and the right kidney was secreting nearly 2 per cent. of urea as against 1·2 per cent. before operation. I see no reason to doubt that time will restore [illegible] healthy condition.

[illegible] e of this instrument. The [illegible] pus from time to time with [illegible] hough pointing to the right lumbar region were not sufficiently marked to make it absolutely certain which of the two kidneys was affected. She [illegible] e but the urine, [illegible] was too opaque [illegible]. The separator [illegible] blue in a pill [illegible] result was a [illegible] e naturally. It [illegible] ply stained with [illegible] same character was voided. It was tested for urea and found to contain less than ½ per cent. The diagnosis was consequently placed beyond doubt and the right kidney was removed a few days later. It was little more than a bag of [illegible]. The upper [illegible] removed at [illegible] value of a [illegible] portance of [illegible] which it is capable of affording us. I could relate many others but I prefer that you should see the instrument itself made use of in the wards and watch the advantageous results which we obtain by its use. By these means you will better appreciate the points I have endeavoured to impress on you in this lecture.

ON THE PATHOLOGY AND TREATMENT OF THE HERNIÆ OF CHILDREN AND THEIR RELATION TO CONDITIONS IN THE ADULT.

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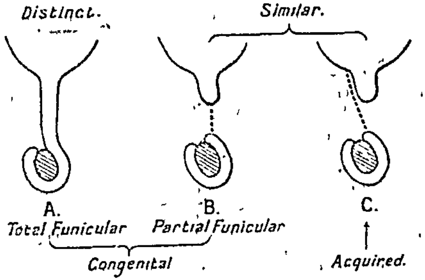
IN THE LANCET of August 20th last[1] there appeared the report of a post-graduate lecture on the subjects indicated in the above heading by Mr. E. M. Corner, a surgeon whose position, while it invests his utterances with the weight of authority, will also render it assured that the views he advances are carefully weighed and founded on a solid scientific basis. It is therefore with no little astonishment that I discovered that the conclusions to which Mr. Corner has been drawn by his experience of hernia in childhood are so diametrically opposed to those at which I and many others have arrived as to be hopelessly irreconcileable. My own views on this subject have been very amply set forth in a series of articles which have appeared in this journal during the last five years;[2] these Mr. Corner has either not read, or having perhaps read them he has deemed them [illegible] an endeavour should be made [illegible] the truth lies, a view with whi[illegible] cordially agree than he. I ask, therefore, permission to state once again, as concisely and as courteously as possible, not merely my opinions, which are of no value, but the evidence on which those opinions have been built up; evidence which it is open to all surgeons to test for themselves and which I believe to be unimpeachable in its conclusiveness.



The dotted lines in B and C indicate the obliterated portion of the funicular process.[2]

The issues are very definite and are easily stated. All authors, until quite recently, have agreed that inguinal hernia in childhood may be (1) *congenital*, dependent on total patency of the processus vaginalis; (2) *funicular*, dependent on partial patency of the processus vaginalis; and (3) *acquired*, not dependent on the processus vaginalis at all but caused by incompetence of the abdominal wall. The characters of these three varieties are shown in the accompanying diagram. I have substituted for the careless and inexact terms of common usage, "congenital" and "funicular," my own nomenclature of "total funicular" and "partial funicular" respectively, for reasons which are obvious and which have been already explained at length in these columns on two previous occasions.[3] Now it will be noted that while the first two forms A and B are etiologically identical, being both congenital, C differs from them in being recent or acquired. Curiously, however, A and B, the two congenital forms, present so marked a contrast one from the other that the tyro could never fail to distinguish them, while, on the other hand, B and C, which have nothing in common in point of origin, are yet so much alike as virtually to be indistinguishable from one another. And now the question at issue emerges very clearly; it is as follows. Mr. Corner, on the one hand, places all the herniæ of childhood in which the sac is distinct from the tunica vaginalis in the category of the acquired (C). I, on the other hand, place them all in the category of the partial funicular (B) and deny the existence of the acquired (C). I find myself in somewhat of a difficulty through the fact that Mr. Corner has made no reference at all to Class B. I presume this is only the result of an inadvertence and I shall assume that the existence of such a class is admitted by him, in addition to the acquired (C). This circumstance, however, does not affect the real point at issue, which turns solely upon the question of the existence or non-existence of acquired hernia (C) in children; and I would point out that the answer we give to this question is not a mere matter of academic or pathological interest, it is the most important question with regard to hernia from a practical standpoint that can be advanced for debate: I will go further and say that it is the *only* question of supreme moment that the subject in its elementary form presents. The reason of its predominating importance is this. The large majority of herniæ in children admittedly have a sac which is quite distinct from the tunica vaginalis and all such must belong to either (B) the partial funicular (congenital origin) or (C) the acquired (of non-congenital origin). But how are they to be distinguished individually? It obviously cannot be done and nobody has ever suggested any method of doing it. Now it stands to reason that if in operating on any individual case of hernia the surgeon is unable to tell whether it is of congenital origin belonging to Class B or whether it is of acquired origin and due to defect of the abdominal wall and, as such, belonging to Class C, he is in the position of being virtually in complete ignorance of the etiology and nature of the affection he is treating and it is therefore impossible that his procedure should be based on any sound rational principle. This startling corollary from the usually accepted views as to the etiology of hernia is inevitable and the resulting disability to our efforts at precise scientific treatment will be irremediable and permanent unless a close and well-directed scrutiny of the whole subject should make it evident that the accepted views are defective and susceptible of revision and alteration.

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[1] [illegible] 1904, p. 511.

[2] [illegible] May [illegible] 0th, 1900, p. 1123

The first very simple question that will arise from the foregoing statement is this: if the large number of herniæ that are comprised in the two groups B and C are indistinguishable from one another what evidence is there that both groups actually exist? Why do they not all belong to either B on the one hand or C on the other? There must surely be some evidence forthcoming—evidence that is independent of the mere naked-eye appearance—to show that certain individual cases must be relegated to the category of Class B while others, with equal certainty, must be classed under C. Nothing of the kind! The evidence demonstrating the funicular origin of individual herniæ proving them to belong to Class B is abundant and constantly recurring. On the other hand, concerning Class C, amazing as the statement may seem, no particle of evidence, direct or indirect, has to my knowledge ever been adduced to show that any single case of hernia in a child should be placed in that category. The existence of acquired hernia in childhood has been entirely taken for granted; it has been the purest assumption from beginning to end.

Now I am aware that this last statement is of the nature of negative evidence and I quite recognise that even though no evidence has ever been adduced in favour of the acquired origin of hernia that does not prove that none ever will be or that hernia may not be acquired. We need not, however, be concerned with any question as to the value of negative evidence, for the positive evidence in support of my position is abundant and conclusive. There is one test which, if equally applied to all cases of hernia in childhood may, I presume, be trusted to distinguish between those of congenital origin (B) and those of acquired origin (C) and that is simple removal of the entire sac by operation. I imagine it will be conceded that if in a case of hernia resulting from incompetence of the abdominal wall (acquired hernia, Class C) the peritoneal sac be simply ligatured and removed and nothing be done to repair the supposed defect in the walls of the inguinal canal, the operation must of necessity prove futile and the hernia will recur; and conversely, if after such simple operation as I have described the hernia does not recur we may, *ipso facto*, conclude that the hernia in question was not due to any defect in the abdominal wall and therefore cannot be classed as an acquired hernia (C). In the course of the last eight years I have performed the operation for inguinal hernia in young children 143 times (with two deaths). I have not systematically endeavoured to trace all these cases with a view to publish statistics in this paper, because for a variety of reasons that course could hardly strengthen the evidence. Suffice it to say that for several years past no other operation than the simple one I have mentioned has been performed by my former colleagues at the Melbourne Children's Hospital and the result of their experience has been to verify the statement I made five years ago that in the inguinal hernia of childhood if the sac be completely removed recurrence will not take place. In actual practice it is exceedingly probable that an occasional recurrence will be met with, because all operators are not equally experienced and skilful and the operation varies in point of difficulty and is always difficult for a beginner, but, as I shall point out directly, the fact of occasional recurrence does not invalidate my contention as to the etiology of hernia. As regards my own series the bulk of my patients were operated upon prior to three years ago, when my work at the Children's Hospital ceased. Of these cases only one, to my knowledge, recurred. In this case the hernia reappeared about four months after the operation and was evidently due to incomplete removal of the sac, for a second operation performed with perhaps more thoroughness 18 months ago has not been followed by recurrence. These 143 cases, I may remark, were the result of no process of selection; they represent the total number of the cases of hernia in childhood that came under my care during the period named. In no case with the exception of a few very young infants was a truss advised. All cases were subjected to operation, virtually without discrimination.

It is perfectly clear that whatever view we may take as to elaborate operations based on the principle of closing the canal in order to prevent hernia no difficulty or doubt is possible as to the deduction we are permitted to make from so simple an operation as this. It is self evident that if as the result of operation the hernia does not recur the cause of the hernia must have been removed; and if the operation has consisted solely in removal of the sac, then the sac must have been the cause of the hernia in every case; and these will therefore all belong to Class B. On the other hand, the fact of recurrence after operation will not necessarily prove that the case in question was an acquired hernia (C), because recurrence will also take place after operation on the congenital form (B) provided the removal of the sac be incompletely carried out. In brief, when simple removal of the sac has been performed for hernia, non-recurrence will prove that the case was of congenital origin (B); but recurrence will *not* prove that it was of acquired origin (C). If now by the light of this reasoning we take a large number of cases of hernia in young children treated by simple removal of the sac, and we find that recurrence is only an excessively rare event, we shall surely arrive at the conclusion that to prove any single one of those cases to have been of acquired origin will at least demand evidence of the most stringent and incontrovertible nature, such as I am unable to conceive, and such as certainly has never to my knowledge been even suggested.

Difficult to combat as this evidence is it is by no means the only evidence I am able to bring forward in support of my contention that the inguinal sac in children is invariably congenital—i.e., either total or partial funicular. If any

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[3] THE LANCET, Nov. 18th, 1899, p. 1353, and March 12th, 1904, p. 707.

man who has the opportunity of frequently removing hernial sacs from children will make a point of inspecting [illegible] removal he will [illegible] ntly recognising [illegible] ure with as much facility and precision as that with which the shepherd is enabled to distinguish the characteristic faces of his flock. I have on former occasions gone into this question with minuteness; suffice it to mention here that he will find all sorts of variable characters that could not be produced in an acquired sac, such as bilocular or multilocular sacs, sacs with marked sacculations and with occasionally a sacculus closed over forming a cyst, sacs showing imperfect division into one or more segments, sacs imperfectly closed at the end, and so on. It is rare for me to remove a hernial sac without being able to point out to onlookers after its removal the characters that indicate its congenital origin. I may mention incidentally that the sacculation I refer to here should not be confused with the sacculation that is observed in the case of a genuinely acquired hernial sac, as in ventral hernia occurring in the seat of an operation wound. In the latter case the irregular outline of the sac is due to its having had to force its way through a maze of cicatricial tissue and the most casual observer will see at once that there is no true similarity between the two things.

Thus I hold it proved that so long as we employ a method of reasoning by sound induction the evidence will be all on one side and yet there will be many who are not yet convinced. It is worth while to digress for a moment to seek an explanation of the reason for this mental attitude with regard to hernia. If we were to be asked to state our conception of the origin of hernia in a general and elementary way we should probably do it somewhat in this wise: "In the normal state there are two opposing forces at work, on the one hand the intra-abdominal pressure, on the other hand the retentive power of the abdominal walls; in this contest so long as the retentive power holds its own there will be no hernia, but when the intra-abdominal pressure overcomes the retentive power at any one point hernia results." Fair as this statement may seem, there is an implied fallacy, for it distinctly creates the impression that there must be some sort of equality between the two opposed forces, whereas the truth is that the preponderance in strength of the retentive power of the abdomen over the intra-abdominal pressure is so enormous that the part which this latter force *unaided* could be capable of playing in the production of hernia may be set down as a *quantité negligeable*. This is a matter that does not appear to lend itself very readily to [illegible] observation will afford [illegible] rmation. It shows, for [illegible] quiescent state of the abdomen the interior pressure is to all intents and purposes *nil*, while it is only during effort that it can be said to exist at all, and even then the rise of the intra-abdominal pressure is trifling in comparison to the muscular effort expended. Take a case of undoubted acquired hernia—viz., that form of hernia that occurs after abdominal operations where the abdominal wall has been left open for drainage, as in cases of appendicitic abscess. Here, in a region very close to the inguinal region, we see an area from which the support of the three strong muscles is taken away, with the substitution merely of a thin layer of cicatricial tissue. And yet so feeble is the intra-abdominal pressure that the occurrence of protrusion is a process that extends over months. Could any better illustration be offered to show the enormous preponderance of the retentive power of the abdomen over the feeble intra-abdominal pressure? It may, however, be urged that the inguinal region and the appendix region are very different, which is true; but can it for a moment be suggested that the inguinal region is constructed in a manner so extraordinarily feeble as to reduce it to anything like the low level of retentive efficiency possessed by the web of cicatricial tissue in the appendix region? Again, there is no more striking illustration of this point than is provided by the subject under discussion. The presence of a peritoneal sac is, of course, ruinous to the retentive efficiency of the abdominal wall at that spot. Were the balance between the intra-abdominal pressure and the retentive power under normal conditions at all lightly held the presence of a peritoneal sac would mean hernia inevitably. That it does not do so is attributable to the fact that the efficiency of the abdominal musculature is so much in excess of the requirements that it may often be enabled to prevent the descent of hernia in spite of the presence of a sac. In this fact lies the very obvious explanation of the so-called curing of hernia by means of a truss, a perfectly simple and intelligible phenomenon, absolutely innocent of any excuse for the mystery that is often thrown around it.

As has been formerly pointed out, not only is the inguinal region not weak, but such is the construction of the canal by virtue of the sphincteric mechanism of the arched fibres that the very effort which is required to create an intra-abdominal pressure calls forth a commensurately increased resistance in the inguinal region.[4] Let us, however, in spite of all this, assume for the sake of argument that the intra-abdominal pressure could conceivably produce an acquired hernia. Where would the hernia appear? Clearly at the weakest spot in the abdomen. Now the femoral ring differs from the inguinal canal in being completely devoid of any protecting mechanism. It is a ring with rigid walls, a genuine "opening," which the inguinal canal is not, and it is devoid of any protecting musculature such as is owned by the inguinal canal. It would appear almost to have been designed specially in order that hernia might descend into it. There is no comparison whatever between the inguinal and femoral regions in regard to their capacity respectively for resisting the pressure from within. Now if the view which has been put forward associating hernia in children with distension from dyspepsia were correct, it would necessarily follow, first, that the number of femoral herniæ would preponderate largely over inguinal; secondly, and still more remarkable, that when inguinal hernia did occur it would always be preceded by, or at least associated with, a femoral or two femoral herniæ. There is no escape from this simple deduction, but how utterly it is negatived by clinical experience I need not say. Moreover, I can find not the slightest reason for believing, either from my own experience or the experience of members of the staff of the Children's Hospital, that there is even the most visionary association between the dietetic troubles of childhood and hernia. This section of the *discussion may be briefly summed up thus*: Seeing that the inguinal region is far more strongly fortified against the occurrence of acquired hernia than the femoral region, it is inconceivable that acquired inguinal hernia should occur without an associated femoral hernia, and conversely, when inguinal hernia appears while the femoral regions remain intact the inguinal hernia cannot be of the acquired type and can only be due to the presence of a congenital sac. This is tantamount to saying that acquired inguinal hernia does not exist. The case of femoral hernia, however, has not been disposed of; I am again conscious that if I have to admit that femoral hernia can be and is acquired although inguinal hernia cannot be I shall fail to convince [illegible] so very similar th[illegible] as to the soundn[illegible] inherent [illegible] that an agency which was causative [illegible] the other no[illegible] m to be. On [illegible] ears. There is abundant evidence that femoral hernia, too, is [illegible] acquired, and that the sac is a [illegible] the primitive pleuro-peritoneal [illegible] to traverse afresh ground which has already been trodden upon two previous occasions in these columns,[5] suffice it to say that the evidence in favour of the congenital origin of the femoral sac appears to me as conclusive and satisfactory as that which relates to inguinal hernia.

Finally, a most important generalisation. If we conclude that neither inguinal nor femoral hernia is ever acquired and that the intra-abdominal pressure is far too feeble an agency to produce hernia in either of those situations, it would seem that the theory of acquired hernia may be dismissed altogether, for it must be admitted that our observations on inguinal and femoral hernia will cover the cases of the rarer forms of abdominal hernia—e.g., the obturator, ischiatic, hernia into the triangle of Petit, &c. We therefore regard the term "acquired" as being appropriate to the traumatic form alone, whereas all ordinary forms of abdominal hernia we regard as congenital in origin and dependent on the presence of a developmental diverticulum.

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[4] THE LANCET, Nov. 18th, 1899, p. 1353.

[5] THE LANCET, May 31st, 1902, p. 1519; and March 12th, 1904, p. 707.

from the primitive pleuro-peritoneal cavity, which in the inguinal canal alone appears to be constant and to serve a purpose and to merit a special name. The relationship existing between the hernia of childhood and that of adult life is a matter into which I will not now enter at any length. I will merely observe that some years of work at the Melbourne Children's Hospital led me to the views on hernia in childhood which I have expressed above, views which have been confirmed and strengthened by increased experience and by the concurrence not only of my former colleagues and many surgeons in this country but also of able observers elsewhere.[6] Three years ago my sphere of work was suddenly transferred to a large general hospital where numerous opportunities have been afforded me of operating on adults. As a practised operator on children I at once looked, and have continued to look, closely for evidences of some distinguishing features between the hernia of adult life and that of childhood. I have found not the slightest evidence of any *etiological* difference. In adult life some modifications are presented which I may term incidental, due to long duration, &c. The operation invariably performed is, *in principle*, identical with that which I perform in children, but with certain differences in technique; and the results will, I believe, also prove to be substantially identical. This, however, is a matter that merits more detailed treatment than can be accorded to it here.

In an early part of this paper I pointed out the hopeless disability under which operators must of necessity be condemned to labour if it be true that inguinal hernia may be either congenital or acquired, and I would point out that a precisely similar disability has afflicted writers on hernia with an even more paralysing effect. It is notorious that the subject has always presented many difficulties and inconsistencies to which we have allowed ourselves to become resigned as inexplicable. In text-book accounts authors have been driven irresistibly to the alternative courses of either silently evading difficulties or admitting their inability to explain them. This will continue to be so until authors recognise that the fundamental statement with which they usually open their articles, to the effect that "hernia may be either congenital or acquired," is completely erroneous; that it is an error, moreover, which must of necessity foil all attempts to harmonise the multitudinous aspects and phenomena presented by the affection.

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THE INFLUENCE OF RAINY WINDS ON PHTHISIS.

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IN earlier papers I have shown that in Devonshire the mortality from phthisis is much greater in those districts which are exposed to the prevalent strong rainy winds than in those which are sheltered from them and that these winds are injurious to phthisical patients.[1] In the present paper I propose to show, first, that in many countries exposure to prevalent strong rainy winds is accompanied by increased phthisis mortality; secondly, that in the most successful health resorts for phthisis strong rainy winds are not prevalent; and, thirdly, that the influence of these rainy winds on the prevalence of phthisis is more powerful than that of any other influence except marked difference of race and, in some communities, of occupation.

PART I.—PREVALENT STRONG RAINY WINDS AND PHTHISIS MORTALITY.

Since great differences exist in the condition of wind and rain in different belts of latitude the following regions will be separately considered: A, Northern region of westerly winds—N. of 30° N.; B, southern region of westerly winds—S. of 30° S.; C, region of the north-east trade winds; D, region of the south-east trade winds; E, so-called equatorial calm belt; F, so-called calm belt of Cancer; and G, so-called calm belt of Capricorn. The Faröes, the Falklands and Iceland will be considered separately last.

A. *Northern Region of Westerly Winds.*

England.—The prevailing rainy winds are south-westerly, westerly, and north-westerly. Davidson's account of the phthisis distribution may be summarised thus (see Table I.).[2]

TABLE I.—*Average Death-rates per 1000 from Phthisis in the Counties of England for the Ten Years 1871–80 arranged in Ascending Order.*

Rutlandshire	1·42
Worcestershire...	1·48
Herefordshire	1·52
Staffordshire	1·60
Shropshire	1·64
Somersetshire	1·65
Buckinghamshire	1 69
Lincolnshire	1 69
North Riding	1·69
Dorsetshire	1·72
Wiltshire	1·74
Hertfordshire	1·75
Leicestershire	1·77
Middlesex (extra met.)...	1·78
Monmouthshire	1·79
Gloucestershire	1·81
Kent (extra met.)	1·83
Essex	1·83
Northamptonshire	1·86
Oxfordshire	1 88
Derbyshire	1·90
Surrey (extra met.) ...	1·91
Berkshire	1·92
Huntingdonshire	1·93
Durham	1·93
Norfolk	1·94
Warwickshire	1·95
Nottinghamshire	1·96
East Riding	1·97
Cambridgeshire	1·99
Cheshire	2·01
Suffolk	2·02
Westmorland	2·03
Sussex	2·05
Devonshire	2 07
Bedfordshire	2·12
Cornwall	2 20
Hampshire	2·20
Cumberland	2·20
West Riding	2·26
Northumberland	2·27
Lancashire	2·47
London	2·51
South Wales	2·54
North Wales	2·57

For the ten years 1871 to 1880 the region of maximum prevalence of phthisis stretched along the western side of the country from Cumberland to Cornwall, extending into Northumberland, whilst the minimum prevalence was found in the counties of Rutland, Worcester, Hereford, Stafford, and Shropshire. The low death-rates of these latter five counties could not be explained on the ground of sparseness of population or of agricultural occupation; in Rutland where phthisis was least prevalent the acreage per person was the same as in North Wales where phthisis was most prevalent; in Staffordshire, in spite of its potteries, the mortality was less than in Bedfordshire which was purely agricultural. In Cornwall tin-mining, in Lancashire and the West Riding cotton and woollen manufacturing, and in North Wales slate-, copper-, and lead-mining doubtless increased the mortality from the disease but in Wales generally injurious industries did not account for its high death-rates since these were nearly as great in districts where there were no injurious occupations. Davidson thought that soil largely determined the differences in the death-rates of the agricultural counties. But he summed up thus: "It ...... appears that no complete explanation can be given of the g [illegible] f phthisis in England. We have h[illegible]ce of a zone similar to that which [illegible] Provinces of Germany and at certain altitudes in Switzerland in which phthisis, for reasons not yet understood, attains a high degree of prevalence." Now if we exclude Northumberland, the high phthisis death-rate of which is doubtless due largely to its industries and its crowded towns, the distribution of phthisis in England from 1871 to 1880 was very much what it should be if exposure to rainy wind is taken into consideration. The western counties are the most exposed and have the highest death-rate. Rutland, which is sheltered, Worcester, Hereford, Stafford, and Shropshire, which are perhaps the most sheltered counties from all westerly winds, have the lowest death-rates. This distribution of phthisis is [illegible] hthisis [illegible] —viz., 1861–70, 1871–80, and 1881–90. As the high death-rate in Wales might be thought to be due to race, Table II. is appended, showing that within Wales itself the death-rate is heavier in the districts exposed to westerly winds.

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[6] Stiles: Brit. Med. Jour., vol. ii., 1901, p. 599. Deanesley: Ibid., vol. i., 1903, p. 1487. Sheen: Ibid., vol. ii., 1904, p. 60.

[1] Wind Exposure and Phthisis, Transactions of the Royal Medical and Chirurgical Society, vol. lxxxiv., p. 29. Wet Winds and Phthisis, Transactions of the British Congress on Tuberculosis, vol. ii., p. 524. The Influence of Wind on Phthisis, Brit. Med. Jour., May 23rd, 1903.

[2] Davidson: Geographical Pathology, vol. i., pp. 126–28.

TABLE II.—*Average Death-rates per 1000 from Phthisis in the Registration Districts of Wales, 1881–90, exposed and sheltered as regards Westerly Winds.*

Exposed		Exposure to—	Sheltered	
Gower	1·68	W., S.W.	Crickhowell	1·33
Conway	1·69	W.	Pontypridd	1·36
Bridgend	1·74	N.W.	Forden	1·42
Holywell	1·78	N.W.	Wrexham	1·46
Pembroke	1·93	N.W., W., S.W.	Hay	1·47
Ruthin	1·94	N.W.	Knighton	1·65
Lampeter	1·96	N.W., W., S.W.	Llanfyllin	1·82
Dolgelly	2·01	W., S.W.	Corwen	1·86
Llanelly	2·04	S.W.	Swansea	1·86
Neath	2·06	S.W.	Cardiff	1·87
Pwllheli	2·06	N.W., W., S.W.	Bala	1·88
St. Asaph	2·09	N.W.	Brecknock	1·95
Haverfordwest	2·14	N.W., W., S.W.	Newtown	2·04
Llanrwst	2·22	N.W.	Merthyr Tydvil	2·05
Holyhead	2·24	N.W., W., S.W.	Builth	2·10
Anglesey	2·32	N.W., W., S.W.?	Rhayader	2·16
Llandovery	2·39	W.		
Festiniog	2·51	S.W.		
Bangor	2·52	N.W., W., S.W.		
Pontardawe	2·57	W., S.W.		
Aberayron	2·67	N.W., W.		
Machynlleth	2·68	W., S.W.		
Cardigan	2·69	N.W., W.		
Llandilofawr	2·74	S.W.		
Carmarthen	2·76	S.W.		
Tregaron	2·80	W., S.W.		
Narberth	2·90	N.W., W., S.W.		
Aberystwith	2·90	N.W., W.		
Newcastle Emlyn	2·92	N.W., W., S.W.		
Carnarvon	2·96	N.W., W., S.W.		
Average	2·33	—	Average	1·76

Scotland. … south
westerly, … death
rates from … years
from 1881 … be seen

TABLE III.—*Average Death-rates per 1000 from Phthisis in the Counties of Scotland for the Ten Years 1881–90 arranged in Ascending Order.*

Kinross	1·0	Perth	1·7
Nairn	1·1	Roxburgh	1·7
Inverness	1·2	Shetland	1·8
Ross and Cromarty	1·3	Elgin	1·8
Banff	1·3	Dumbarton	1·9
Kincardine	1·3	Argyll	1·9
Berwick	1·3	Edinburgh	1·9
Orkney	1·4	Wigtown	1·9
Caithness	1·4	Ayr	2·0
Aberdeen	1·4	Forfar	2·1
Haddington	1·4	Dumfries	2·1
Peebles	1·4	Kirkcudbright	2·1
Sutherland	1·5	Bute	2·2
Linlithgow	1·5	Selkirk	2·2
Fife	1·6	Lanark	2·4
Clackmannan	1·6	Renfrew	2·5
Stirling	1·6		

The figures are taken from the Registrar-General's returns.

that the two lowest death-rates are in Kinross and Nairn, both well sheltered from the rainy winds; that, except Elgin, Forfar, and Edinburgh (of which the first is open to the north-west, whilst the other two contain very populous towns), the eastern counties have relatively low death-rates, whilst the western counties as far north as Argyll have all relatively high death-rates. North of Argyll, on the west, the counties either run across from east to west or, like Inverness, include great inland areas with marked local shelter and therefore can scarcely be used for comparison. Of the western counties with high death-rates it must, however, be remembered that Renfrew includes part of Glasgow.

Ireland.—The configuration of the country makes its … westerly … extremely … ease from west to east in the regular way it does in Great Britain.[3] Also the most populous and industrial centres are on or near the eastern coast. Perhaps, in view of the greater ease of comparing their shelters and exposures, a comparison of urban districts may give more definite results than a comparison of wider areas. Ten years' records are available for 16 such districts. (See Table IV.) Of the two great populations of Dublin and Belfast, Dublin, most open to the rainy winds, although less industrial than Belfast, has the higher death-rate. Of the other towns those with the lowest death-rates, Drogheda, Dundalk, Kilkenny, Newry, and Armagh, are all in the eastern part of the island and more or less sheltered from the rainy winds. Lurgan and Lisburn, although in the eastern counties, have a high death-rate, but they are by no means sheltered and are great linen manufacturing centres. In spite, therefore, of the peculiar

TABLE IV.—*Average Death-rates per 1000 from Phthisis in Dublin and the 15 Principal Urban Districts of Ireland of which Records are available from 1893 to 1902, arranged in Ascending Order.*

—	Mean population	Average death-rate	—	Mean population	Average death-rate
Drogheda	12,316	1·6	Londonderry	36,964	2·7
Dundalk	12,762	1·8	Belfast	361,901	2·9
Kilkenny	10,823	2·1	Waterford	23,810	2·9
Newry	12,683	2·2	Lurgan	11,605	3·0
Armagh	7,513	2·2	Limerick	37,653	3·0
Sligo	10,572	2·5	Dublin	364,294	3·2
Wexford	11,356	2·6	Lisburn	11,855	3·3
Galway	13,613	2·6	Cork	75,733	3·8

TABLE V.—*Death-rates per 1000 from Phthisis in the Counties of Norway.*

Name of county	1898	1899	1900	Average 1898–1900	1901
Kristiania	1·5	1·9	1·7	1·7	1·1
North Bergenhus	1·9	1·8	2·4	2·0	1·4
Hedemarken	1·9	2·3	2·4	2·2	1·7
Nordland	2·0	2·5	2·2	2·2	1·3
South Bergenhus	2·3	2·3	2·5	2·4	1·7
Smaalenene	2·7	2·6	2·6	2·6	1·9
North Trondhjem	2·9	2·5	2·5	2·6	1·7
Akershus	2·8	2·5	2·6	2·7	1·8
Jarlsberg	2·9	2·9	2·3	2·7	2·1
Buskerud	2·8	2·8	2·7	2·8	2·0
Romsdal	2·8	3·0	2·7	2·8	1·9
Bratsberg	2·8	2·7	3·2	2·9	2·4
Bergen City	2·6	2·9	3·1	2·9	2·3
Tromsoe	2·9	2·9	2·9	2·9	1·4
Kristiania City	3·1	3·1	3·0	3·1	1·4
Finmarken	3·2	3·2	3·1	3·1	2·0
Nedenes	3·1	3·4	3·0	3·2	2·4
Stavanger	3·1	3·4	3·2	3·3	2·4
South Trondhjem	3·1	3·7	3·7	3·5	2·2
Lister and Mandal	4·4	4·5	4·5	4·5	2·4

Figures kindly sent me by Dr. M. Holmboe, Director of the Medical Service of Norway.

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[3] See Bartholomew's Atlas of Meteorology, edited by Dr. A. Buchan, F.R.S., Plate xxiii.

difficulty of an inquiry into the influence of rainy wind on phthisis in Ireland, indications are not wanting that exposure to rainy wind and relatively high phthisis death-rate tend to correspond.

Norway.—The prevalent strong rainy winds of Norway are the south-west, west, and north-west. On the south and south-east coasts the south and south-east winds are also rainy.[4] The greatest mortality from phthisis (see Table V.) is found in the south-western counties where the fiords and valleys afford ready access to the south-west, south, and south-east winds. Of the only other counties with heavy mortality South Trondhjem appears to afford exceptionally easy access to the north-west wind, but of Finmarken I have too little information to speak. The counties protected from sea gales, either by the narrowness of their winding fiords or by their inland position, suffer least from the disease.

Sweden.—The position and surface of Sweden make the inquiry in that country difficult and I have no very recent figures. Davidson says that in 1886 and 1887 phthisis was more fatal in the centre and south than in the north and was most fatal between 58° and 60° N.[5] This is the region of the lakes and is the part most open to rainy winds from the Atlantic.[6] The figures given by Davidson, however, relate only to towns. (See Table VI.)

TABLE VI.—*Death-rates per 1000 from Phthisis in Towns of Sweden, 1886 and 1887.*

—	Number of towns.	Population, 1886.	Death-rate, 1886.	Death-rate, 1887.	Mean
North of Lat. 62°	7	31,050	2·93	2·38	2·65
Between Lat. 62° and 60°	5	43,150	2·68	2·44	2·56
Between Lat. 60° and 58°	9	99,509	3·33	3·03	3·18
South of Lat. 58°	8	214,798	2·81	2·86	2 84

From Davidson's Geographical Pathology, vol. i., p. 40.

Denmark.—A map for which I have to thank the kindness of Dr. Rördam, illustrating the phthisis death-rates in the towns, shows that a line drawn along the north-west coast of Europe and produced so as to cross Denmark divides it into a northern area in which the prevalent south-west wind is a sea wind and therefore relatively rainy, and a southern area in which the south-west wind is a land wind and therefore relatively dry.[7] All the highest death-rates, except that of the capital, lie north of this line, and the only low mortalities north of the line are seemingly under shelter of the east coast. Also, as the rainfall lessens from west to east the phthisis mortality in the towns also decreases from west to east.[8]

Germany.—The chief rainy winds of Germany are south-westerly, westerly, and north-westerly. Most rain falls in June, July, and August, during which the north-west wind becomes relatively common.[9] Schlockow has shown[10] that tuberculosis is much more fatal in the western than in the eastern provinces, the high mortality in the lower Rhine towns being specially remarkable, and Hirsch points out that this cannot be explained as due to hurtful industries because the smaller rural districts in the western provinces show a very high death-rate. Davidson says:[11] "Whatever may be the explanation, the distribution area of phthisis in Germany is in a marked degree determined by longitude." Schlockow's figures (see Table VII.) for the rural populations of the Prussian provinces are all the better for the present purpose that they refer to the years 1875 to 1879, before the conflicting influences of growing industries with increasing wages in some provinces and of special precautions against phthisis, in the same provinces or in others, came into operation. When these figures are looked at it becomes instantly apparent that the provinces most exposed to the prevalent rainy winds suffer most from phthisis.

TABLE VII.—*Average Death-rates per 1000 from Phthisis in the Rural Populations of the Provinces of Prussia for the Years 1875 to 1879 (Schlockow)*:—

Baltic Provinces.		*North Sea.*	
Gumbinnen	1·84	Hanover	4·44
Königsberg	1·45	Hildesheim	3·21
Dantzig	1·41	Luneburg	3·39
Marienwerder	1·35	Stade	4·20
Stettin...	2·08	Osnabruck	5·22
Köslin	1·60	Aurich	3·79
Stralsund	2·12	*Lower Rhine.*	
Schleswig	3·18	Cöln	5·34
Warta and Oder.		Treves	3·56
Posen	2·04	Aix	4·59
Bromberg	1·85	Coblenz	4·35
Breslau	2·75	Dusseldorf	5·29
Liegnitz	2·35	Münster	4·70
Oppeln...	2·45	Minden	4·90
Frankfurt	2·25	Arnsberg	4·51
Prussia, Saxony, and the Mark.		*Upper Rhine.*	
Potsdam	2·33	Cassel	3·03
Magdeburg...	2·65	Wiesbaden	4·08
Merseburg	2·6		
Erfurt	2·70		

These figures are taken from Hirsch's Geographical and Historical Pathology.

Switzerland.—The rainy winds of Mid-Europe are the south-westerly, westerly, and north-westerly.[12] Parts of Switzerland must also get rainy south-east winds from the Adriatic.[13] The mountain ramparts of Switzerland shut out these winds except at certain points and therefore the assessment of shelter and exposure to rain-bearing winds in Switzerland becomes difficult. Moreover, the winds as they sweep over the maze of mountain and valley must obviously bend and interlace in a confusing manner. Also, since the prevalent wind on the Rigi appears sometimes to be north-west when that on the loftier Säntis is south-west,[14] it seems likely that the warmer southern currents float over cooler northern currents. Therefore every district requires a specially careful investigation. Thanks to the kindness of Dr. W. R. Huggard, who lent me his valuable maps of the Grisons,[15] I have been able to examine that canton in detail. I have also travelled over most of it. The result, which I shall deal with more fully presently, shows almost everywhere that complete exposure to rainy winds corresponds with a relatively high mortality from phthisis.

France.—In the recent report of the French Tuberculosis Commission Professor Brouardel states that there are three chief centres of tuberculosis in France[16]—viz., (1) Paris and the neighbouring departments extending through the north-east corner of France; (2) Brittany with Mayenne; and (3) from Doubs through Lyons to Gard. The method by which the figures for the departments have been obtained is, as Professor Brouardel points out, crude,[17] but he evidently considers this broad conclusion correct nevertheless. The rainy winds of France, west and north-west of the Cevennes, are from the Atlantic, therefore westerly and north-westerly everywhere. In the north-west and north of France, south-west winds must be also rainy, but from the south-west departments and the centre of France, Spain and the Pyrenees cut off the rain from this quarter. South and south-east of the Cevennes, according to Hann, belongs climatologically to the Mediterranean countries,[18] and gets rainy winds from the south-south-west, south, and south-east. The higher altitudes of the French Alps, however, must still get rain from westerly Atlantic winds. When these relations of the rainy winds are borne in mind Professor Brouardel's three centres can, I venture to think, be roughly accounted for.

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[4] Hann: Handbuch d[illegible] i., p. 354, and vol. iii. pp. 139–44. Bartholomew's [illegible] Plate xii. Longman's Gazetteer of the World, [illegible] y and Sweden, p. 37.

[5] Op. cit., vol. i., p. 40.

[6] See Bartholomew's Atlas of Meteorology, Plates xii. and xxi.

[7] See also the Climate of Denmark, by Adam Paulsen, Chicago Meteorological Congress, Part III.

[8] See Plates xxviii.–xxxi., published with Paulsen's paper.

[9] Hann: Op. cit., vol. iii., pp. 154–69. Also M. Alfred Angot's fine maps in his Régime des Pluies de l'Europe Occidentale.

[10] Hirsch: Handbuch der Historisch-Geographischen Pathologie.

[11] Op. cit., vol. i., p. 87.

[12] Hann, vol. iii., pp. 154–69.

[13] On the Sirocco, see Hann, op. cit., vol. iii., p. 49.

[14] Annalen der Schweizerischen Meteorologischen Central-Anstalt, 1900.

[illegible] Schweiz.

[16] La [illegible] 1900, pp. 7, 8.

[illegible] p. 7.

[illegible] p. 114.

There are, broadly speaking, (1) a belt of high phthisis mortality all along the north west and north coasts of France, reaching a considerable distance inland and corresponding to a region where probably north west, west, and south west are all wet winds, (2) a broad interior region of lower phthisis death rate, over which the south west winds from Spain must be relatively dry, (3) a region of high death rate along the valleys of the Rhone and Saône, where rainy winds from the Atlantic and the Mediterranean may be supposed to meet, but (4) a low death rate in the Alps, the valleys of which are protected from all rainy quarters, (5) the Pyrenean valleys have also a low death rate, in spite of their heavy rainfall, because their direction shelters them also from the west

Corsica has most phthisis, Dr Trotter informs me,[19] on its western side, which is the more exposed to rainy winds It must, however, at the same time be mentioned that the western is the poorer district

Spain —The heaviest rainfall in Spain is on its northern and north western coasts, where the Atlantic gales are fully felt The least rainfall and least wind are on its south-eastern coast at Malaga and Valencia[20] According to Dr Zerolo's figures, quoted by Dr J Cleasby Taylor (see Table VIII), the phthisis death rates in these two regions are as strikingly different as their wind and rain Barcelona, which appears to get more rainy wind than the districts further south, has a higher death rate from phthisis than they have

TABLE VIII —*Average Death rates per 1000 from Phthisis in Northern and South-eastern Coast Provinces of Spain during Five Years, from Zerolo's "Tuberculoso y Climatherapeutica" in order of Ascending Phthisis Mortality*

Atlantic coast North			Mediterranean coast, S E		
	Population	Death rate		Population	Death rate
Corunna	602,582	1·70	Almeria	354 619	0·69
Santander	236 993	1·84	Alicante	415,077	0·80
San Sebastian	171 170	2·26	Valencia	683 763	1·10
Bilbao	193 233	2·66	Malaga	509 171	1·11
			Murcia	457,765	1·25

Italy —The chief rainy winds appear to be south westerly, westerly, and north westerly, and the rainfall is heavier on the western side of the peninsula[21] The south east seems to be a rainy wind only round the head of the Adriatic[22] The figures recently given by Dr H T Bulstrode (see Table IX) for the distribution of phthisis in the provinces[23] correspond strikingly with the conditions of wind and rain

TABLE IX —*Average Death rates per 10,000 from Phthisis in the Provinces of Italy from 1888–94 and 1897–99, from Dr Bulstrode's Milroy Lectures*

Provinces west of the Apennines from north to south		Provinces east of the Apennines from north to south	
Coast		Piedmont	12·3
Liguria	16·0	Lombardy	13·0
Tuscany	14·6	Venetia	10·2
Latium	14·3	Emilia	12·1
Campania	7·8	The Marches	8·0
Calabria	5·4	Abruzzi	6·7
Inland		Apulia	8·1
Umbria	8·7	Basilicata	4·0

Northern Africa —Algiers exposed to a prevalent north west rainy wind,[24] has a considerable death rate in its coast towns[25] Tunis sheltered by the extremity of Mount Atlas from north west winds, is extremely dry[26] and tuberculosis is stated to be less common amongst the French troops there than in any other corps of the French army[27] The Delta of the Nile, where rainy winds from the north west and north are common[28] contrasts markedly with the country above Cairo in having a considerable death rate from phthisis

Persia —Persia is a very dry country[29] and Sir Hugh Adcock informs me that phthisis there is "not at all common"[30]

Kashmir —Kashmir is shut in by great mountains on all sides and is therefore comparatively windless[31] Mr A Neve tells me that, except in the very crowded and insanitary capital, phthisis is "almost unknown"[32]

Japan —The distribution of phthisis in Japan is interesting Dr W W Colborne of Hakodate has been so kind as to send me a map of the distribution of phthisis in the cantons Before consulting Hann's Climatology on the meteorology of Japan, I tried to discover from the phthisis distribution what is the prevalent strong rainy wind and decided that the north-west must be the wind in question On referring to Hann I found that it is so[33] The north west wind of winter is in Japan a very violent, constant, and rainy wind There is, however, another rainy wind—the south-west of summer This brings a heavy rainfall but its force is "incomparably" less than that of the winter north west

United States of America —For the whole of the United States I can only obtain the table given by Davidson (See Table X)[34] This only deals with one year and only gives

TABLE X —*Showing for the Rural Districts of Regions of the United States the Proportion amongst Females of Deaths from Phthisis in 1000 Deaths from Known Causes (Billings, quoted by Davidson)*

No	Grand groups	Proportion per 1000 deaths
1	North Atlantic Coast region	197·2
2	Middle ,, ,, ,,	168·5
3	South ,, ,, ,,	101·6
4	Gulf Coast region	100·9
5	North Eastern hills and plateaux	186·1
6	Central Appalachian region	136·9
7	Region of Great Northern Lakes	156·8
8	Interior plateau	166·6
9	Southern Central Appalachian region	171·0
10	Ohio River belt	195·6
11	Southern Interior plateau	116·5
12	South Mississippi River belt	115·7
13	North ,, ,,	125·3
14	South West Central region	84·4
15	Central region plains and plateaux	180·4
16	Prairie region	122·0
17	Missouri River belt	121·4
18	Region of Western Plains	68·2
19	Heavily timbered region of North West	139·1
20	Cordilleran region	85·6
21	Pacific region	184·1

the phthisis death rate per 1000 deaths from known causes
he greater part of the
swept by westerly,
ds[35] On the Pacific
side the rain is cut off from the interior by a lofty range parallel to the coast Within this western rampart the land is raised in high valleys and plateaux broken by great mountain ranges which culminate in the Rockies Over this elevated region strong winds blow but they are for the most part dry the rainfall being small East of the Rockies the winds across the great plains are still relatively dry until

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[19] Private letter

[20] Bartholomew's Atlas of Meteorology plate xx Also Hann op cit vol iii pp 77 and 79 Also Bennet's Winter and Spring on the Shores of the Mediterranean p 556

[21] Bennet: Op cit pp 69 and 355 Hann Op cit, vol iii pp 88 and 180 Bartholomew's Atlas of Meteorology plate xx

[22] Hann Loc cit

[23] Milroy Lectures 1903 THE LANCET August 1st, 1903 p 298

[24] Bennet Op cit., pp 521-25 Private letter from Dr W Thomson Mustapha

[25] Davidson Op cit vol ii pp 594 595

[26] s xxi and xxii

2, 73

[31] Ibid [32] Ibid

[33] Hann Op cit, vol iii pp 250-56

[34] Davidson Op cit vol ii p 548 taken from the report on the Mortality and Vital Statistics of the United States by John S Billings Parts I and II Washington 1885

[35] Hann Op cit vol iii pp 310-17 Also Solly Medical Climatology pp 185-56

the Mississippi valley is approached. There rainy south-west winds become frequent and extend over the Eastern States. On the Atlantic seaboard rainy winds from easterly directions are common and strong. The Appalachian range in the Eastern States must have rainy winds from both east and west. In Florida, according to the Storm Plates in Bartholomew's Meteorological Atlas, the wind is lighter. Bartholomew's Atlas also shows well the distribution of rainfall in the States.[36] Corresponding to this distribution of rainy wind the census for 1880 gives the following distribution of phthisis mortality (Table X.). The Pacific coast has a high death-rate, though it should be remembered that it has not been divided as the Atlantic coast has been in the census, so that it is impossible to say whether the mortality south of San Francisco is different from that further north; also it must be borne in mind that South California is a much-used phthisis sanatorium and that therefore many cases are imported. The Cordilleran region of raised valleys and plains within the western rampart is relatively free from phthisis. So are the western plains under the lee of the Rockies. As the Mississippi is approached the phthisis death-rate increases and becomes greatest over the Appalachians and on the Northern and Central Atlantic coast. Florida, in spite of a heavy rainfall and partly negro population,[37] has a relatively low mortality. The table of wind velocities in America, given in Table XI., has a certain value, although it must be remembered that such *average* estimates take no account of the occasional force of the wind. Thus no indication is given by the figures that the wind on the Pacific coast, although more continuous than on the Atlantic, is weaker[38] —a fact probably of great importance in respect of its influence on phthisis. Neither does it show the dryness or raininess of the gales. Storm frequency in different parts of the Eastern States, as shown in Bartholomew's Atlas, corresponds with the phthisis mortality distribution to an extent which is at least suggestive. Where storms are rare and rain is heavy and where storms are frequent but rainfall is light, phthisis is uncommon. Where storms are frequent and rainfall is heavy phthisis is prevalent. The Atlas shows the same in the case of Italy.

TABLE XI.—*Constructed from Solly's "Medical Climatology" and Davidson's "Geographical Pathology."*

Regions where Phthisis is Common.

Female phthisis death-rate per 1000 known deaths in region, 1880.	Region.	Town.	Town.	
			Rainfall: inches.	Wind: annual mean hourly velocity.
197·2	North Atlantic coast.	Boston.	46·0	10·9
		New York.	45·0	9·4
160 5	Middle Atlantic coast.	Atlantic city.	42 9	11·9
		Cape May.	47·6	13·4
184·1	Pacific coast.	St. Francisco.	24·0	9·5
	(South Pacific health resorts considered separately, probably many imported cases.)			
156·8	Region of Northern Lakes.	Chicago.	35·0	9·6
Regions where Phthisis is Uncommon.				
68·2	Western Plains.	Colorada Springs.	14·4	9·1
		Denver.	14·4	6·8
		Merilla.	—	2·3
		Pueblo.	12·0	7·4
		Santa Fé.	14·6	6·4
		El Paso.	9 0	5·5
		San Anthonio.	*30 6*	*7·0*
85·6	Cordilleran.	Salt Lake City.	18·9	5·0
		Phœnix.	0·7	2·3
		Prescott.	16·0	7·0
		Fort Grant.	16·8	7·0
		Tucson.	12·0	5·0
		Fort Apache.	2·0	6·5
		Yuma.	3·0	6 0
Rare.	Central Mexico.	Mexico.	24 (under)	2·0
		Guadalajara.	34	2·5
South Pacific Phthisis Health Resorts.				
—	Los Angelos.	—	18·0	5·1
—	Santa Barbara.	—	18·0	4·0
—	San Diego.	—	10·0	5·6

B. The Southerly Region of Westerly Winds.

The rainfall of this region is generally less than that of the preceding region and is more apt to occur in sudden deluges comparatively soon over. It may therefore be said that prevalent strong wet winds are less marked than in the northern region of westerly winds and it is interesting to observe that phthisis appears to be correspondingly less frequent. It must not, however, be forgotten that the countries in this region are comparatively newly settled.

Australia.—Victoria is more exposed to rainy winds than either New South Wales or South Australia and has, according to the statistics quoted by Dr. Bulstrode,[39] a higher death-rate. (See Table XII.)

TABLE XII.—*Deaths per 1000 from Phthisis in Victoria, New South Wales, and South Australia, from Dr. Bulstrode's Milroy Lectures.*

—	1886 to 1890.	1891 to 1895.	1896 to 1898.
Victoria...	1·45	1·33	1·23
South Australia... ...	1·06	0·99	0·87
New South Wales ...	0·99	0·86	0·79

South Africa.—The prevalent rainy winds for the eastern part of the colony, about which alone I have information, are south-easterly.[40] Along the coast exposed to this wind phthisis appears to be common.[41] According to Clemow, it is "alarmingly prevalent amongst the natives" in Pondoland, Tembuland, and Transkei, "in spite of their open-air life."[42] Across the mountain range. however, which cuts off the south-east wind from the interior, in the Karoo, in British Bechuanaland, and in the district bordering on the Orange Free State phthisis is said to be uncommon.[43]

South America.—Under the lee of the Andes in Argentina there is a region very free from rainy winds.[44] Phthisis is said to be uncommon there, although on the coasts of both Chili and Argentina it is prevalent.[45]

C. Region of the North-East Trade Winds.

The regions both of north-east and south-east trade winds unfortunately include few places where satisfactory statistics exist. Deaths are so often uncertified even in towns, mixture of races introduces such confusion, and an apparent tendency of the disease to prevail in coast towns in the tropics is so general that safe conclusions can rarely be drawn. I shall, therefore, only refer to those statements which seem to deserve special consideration. The north-east trades blow steadily all the year as moderate breezes. Gales are uncommon. At the sea-level the trade wind is dry, but rain may be very heavy when the wind is forced upwards by rising land. The region in which they continually blow may be said to begin at 25° N. latitude and to extend to the equatorial calm belt. This belt begins about 10° N. latitude in our summer and about 5° N. latitude in our winter in the East Atlantic and perhaps in the East Pacific. In the west of both oceans the trade wind probably blows right up to the equator.

Abyssinia.—The statement that phthisis is rare on the plateau of Abyssinia has had some stress laid on it.[46] If true, this may perhaps be accounted for by the fact that this plateau is surrounded by high mountains which must form an effectual wind screen

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[36] Bartholomew's Atlas of Meteorology, plate xxi.

[37] Longstaff: Studies in Statistics, plate ix.

[38] Solly: Op. cit., p. 311.

[39] *Op. cit.*, THE LANCET, August 1st, 1903, p. 301, table x.

[40] Hann: Op. cit., vol. iii., pp. 354–57 and 363–65. Bartholomew's Atlas of Meteorology, plate xxvii.

[41] Davidson: Op. cit., vol. ii., p. 656. Clemow: Op. cit., p. 460.

[42] Clemow: Op. cit., p. 460.

[43] Hann: Op. cit., vol. iii., p. 374.

[44] Bartholomew's Atlas shows a very low rainfall.

[45] Davidson: Op. cit., vol. ii., pp. 983. 975, 976.

[46] Hirsch: Op. cit., vol. iii., p. 206.

Jamaica —Davidson states that during 1897 and 1898, whilst the death rate from phthisis for the whole island was 1·7 per 1000, the country district of St Elizabeth, on the south western coast sheltered from the trade wind, had so low a death rate as 0·09 per 1000[47]

Mexico —The wind movement is very small at the city of [illegible] [48] Phthisis amongst Euro[illegible] l is said to be seldom seen, [illegible] the Atlantic and Pacific coasts[49]

British Guiana —Georgetown, fully exposed to the north-east trade, blowing directly and forcibly on to the coast with a heavy rainfall[50] has a heavy death rate[51]

D Region of the South east Trade Winds

These are only a little stronger than the north east They may be said to blow continually between 25° S and the equator I [illegible] altitudes v [illegible] heavy rain [illegible] valley the eastern rampart of which must shut out the trade wind Jauja and Tarma, in Peru, lie in a "well sheltered valley"[53] Arequipa, on the western slope of the Andes, has very little wind or rain[54] La Paz in Bolivia has a rainfall of less than 10 inches[55] and is well sheltered from south east wind by mountains On the other hand, phthisis is common all along the Brazilian coast, which is directly exposed to the trade wind and has a heavy rainfall[56]

E The So called Equatorial Calm Belt

This belt appears to be well marked in the East Atlantic Ocean Along the Gold Coast, according to Dr W T Prout, phthisis is not common[57] In the colony of Lagos I have learnt, through the kindness of the late Governor, Sir William MacGregor, that it is rare[58] For the rainy part of the year both colonies lie within the belt of equatorial calms and light variable winds The season, in which the colonies are outside this belt is dry All the year round a south west wind makes itself felt,[59] but this appears to be only a gentle breeze

So called "Calm Belts" of Cancer and Capricorn

There seems a great deal of evidence that between the latitudes of 25° and 35° N and S a belt of calms and light variable winds about 5° broad encircles the globe and moves to and fro with the seasons Between 30° and 35° N and S the year is divided between this calm belt and the westerly winds, and the latter probably so far neutralise the effect of the former that for the present purpose this part of each belt may be placed (as has been done) in the regions of westerly winds But between 25° and 30° N and S the calm belt alternates with the gentle trade winds, and these latitudes ought to be characterised by relatively less phthisis owing to relative rarity of rainy wind Moreover the calm belts are dry belts which should make the relative rarity of phthisis even more probable In the southern hemisphere the belt of Capricorn runs more or less horizontally round the earth but in the northern hemisphere the continent of Asia is said to draw the belt [illegible] north It will, I think, [illegible] spondence between these [illegible] exists in those countries where it can be investigated

F The "Calm Belt" of Cancer

Florida and a small strip of the *Gulf Coast of North America* have been shown to have a low phthisis death rate in spite of a largely negro population and a heavy rainfall The *Canaries* have a lower death rate than any part of Spain —viz, 0·7 per 1000[60] *Egypt between Cairo and Assouan* is nearly free from phthisis[61] Further east the position of the belt becomes uncertain

G The "Calm Belt" of Capricorn

South Africa —British Bechuanaland, the Orange Free State, Basutoland, and part of the Transvaal, in all of which phthisis is almost unknown,[62] as well as Zululand and Natal, *in which it is uncommon*,[63] lie *between 25° and 30°*

Australia —The Darling Downs of Queensland perhaps the best climate for phthisis in the continent[64] lie within the belt They are remarkable for the absence even of the hot winds which other parts of the interior experience[65]

The Faroes, the Falklands, and Iceland

Lastly, there are three countries which have been grouped together and said to constitute a strong objection to the conclusions as regards rainy wind and phthisis arrived at elsewhere—viz, the Faröes the Falklands and Iceland

Of these the *Faroes* have, Dr Rordam informs me, not a low mortality from phthisis, as has been supposed, but one probably as high as Denmark generally[66]

The *Falklands*, where phthisis has been said to be very rare, have a low rainfall—only about 20 inches; the prevailing winds are westerly at all seasons (see Table XIII)[67] and the inhabitants have built their dwellings almost everywhere in shelter as can be seen from the Government Survey Map Stanley, the only town, is built on the shores of a land locked inlet, sheltered from every wind

TABLE XIII —*Frequency of Winds in the Falkland Islands (Hann)*

—	N	NE	E	SE	S	SW	W.	NW	Calms
Spring and summer	9·6	6·3	5·3	8·0	24·7	52·0	46·7	25·7	2·7
Autumn and winter	14·0	4·0	7·0	3·7	13·3	30·0	61·7	37·0	13·0

Iceland, where phthisis is said to be uncommon has a moderate rainfall of about 28 inches in its western parts from which the statements come relating to phthisis rarity, where the capital lies and where the bulk of the population appear to dwell The prevailing winds are from the east (see Table XIV)[68] and having to cross the high tableland of the centre of the island are dried and broken when they descend to the western coast

TABLE XIV —*Frequency of Winds in Reykjavik and Stykkisholm, Iceland (Hann)*

—	N	NE	E	SE	S	SW	W	NW
Winter	9	25	22	12	9	17	4	2
Summer	12	13	20	13	11	11	8	12
Year	12	19	22	13	10	13	5	6

Thus, in none of these three instances can it be said that prevalent strong rainy wind coexists with rarity of phthisis and the objection based on them does not hold

Summary of the Foregoing

In all these different parts of the globe therefore, prevalence of *strong rainy winds appears to be remarkably* associated with increased prevalence of phthisis whilst absence of such winds seems to correspond strikingly with rarity of phthisis

(To be continued)

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[47] Davidson Op cit vol ii p 909

[48] Solly Op cit p 456

[49] [illegible]

[53] [illegible]

[59] Hann Op cit vol ii pp 70 71, and 22

[60] Taylor Op cit p 63

[61] Clemow Op cit p 458

[62] Ibid p 461

[63] J F Allen Transactions of the British Congress of Tuberculosis vol iii pp 39-50

[64] Wilson The Ocean as a Health Resort p 213

[65] Ibid

[66] Private letter

[67] Hann Op cit vol iii pp 466-67

[68] Ibid pp 491-97

WEST CORNWALL INFIRMARY —In the spring of 1904 the governors of the West Cornwall Infirmary, Penzance decided to erect a new hospital at an estimated cost of [illegible] have been received [illegible] the erection of the [illegible]

THE CULTIVATION OF TRYPANOSOMA OUT OF THE LEISHMAN-DONOVAN BODY UPON THE METHOD OF CAPTAIN L. ROGERS, I.M.S.

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(*With Coloured Illustration.*)

FOLLOWING the method of my teacher, Captain L. Rogers, I.M.S., for cultivating Leishman-Donovan bodies in citrate of sodium solution I have succeeded in developing trypanosoma from the Leishman-Donovan bodies.

The patient from whom the blood for making the culture was taken by spleen puncture was an inhabitant of Sylhet. He gave a history that three members of his family had died recently from fever with enlarged spleen and œdema of the legs. He had been suffering from the fever for six months and was very anæmic. The spleen reached down to the umbilicus but the liver was not enlarged. There was no marked pigmentation. The temperature of the patient at the time of the puncture was 102° F.

The following procedure was adopted for taking the blood from the patient and for cultivating the parasites found in it. The skin over the region of the spleen was cleaned with soap and water and then washed with a 1 in 20 carbolic lotion. A five cubic centimetre syringe, sterilised in a 1 in 20 carbolic lotion and washed in boiling water, was used for puncturing the spleen. After drawing out the blood it was emptied into a test-tube containing one cubic centimetre of 5 per cent. citrate of sodium (the test-tube with the citrate solution being previously autoclaved at 115° C.). The test-tube wsa then placed in a beaker which was put inside an ice-box.

A stained slide preparation of the blood made on the first day showed a good number of distinct Leishman-Donovan bodies, from three to four being found in a single field. On the next day a stained specimen made from the citrated blood showed great increase of the parasites in number, so much so that from 200 to 500 bodies could be counted in a single field instead of the three or four seen on the first day. The parasites showed increased development; they were distinctly larger in size. The micronucleus was distinctly increased in size and was less circumscribed and was elongated in shape. The micronucleus was situated at one end of the oval body instead of being in the middle. The contents of the body of the parasite were more granular; numerous dividing ones were seen. No flagellate forms were found on this day.

On the third day the stained slide from the blood showed a remarkable appearance.[1] In many of the fields were seen elongated Leishman-Donovan bodies with a thick flagellum. In some portions of the field they were seen in thick clumps, the clumps consisting of from 30 to 40 flagellate bodies. In these clumps were seen all the stages from a simple Leishman-Donovan body to a fully developed trypanosoma-like body. Several dividing ones were also seen possessing two flagella, two macronuclei, and two elongated bodies lying parallel to each other but possessing a single micronucleus situated transversely to the body. Several bodies were found which were indistinguishable from an ordinary Leishman-Donovan body except by the possession of a long flagellum. Besides these there were the fully developed ones, in which the body was elongated (much longer than a Leishman-Donovan body) and narrow and provided with a long thick flagellum. The flagellum was longer than the body of the parasite and was thicker than the flagellum of an ordinary trypanosoma (trypanosoma Brucei or Evansi). It took its origin from the micronucleus situated at one end of the parasite; in many the micronucleus was connected to the flagellum by a portion of darkly stained protoplasm. A vacuole-like organ was seen near the micronucleus; in some it was found towards the middle of the body of the parasite. The macronucleus was found situated in the middle of the body and was elongated in shape and not so defined as in the Leishman-Donovan body. No undulating membrane could be made out. The body of the parasite was filled with bluish-stained granules. No other structure could be made out. The posterior end (that opposite to the flagellum end) was finely drawn out as it were into a small flagellum.

In the moist hanging-drop preparation made on the third day the appearance of the fully developed parasite was most interesting. In examining the specimen under $\frac{1}{12}$th inch oil immersion lens I found several elongated flagellate bodies moving slowly across the field by a lashing side-to-side movement of the flagellum, this end being the front of the moving parasite. The movement was distinctly slow, much slower than that of an ordinary trypanosoma (trypanosoma Brucei or Evansi). No wriggling movement could be made out. The thick flagellum end was distinctly seen moving among the broken-down red corpuscles which were pushed out by the jerking movement of the flagellum. In one field I found a group of these parasites lying in a clump, their anterior ends being free, reminding one of the rosette formation of trypanosoma Lewisi by Laveran and Mesnil.[2] The free ends showed the movement of the flagella. In the free ones no movement in the posterior end of the parasite was seen.

The following peculiarities are noticeable in the parasites described above: (1) the position of the micronucleus at the anterior end of the body of the parasites; (2) the long, thick anterior flagellum; (3) the absence of (or, if present, rudimentary) undulating membrane; and (4) the rudimentary posterior flagellum. On account of the presence of these characters they would appear to be less closely allied to the class trypanosomidæ, such as trypanosoma Brucei and trypanosoma Evansi, than to the class of trypanopis described by Keysselitz,[3] which is characterised by the possession of a micronucleus at the anterior end, a long thick anterior flagellum taking its origin from the micronucleus, a rudimentary, undulating membrane, and a hardly discernible posterior flagellum which takes no part in the movement of the parasite.

In conclusion. I beg to express my indebtedness to Captain Rogers, officiating professor of pathology, Medical College, Calcutta, for kindly allowing me to publish the paper and for revising it.

DESCRIPTION OF THE PLATES.

Plate 1 is drawn from a comparatively crowded field showing numerous developed Leishman-Donovan bodies on the third day stained with Leishman's stain. Drawn under a $\frac{1}{12}$th inch oil immersion lens. No fully developed body is seen here; several dividing flagellated parasites as well as several elongated Leishman-Donovan bodies without any flagella are seen.

Plate 2.—From the same specimen, selected from several fields. No. 3 is a fully developed parasite curled upon itself.

Calcutta.

CHILD STUDY AND THE TREATMENT OF PARALYSIS IN CHILDREN.

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THE art of walking and of standing as carried on by a fully-developed human being seems at first sight to be hardly more difficult of acquisition than the swinging of a jointed pendulum. On more careful examination, however, each stage of movement and each position of rest are found to be gained only as the result of many trials and not a few failures, which have placed a complex arrangement of many muscles under the control of the will. It is difficult to overestimate the fact that each additional accomplishment is only acquired after much individual effort of the child and is not the mere exercise of an inherited nervous organisation. The intricate nature of the muscular arrangement is clearly brought out when by a partial paralysis of the limb some constituent element is thrown out of action. Defective or discordant movements then result. A similar complexity is noticeable in the movements of the upper as of the lower limb. This is evidenced by the fact that in extension of the hand on the forearm we not only contract the extensors but almost, though not quite, simultaneously we also contract the flexors of the wrist with a little less vigour. By this means we provide not only a break which

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[1] The detailed description of the flagellate bodies given here is confirmatory of that already noticed by Captain Rogers.

[2] Doplein and Sv. Prowazek: Handbuch der Pathologischen Mikroorganismen von Wassermann und Kolle, S. 933, fig. 45.

[3] C. Keysselitz: Uber Trypanopis Grobbenii, Archiv fur Protistenkunde, S. 367.

PLATE I

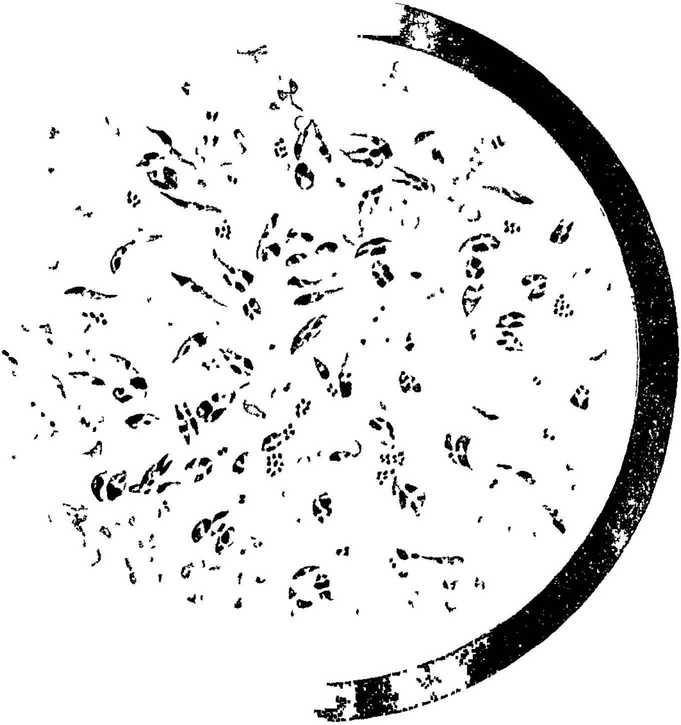
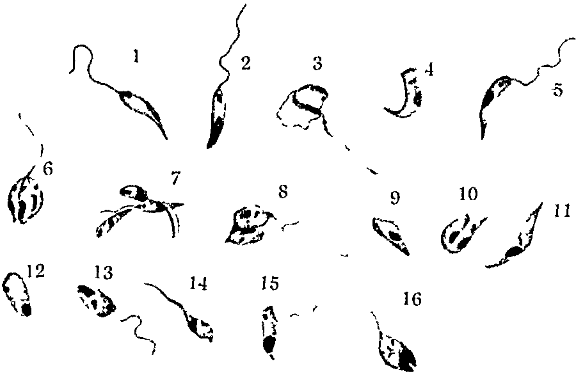


PLATE II



TO ILLUSTRATE DR. CHATTERJEE'S AND CAPTAIN ROGERS'S PAPER ON CULTIVATION OF TRYPANOSOMA OUT OF THE LEISHMAN-DONOVAN BODY.

prevents a jolt or excessive action but we also guide the resulting movements into a more precise and definite channel.

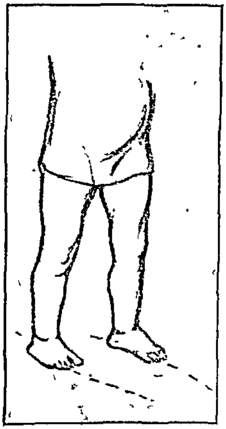
There are a considerable number of cripple children suffering from congenital spastic paraplegia who show in a very marked degree an *irregular or abnormal innervation* which is very instructive in any analysis of the movements of the limbs. The difference that should normally exist between the innervation of the *antagonistic groups* by which the predominant group receives more and the coöperating group less than its share of volitional impulses is well marked in these cases. This latter coöperating group, though it is insufficiently innervated, is not usually completely paralysed. The result of this as regards the legs is that spasm occurs in the predominating group such as the adductors and internal rotators, and paralysis of the abductors and external rotators. A more or less complete inability to use the limb naturally results. The cause of this disarrangement of innervation is generally that some portion of the cortex of the brain, or some portion immediately subjacent to the cortex, has been injured by disease generally before birth. From this cause the normal impulses do not arise from the cortex to set the limbs in action. To this must be added the fact that peripheral impulses of muscular and tactile sense also fail to reach the cortex and help in the elaboration by which the irregular and aimless movements of infancy become organised into orderly purposive movements. When the original disease has ceased to be active more or less recuperation of tissue occurs. The less injured areas become capable of discharging impulses and of receiving peripheral sense impressions. In cases of spastic paraplegia both these occur later than in the healthy child. There is in them a long period of listlessness, apathy, and paralysis. The children also generally suffer from defective speech. Mental deficiency is also common. Such cerebral impulses as do occur are irregular and unequally distributed to the different muscle groups, consequently the combined spasm and paresis already referred to result. If by the time the child is six or eight years old he has, of himself, acquired sufficient muscular coördination to be able to get about on crutches, orthopædic surgery is able to deal with the case and provide a more or less satisfactory limb In the severer forms of this *disease little or no benefit accrues from such* treatment. The extent of the spontaneous cure depends partly on the amount of brain tissue still left uninjured; it also depends largely on the means that are taken to ameliorate [illegible] child's attendants Further [illegible] will, I believe, enable us to [illegible] than has hitherto been [illegible] h effort made by the child, [illegible] effort, in achieving a new organised movement becomes in its turn a very potent therapeutic agent.

A number of cases of infantile spastic paraplegia were taken into the Greengate Dispensary about six months ago. They were apparently hopeless cases. A course of exercise-treatment was planned upon lines to be presently described. So much benefit has already accrued that it seems advisable to bring forward the methods adopted for the examination and criticism of those who have to deal with similar problems. These methods are based on a study of the natural order in which the normal child acquires control of the muscles used in walking and in standing. A brief description of the order of this development is therefore perhaps not out of place.

The movements of a very young infant largely consist of those of the head and neck, the eyes, and the coarser movements of the arm and leg. The order and degree in which these pass from spontaneous aimless movements into voluntary purposive movements have already been described by me in *Brain* (autumn number, 1897). At the age of three or four months normal infants have sufficiently acquired voluntary power over the spinal and other muscles to be able to sit upright and to look about them. An important part of their education in coördination has been obtained by kicking against the bed, &c., and so arousing the muscular and tactile senses; by this means they gain a knowledge of the force to be exerted *and* also a knowledge of position; by the sixth month the child exhibits sufficient pleasure in organised muscular action to enjoy pushing his feet against the floor when the attendant holds the body and allows the feet to dangle; and by the ninth or tenth month rhythmic movements of extension and flexion take place in the two legs alternately. These early movements, which are precursory to walking, seem to be partially reflex in character. Though the child cannot actually walk or stand he has already gained considerable control over the movements by which he will presently be able to do so.

Another element in standing—viz , balancing of the head and trunk—is next acquired. At first the child calls to his aid the hands and arms and balances himself by grasping his *mother's dress or some other object. This is half way to* bi-pedal progression. The position of the feet at this stage of learning is very characteristic. The legs are separated and widely apart, the toes are turned inwards, and there is a vigorous flexion of the great toe and the digits so that the feet seem to be actually gripping the floor. This stage is generally acquired by the twelfth month. (Fig. 1.)

FIG. 1.



[illegible] the important part played [illegible] are so tightly flexed that [illegible] loor. The toes are directed [illegible]

Before the child acquires the power of maintaining an erect position and of walking upright there is very frequently an intermediate stage of progression on all fours (Fig. 2).

FIG. 2.

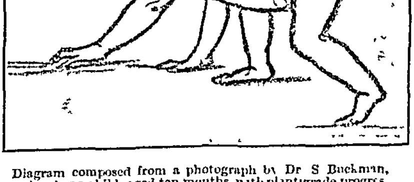
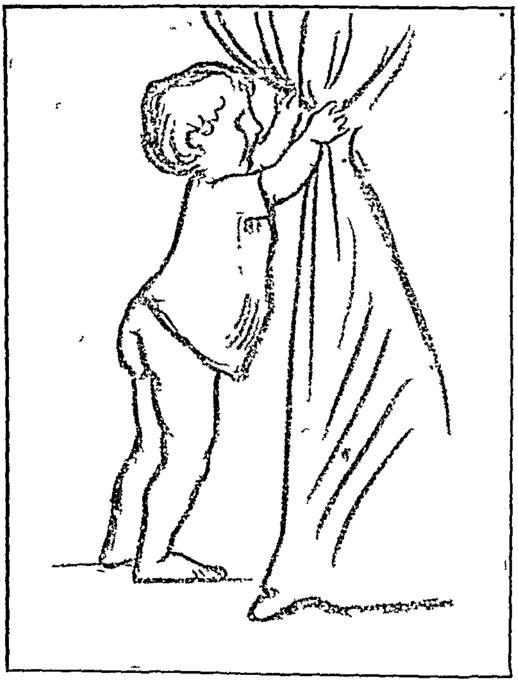


Diagram composed from a photograph by Dr S Buckman, showing a child, aged ten months, with plantigrade progression Transactions of the Cotteswold Naturalists' Field Club, December, 1899

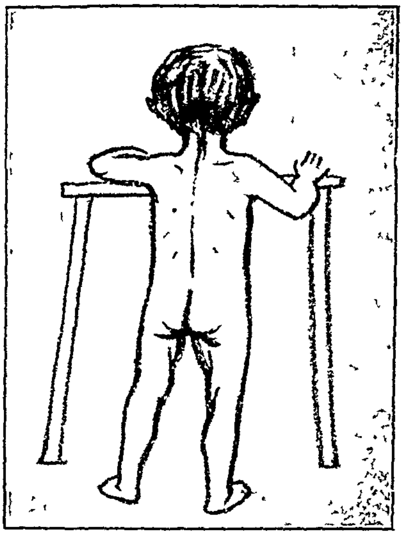
This is generally carried on by the child balancing his body on two hands and one foot, using the knee of the remaining leg as a paddle to push himself along. The everted position of the hands and soles of the feet exhibited in these movements of progression may be described as displacement ones. The movements were apparently originally adapted for a fluid medium but when used by the child against a rigid resisting medium such as the floor they result in moving the body of the child. Progression on all fours causes a great improvement in the muscles of the trunk. It also develops the abductors and external rotators of the thigh and helps to coördinate these with the adductors and internal rotators. The importance of understanding this stage is very great when we come to study the symptoms of spastic paraplegia of infancy. It is owing to the weakness of the external rotators and the abductors of the thigh that spasm occurs in the adductors and internal rotators when the child attempts to walk. The confusion causes the legs to become useless for walking or standing. The duration of the period of four-footed progression in the normal child is much influenced by the methods adopted in his early training. It is frequently entirely passed over.

FIG. 3.



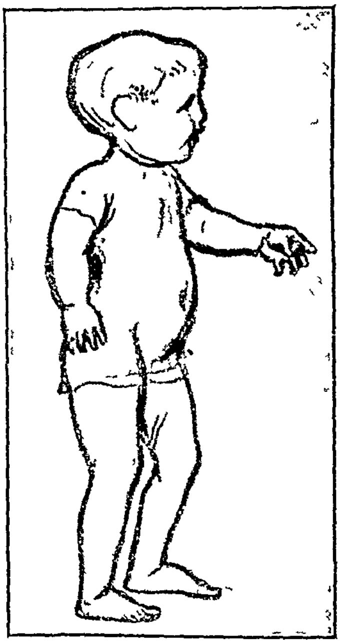
A normal child, about 20 months old, helping to raise himself by means of a curtain, he is able to use his legs when assisted by his arms

FIG. 4.



A normal child, 22 months old, able to stand on his feet when the arms and shoulders cooperate in supporting him.

FIG. 5.



A normal child, 22 months old, able to stand alone with the feet separated and the knees not quite extended, the arms are held out to assist balance

One observer records that his daughter who was entirely left to her own devices began to creep about on all fours by the end of the fifth month; by the end of the tenth month she moved briskly about on all fours like a monkey. She made no attempt at this time to raise the body into an erect position. Another observer writing in *Nature*, July, 1900, gave a photograph of a child, aged ten months, who also showed this four-footed progression very completely. After a febrile illness occurring a little later this power became completely lost. The method which a child naturally follows in acquiring control over his limb movements has suggested the line adopted in the treatment of the cripples at Greengate Dispensary. The teacher or masseur began by steadily practising flexion and extension of the almost useless legs. After a time he practised a slow external rotation and circumduction of both thighs. He constantly massaged all the muscles to stimulate them to healthy action and to overcome the rigidity. These exercises were practised for a few minutes at a time at least 12 or 14 times a day. The child's attention was constantly directed to these movements that they might be permanently engraved on his memory and so become organised in the cerebral cortex. Presently an attempt was made by the child when lying on his back to make these movements voluntarily and without the accompanying spasm. As soon, however, as the child was held upright and the legs were allowed to dangle the spasm returned on the child making any exertion. Spasm was always held to be a reason for stopping the treatment temporarily. Spasm also occurred on any excitement. The next stage consisted in an attempt to imitate the four-footed method of progression. The child was laid on his face, a bar fixed to a chain was placed in his hands, and while lying face downwards he was encouraged to pull himself forward. The mere lying in this position is good, for it produces extension of the hips together with some abduction. Voluntary exercise in this position leads almost automatically to a certain amount of external rotation and a separation of the thighs. In the early stages the legs themselves hardly seem to participate at all in the forward movement but remain inert; presently, however, they definitely do participate and a step forwards to quadrupedal progression is secured. About this time the child can be taught voluntary movements of abduction and circumduction of the thighs and also alternate flexion of the two legs. When by means of these movements a fair degree of flexibility and a diminution of the spasm have been secured a further stage may be tried and the child encouraged to put his feet upon the floor. Like an infant, his body must at first be securely held. Then again following the lines of normal progress the child may be encouraged to balance himself by holding on to the side of the bed or a suitably constructed walking frame.

Attention has now to be paid to the movements of the shoulders and the arms. Reference to Figs. 3 and 4 shows that in normal children the muscles of the shoulders and the arms play a very considerable part in maintaining the balance of the body at this stage. In the case of the cripple children these muscles, like those of the leg, are very weak and ill-developed. They need special attention. Accordingly parallel bars are arranged of such a height that when the child is held upright, with his arms held straight downwards, he can just grasp the bars while his feet touch the ground. He then learns to hold himself from the shoulder.

When by these means a fair degree of balance has been gained the child may be trained to use crutches. Volitional control over the coarser movements of the thighs and knees has been gained but without the power of grasp in the hands and the power of holding the arms and shoulders rigid; this has been found to be useless. Whether further power can also be gained in the finer movements of the ankle and foot must be decided by further experiments. It may be that methods of orthopædic surgery will alone be efficacious—the children at Greengate Dispensary are under the supervision of surgeons who have interested themselves in this branch of work. Sufficient experience has been gained to justify the workers at the Greengate Dispensary in the prosecution of further researches. It is hoped that others who have thought much upon this matter will offer suggestions or criticisms.

It may be added that these movements and exercises are evidently a source of real pleasure and joy to the child and that he increases in weight, in vigour, and in mental alertness while they are being continued. Constant intermission must be provided as he very readily tires.

Manchester.

DIET IN CHRONIC DISEASES.

BY JOHN HADDON, M.A., M.D. EDIN.

As the subject of diet is receiving considerable attention, more especially in America, the following cases seem worthy of being recorded.

CASE 1.—The patient, an unmarried woman, aged 66 years, had an illness when 18 years old which was said to be a gastric trouble and at that time she was ill for two years. She had had similar attacks every seven years since and had been more or less an invalid. When seen in consultation with her medical attendant on June 28th, 1904, I found that she had been in bed for six months and was being fed on Benger's food, having one grain of morphine in a suppository every night, and was reduced to a perfect skeleton. She brought up, apparently by a kind of eructation, fluid of a greenish colour, varying from half a pint to a pint during the day. The bowels did not act except by medicine or an enema. She was taking food to relieve pain which came on two hours after food and which the food relieved. She was supposed to be dying and looked as if she were. The skin over the left side of the abdomen and the ribs was very sensitive to touch. There was no distension but some dulness on both sides, due probably to fæcal matter, and fæces could be felt in the intestines. There were splashing in the stomach and abdominal pulsation. The pulse was weak and the heart sounds were feeble, without any murmur. She was too weak even to sit up. She was ordered to have nothing except water. On the 29th, about 2 A.M., her sisters, who were nursing her, thought that she was dying and sent for her medical attendant who ordered an enema of beef-tea and brandy in teaspoonfuls by the mouth. When I saw her in the forenoon she had brought up three-quarters of a breakfast-cupful of the greenish fluid since the day before and had drunk six breakfast-cupfuls of water, mostly on the previous day. She had a natural motion in the morning, with traces of yellow, that which the enema had brought away before being of a dark colour throughout. The dulness on the right side of the abdomen had disappeared and there was no splashing in the stomach. She cried out with pain in the epigastrium, but there was no tenderness on pressure and the pain was intermittent, not lasting long. She had slept four hours in the night. Tracing No. 1 shows the character of the pulse and was the best that could be got. She was ordered to have five figs boiled and the soup from them given in tablespoonfuls every four hours, with water if she wished during the intervals. On the 30th she did not sleep but the pain was less severe. She had had three pints of water and had vomited two pints of the greenish fluid, darker than before, which was coloured no doubt by the fig soup. She was more cheerful and hopeful. Something like an enlarged appendix could be felt in the right side of the abdomen. There was no flatulence. The urine was normal. She was ordered to have five figs stewed, the juice to be concentrated to a teacupful and given every four hours.

On July 1st the patient said that she had not slept in the night but had lain and talked to herself, which surprised her. She had had a scanty yellow motion with some black pieces in it and had brought up very little fluid since the previous day. She said that she had pain after the fig juice but had vomited nothing since she had it at 8 o'clock in the morning. She was ordered to have ten prunes stewed and their juice, alternately with that of the figs, at intervals of four hours as before. Tracing No. 2 shows the pulse. On the 2nd she had slept for five hours in the night. The prune juice had caused her more discomfort than the fig juice. She looked much better and could sit up. There had been a motion in the morning which was thin and smelt badly. At noon she sucked the juice from some onions which had been cooked till they were sweet. She was ordered to have the prune and fig juice mixed and to take it alternately with the onions every four hours.

On July 3rd she had slept for three hours in the night. She was said to have been very bad at 2 A.M. and could not speak. Four ounces of whey were given at 1 P.M. and this was ordered to be continued every four hours with one date between. On the 4th there was no complaint of weakness in the night. There was no motion or flatus passed and fæces could be felt in the left side but no distension. Fulness was still felt about the region of the appendix. She was ordered to have eight ounces of whey every four hours and a date with it. She looked much better. On the 5th she had slept for four hours in the night and had had a motion which was hard and dark in colour. On the 6th she had slept for two hours in the night. There had been a copious motion at 6 A.M., the hard portions of which were still dark in colour, while the soft portions were yellow.

On July 7th she had a motion.

FIG. 1 (CASE 1).

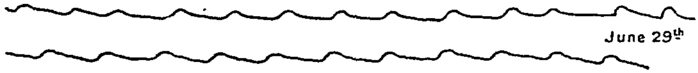
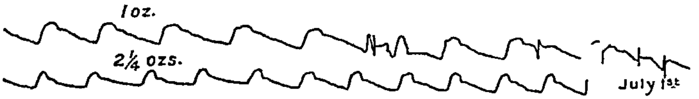


FIG. 2 (CASE 1).



natural-looking and she had no complaints to make. She had eaten 18 dates since the day before without pain and had slept for five hours in the night. At noon half a teacupful of wheat-meal and malt pudding was given. The patient was up in the afternoon and walked into another room where she sat for an hour. From this date she continued to move about and to exercise herself in the house. On the 11th she weighed 4 stones 10 pounds 4 ounces, she being a tall woman On the 21st she went to the country and was walking about the road making good progress. Her nurse having left and her sisters having taken her in hand I left off attendance.

CASE 2.—The patient, a man, aged 29 years, had always been delicate. In January, 1904, his medical attendant said that he had Bright's disease. His legs were swollen and pitted on pressure. He had a cough but did not spit. He was able to get up a little while every day. There was some dulness on the right back and the respiratory sounds were better heard over the right than the left back. There was no dulness in front. He was fairly well nourished but the skin was pale. He took the usual food. The bowels sometimes were loose and at other times were confined. The urine looked turbid, frothed, and had a sweetish smell. He passed over two pints in 24 hours (specific gravity 1010) with one-fourth of albumin depositing when tested by nitric acid. He was not able to sleep well.

On June 17th he began to have only stewed rhubarb at 8 A.M. and 3 P.M. No. 1 tracing shows the pulse. On the 18th he said that he had slept better. On the 21st he said that he was having much better nights and was neither hungry nor thirsty on the rhubarb alone and he had now no cough whatever. On the 28th No. 2 tracing shows the pulse. There was much less swelling in the legs and he was sleeping well. Onions and grape nuts had been added to his dietary. The bowels acted regularly and there was only one-eighth of albumin in the urine. In spite of the improvement his mother would not continue the restricted diet and I did not see him again.

FIG. 1 (CASE 2).

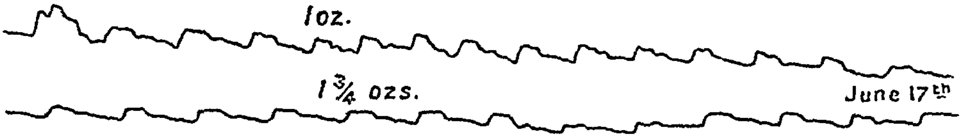
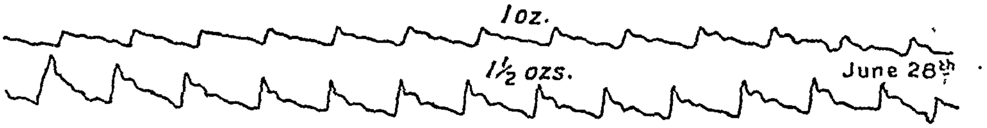


FIG. 2 (CASE 2).



CASE 3.—The patient, a man, aged 41 years, was a neurasthenic who felt at times as though he would go mad. He had visited hydropathic establishments of different kinds without any permanent benefit. For many years he had suffered from repeated attacks of pain in the stomach and vomiting. His bowels had been generally constipated and had required either medicine or an enema to move them. Insomnia had been a prominent symptom. On Oct. 21st, 1904, being 5 feet 8½ inches in height, he weighed 8 stones 13 pounds 2 ounces in his clothes. His tongue had a thin white coat except round the edges. His tonsils were enlarged and there was a redness all over the back of the throat. His pulse was 52, with considerable tension. The heart sounds were normal. Fæces were felt in the left side of the abdomen. There was no distension, the clearest note being on the right side. He was depressed mentally and physically but was fairly well nourished, his ribs being well covered. A hymn would come into his head which he could not get rid of and he would get into a state of what he called "mental excitation" and wished to be alone. He had noises in his ears like a cataract, with a whistle at times. He was ordered to have half a teaspoonful of China tea infused in a pint of water for ten minutes at 9 A.M. and to have nothing except water at other times, taking as little as possible except at 6 A.M., when he was to drink a pint in bed. On the 22nd he had slept from 11 P.M. till 2 A.M. He felt stupid when he awoke and his eyes were sore, as though they would drop out, and he could not bear the light. He had pain after drinking the water at 6 A.M. and some mouthfuls of frothy bitter fluid came back. He passed no urine till rising at 7 A.M. and then 130 cubic centimetres of a high colour and of specific gravity 1030. Acute pain was felt after taking the tea at 9 A.M. and there was some giddiness. He worked in the garden during the day at weeding. His head felt queer and he was giddy. Some frothy stuff came up after drinking water. Flatus passed at night. During the day 130 cubic centimetres of urine were passed, of specific gravity 1030, and it deposited about one quarter of urates. He thought that he had retained over half a pint of water since he had the tea. On the 23rd he had slept from 11 P.M. till 2 A.M. He had been dreaming a great deal. There was less depression than on the previous morning and he was a bit stiff in the legs from working in the garden. The tongue was furred and had not the smooth coat which it previously had. The amount of urine passed in the night was 620 cubic centimetres; it was clear, with a specific gravity of 1010. Bitter fluid still came up and he felt full, as he always did, in the epigastrium. He walked for three hours, climbing a high hill. The physical depression was less at the top of the hill than when he started. He again walked from 7 P.M. to 9 P.M. and felt a bit tired. He said that he had had less depression, both physical and mental, than usual and that in the evening his mouth was watering and had no bitter taste in it and he felt as if a crust of bread would taste good. The amount of urine passed during the day was 360 cubic centimetres, of specific gravity 1020, and clear. His weight was 8 stones 10 pounds 12 ounces

On Oct. 24th he had slept from 11.30 P.M. till nearly 6 A.M. There was no pain after taking the water in the morning and very little returned. The urine passed in the night amounted to 365 cubic centimetres and was of specifi gravity 1014. He refused to take the tea and on wishing t know his reason he said that it was a stimulant, that i removed the mental depression, and he was determined t take nothing in the shape of drugs. He took the hot wate alone. He had more distension in the stomach from wate alone than from the tea. The tongue now was not furre and looked cleaner than at first. He worked in the garde all day. At night he felt fairly well. Nothing returne when he drank. The urine passed during the day amounte to 1250 cubic centimetres, with a specific gravity of 1005 His weight was 8 stones 9 pounds 14 ounces. The bowel were moved by enema; the fæces were dark and fou smelling but not hard. On the 25th he had slept well i the night till nearly 7 A.M.; during the night he ha passed 900 cubic centimetres of urine, of specific gravit 1004. His weight was 8 stones 7 pounds 6 ounces. Ther were little, if any, mental depression and no feeling o physical depression. He left to visit some relatives, sayin that he would be careful as to food.

I make no comment on such cases but put the facts befor the profession, hoping that they may tend to the study o diet, not only in such cases but in all diseases, and tha other facts may be accumulated for future guidance.

Denholm, N.B.

HOSPITAL SATURDAY IN TORQUAY.—As a resul of the recent Hospital Saturday collections in Torquay th sum of £195 was handed to the authorities of the Torba Hospital. This is the largest amount which has ever bee received for this fund in Torquay.

CORNWALL COUNTY NURSING ASSOCIATION.—In response to the appeal of Lord Mount Edgcumbe on behalf of the funds of the Cornwall County Nursing Association the sum of £184 has been promised annually in subscriptions, leaving an additional income of £100 which is stil required to place the association on a sound financial basis.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

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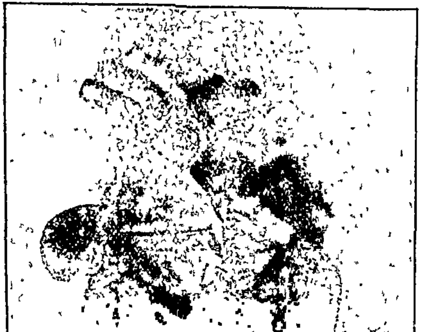
NOTE ON A CASE OF DOUBLE STENOSIS OF THE AORTIC ORIFICE.

By THEODORE SHENNAN, M.D. EDIN., F.R.C.S. EDIN.,
PATHOLOGIST TO THE ROYAL INFIRMARY, EDINBURGH, ETC.

THE case of double stenosis of the aortic orifice published in THE LANCET recently,[1] brings to my mind an analogous case which Dr. H. G. Langwill and I described with an illustration in the *Scottish Medical and Surgical Journal.*[2] It is referred to at some length by Clifford Allbutt as a "subvalvular constriction" in his article on Diseases of the Aortic Area of the Heart in his "System of Medicine."[3]

The main points of the case are as follows. The patient was a male, aged 19 years. There was no history of rheumatism or scarlet fever. He was poorly developed and pale; there was no œdema or cyanosis; marked clubbing of the fingers was present. As regards the circulatory system there were marked episternal pulsation, a marked systolic thrill to the right of the middle line in the first and second intercostal spaces, and a "blowing" systolic murmur in the mitral area, becoming louder on auscultating up the sternum to the aortic area, so as to become audible five inches from the chest wall. The patient died suddenly.

Necropsy.—This was *performed hurriedly, the heart only* being removed and sent to me for examination. Nothing of importance was found in the auricles or right ventricle The walls of the left ventricle were hypertrophied Some of the columnæ were fibrous, evidently from old endocarditis On passing the finger up towards the aorta it passed through a fibrous ring—0·7 inch in diameter—about one inch below the aortic opening. This was continued on to the ventricular surface of the inner mitral cusp. In this position and extending upwards from the ring on to the lower surface of the left posterior aortic cusp was a narrow band of comparatively recent vegetations These covered the lower surfaces of all the aortic cusps, which also were thickened and contracted, the diameter of the opening being 0·7 inch. The aorta was dilated slightly at its commencement but in the upper part of the descending aorta was only 0·6 inch in diameter. The fibrous ring was apparently the result of an old endocarditis.



A portion of the wall of the left ventricle is removed and the aorta laid open The fibrous ring is indicated by the pointer. Just above it are the thickened aortic cusps.

The condition is well seen in the accompanying illustration. The specimen now forms specimen No. 89 of Series 36 in the Museum of the Royal College of Surgeons of Edinburgh and is fully described in the Catalogue, Vol. III.

Edinburgh.

A NOTE ON THE OCCURRENCE OF FILARIA IN FIJIANS.

BY G. W. A. LYNCH, M B, B C. CANTAB., M.R.C.S. ENG., L R C P LOND.,
RESIDENT MEDICAL SUPERINTENDENT, COLONIAL HOSPITAL, SUVA, FIJI.

DURING a period extending over 13 months the blood of 608 pure Fijian natives was examined at the Colonial Hospital. In every case specimens of the blood were taken both by day and by night and examined shortly after they were prepared. The natives whose blood was examined were from every part of this group of islands and really comprised all the Fijians who were admitted to hospital during the period of observation—adults and children, males and females; but adult males form the majority, because there are always fewer females and children in the hospital admission lists. Of the 608 cases examined filaria embryos were present in 156, or 25 65 per cent. In 125 specimens of blood taken by day and 136 specimens taken by night embryos were present, and 105 cases showed them in both day and night specimens; so that 31 cases showed filaria in their night specimens only and 20 cases in their day specimens only, or 5 09 per cent and 3·28 per cent. respectively. The embryos examined were similar to those of filaria nocturna in all cases but one, and though in some cases it could be said that where found in both night and day specimens the embryos were in increased numbers in the former, this was by no means always so; indeed, in some the very opposite conditions prevailed and it was frequently noted that the number of embryos was about equal in the blood examined by day or night. The one exception noted was that of a female patient from the province of Lau in the Windward part of the group, whose blood showed undoubted embryos of filaria perstans; this was found on all the occasions on which her blood was examined. These patients were, of course, admitted to hospital for all kinds of disease; but some were admitted for the acute febrile attacks which are of common occurrence in Fijians who are filarial; there were 16 of these in all. These attacks of "fever" are so common amongst the natives that they are not as a rule in the habit of seeking hospital assistance for this complaint. 15 cases were admitted for abscesses of various parts of the body which had [illegible] filarial [illegible] the [illegible] roin were admitted in the period under notice, which were also of filarial origin and showed embryos in the blood. (In this connexion it may be noted that of course no account is taken of the large numbers of ordinary abscesses or inflamed glands due to other ascertained causes.) During the period of observation 13 cases of advanced elephantoid enlargements either of the scrotum or other parts of the body were admitted; of these 11 showed no embryos in their blood but two showed them without any doubt whatever. In all 119 females were examined; 21 cases showed embryos in both night and day specimens and four in night specimens only; 489 males were examined, so that 21 per cent. of women were infected and 26·78 per cent of men; the difference may be accounted for by the much smaller number of women examined. Only eight cases of children under 13 or 14 years of age were examined and these in no instance showed any sign of disease.

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[1] THE LANCET, Nov. 19th, 1904, p 1417.
[2] Scottish Medical and Surgical Journal, vol. i., 1897, p. 723.
[3] Allbutt's System of Medicine, vol. v., p. 919.

The accompanying table shows the various provinces of Fiji from which these cases came.

Province.	No. of cases examined.	Cases in which filariæ were found.	Percentage.	Remarks.
Rewa	46	9	19·56	River delta.
Tailevu	60	19	31·66	Coast and high land.
Ra	20	4	20·00	Ditto.
Ba	16	4	25·00	Ditto.
Nadroga	20	6	30·00	Ditto.
Serua...	25	3	12·00	Ditto.
Naitasiri	12	1	8·33	Inland.
Colo East, West and North ...	26	8	30·76	Mainly high land.
Cakaudrove ...	34	8	23·52	Mainly island and coast.
Lomaiviti... ..	107	22	20·56	Island archipelago.
Bua	31	16	51·61	Coast and high land.
Macuata	14	3	21·42	Coast and high land.
Lau	105	24	22·85	Archipelago.
Kadavu	76	27	35·52	Island.
Namosi	5	0	—	Mainly high land.
Unspecified ...	11	2	18·18	—
Total ...	608	156	25·65	—

Making due allowance for differences in the numbers from the various provinces, it appears that the prevalence of this disease is about equally great in all parts of the group; it does not seem possible from the table to say that it is found more in the coast provinces than those inland. As a matter of experience, however, most of those patients who come from essentially inland provinces live in those parts of such provinces which have a fringe of sea coast.

Colonial Hospital, Suva, Fiji.

A NOTE ON A CASE OF BILHARZIAL WORMS IN THE PULMONARY BLOOD IN A CASE OF BILHARZIAL COLITIS.

By WILLIAM ST. CLAIR SYMMERS, M.B., C.M. ABERD.,
PROFESSOR OF PATHOLOGY AND BACTERIOLOGY, THE EGYPTIAN GOVERNMENT SCHOOL OF MEDICINE; PATHOLOGIST TO THE KASR-EL-AINI HOSPITAL, CAIRO.

THE following facts are, I think, worthy of publication for two reasons: first, bilharzia hæmatobia has never before been seen in the blood of the lungs; and, secondly, the condition here named "bilharzial colitis" is not sufficiently recognised as a cause or concomitant of certain "dysenteric" symptoms.

The patient was a male Egyptian of uncertain age, probably about 35 years old. Clinically the disease was diagnosed as dysentery as all the symptoms pointed unmistakeably (as was thought) to this condition. But the post-mortem examination revealed a totally different state of affairs. The small bowel was normal except for the presence of about 100 ankylostomata. The colon and rectum were pale pink, the mucous membrane was swollen and velvety with a very few superficial abrasions, but universally raw in appearance and covered with a fair amount of mucus. The wall of the large bowel was somewhat thickened and its muscular coat was œdematous and hyaline in appearance. There were none of the ulcers characteristic of dysentery. Very numerous bilharzial ova were present in the mucous membrane of both the colon and the rectum. It seems most probable that the marked dysenteric symptoms in this case were due to the irritation of the innumerable bilharzial ova which were present in the mucosa of the gut.

As to the presence of the bilharzial worms in the body the facts were as follows. 22 worms (males) were found in the portal blood but the most interesting point is that two worms, a male and a female in the act of copulation, were found in the blood of the left lung. Ova of bilharzia have been recorded[1] in the tissue of the lung, but, so far as I am aware, no one has hitherto seen the living worms in the pulmonary circulation. I do not care to speculate as to how these worms got to the lung but I venture to refer to the fact that bilharzial worms are often found in the veins around the urinary bladder and in the small vessels about the rectum and that the blood from the whole vesical plexus of veins and part of that from the hæmorrhoidal plexus are poured *viâ* the internal iliac vein into the *systemic* circulation, so that a worm coming from either of these situations would have open to it a direct channel through the right heart to the lungs.

Cairo.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Prooemium.

EVELINA HOSPITAL FOR SICK CHILDREN.

A CASE OF CONGENITAL STENOSIS OF THE LOWER END OF THE ŒSOPHAGUS; WITH REMARKS.

(Under the care of Dr. T. R. C. WHIPHAM and Mr. C. H. FAGGE.)

A LITTLE girl, aged four and a half years, was taken to the Evelina Hospital as a medical out-patient on August 7th, 1903. Her mother was in an asylum and, as her father could not look after her, the child had been handed over to the care of a woman "whose lodger knew the child's family." The history given by this woman was that the child had vomited immediately after food for at least three and a half years and was believed to have done so all her life. The vomiting occurred after nearly every meal with occasional intervals of one or two days. There was never any difficulty in swallowing but the food was rejected as a rule within a very short time of being ingested. If the vomiting did not occur almost immediately the food was invariably retained. No difference was noticed between fluids and solids, though it was observed that the latter, if not properly masticated, were generally returned. Milk and biscuits were said to be sometimes retained and sometimes rejected, but on the whole porridge was kept down best of all. The bowels acted regularly. There had never at any time been hæmatemesis or any symptoms pointing to a cerebral lesion. The child herself had had only measles two years previously and there were five other healthy children in the family.

When first seen the patient had a somewhat pallid aspect and was much emaciated, the eyes being sunken and surrounded by dark rings. Her weight was only 15 pounds 12 ounces. The tongue was covered with a slight brown fur. The abdomen was flat and fæcal masses were felt in the descending colon, but nothing abnormal could be found. Examination of the chest likewise gave no abnormal signs. She was ordered cod-liver oil and malt, compound liquorice powder, and ten-grain doses of the subnitrate of bismuth. No improvement followed. Vomiting occurred as a rule after the medicine and every few mouthfuls of food, though occasionally milk, &c., were retained, with the result that at the end of a week the child had lost six ounces in weight. The treatment was continued and an improvement followed, porridge being kept down well twice a day and the medicine retained. Thus at the end of the second week the weight had increased to 19 pounds 7 ounces. The improvement however was only temporary, for the child again began to lose ground. The vomiting became more marked and, though the oil and malt were fairly well retained, at the end of the next six weeks she turned the scale at only 17 pounds 8 ounces. The bowels continued to act regularly. The history of the vomiting was confirmed by feeding the child with milk and bread and butter in the out-patient room She ate and drank readily and swallowed without difficulty, but generally after taking three or four mouthfuls she would stop and say she was going to be sick without apparently having any feeling of nausea A "pumping" action like that seen in dogs, then began and after a few seconds the food returned undiluted except by saliva and without any acid reaction At times after a drink of milk or a coloured solution had been retained she was given some bread and butter, which was immediately returned without any of the previous fluid thus proving that the solid [illegible] After vomiting the child

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[1] See Birch-Hirschfeld's Pathologische Anatomie, Zweiter Band, I. Hälfte, 1894, p. 550.

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The frequent demonstration of the vomiting however, put the latter out of cour

By the courtesy of Dr W Soltau Fenwick a bed in the hospital was obtained for the child and she was taken in on Oct 14th after nine weeks out patient treatment and watched by Dr Whipham She was given a full diet with such extras as cream Brand's essence and ginger bread nuts The appetite was good and the child retained fluid food well but, with only occasional exceptions was sick after her solid meals though curiously the ginger bread of which she was very fond was invariably retained Various changes in the nature and quantity of the food administered were tried, but the result was always the same and at the end of a month after admission her weight had only increased by four ounces Nutrient enemata in addition to oral feeding were tried for a time but had to be discontinued after a fortnight on account of intolerance of the rectum During this time however, the weight had gone up to 18 pounds 12 ounces The child's general health continued satisfactory the only drug exhibited being liquorice powder for the relief of constipation

Examination under anæsthetics by means of bougies and the x rays on different occasions led to a modification of the diagnosis of œsophageal pouch The passage of a moderate sized bougie was arrested at the lower end of the œsophagus while a No 2 or 3 catheter passed readily into the stomach Experiments with the x rays on catheters containing soft wire confirmed this fact for the smaller tubes were seen to enter the stomach while the larger ones were arrested about two inches above the diaphragm One soft catheter threaded with very flexible annealed wire was found to be reflected at this point and that a considerable dilatation of the œsophagus above existed was shown by the distance between the descending and ascending portions of the catheter That the condition was not one of a diverticulum seemed now evident The vomiting came on immediately after meals and not after an interval and there was no dysphagia, moreover there was never any swelling in the neck which is the constant position of congenital œsophageal pouches their site being at the end of the pharynx A traction pouch due to adhesions to an inflamed mediastinal gland seemed also out of the question for these as a rule are small and cause no symptoms Above all the passing of the œsophageal tubes pointed to a true stricture, for the smaller invariably entered the stomach, while the large were stopped as described above A diagnosis of that rare condition congenital stenosis of the lower end of the œsophagus was consequently made and this as subsequent events proved was the correct one

As the child had made no real progress with careful dieting during her six weeks stay in the hospital a consultation was held towards the end of November as to the advisability of surgical interference so on Nov 23rd with the patient under chloroform and aided by the x rays Mr Lagge passed gum elastic catheters containing fine wire stylets (sizes 2 and 3) through the stricture Larger sizes without stylets were tried without the use of force but could not be guided through the stricture though if softened by hot water they were seen to curl up above it

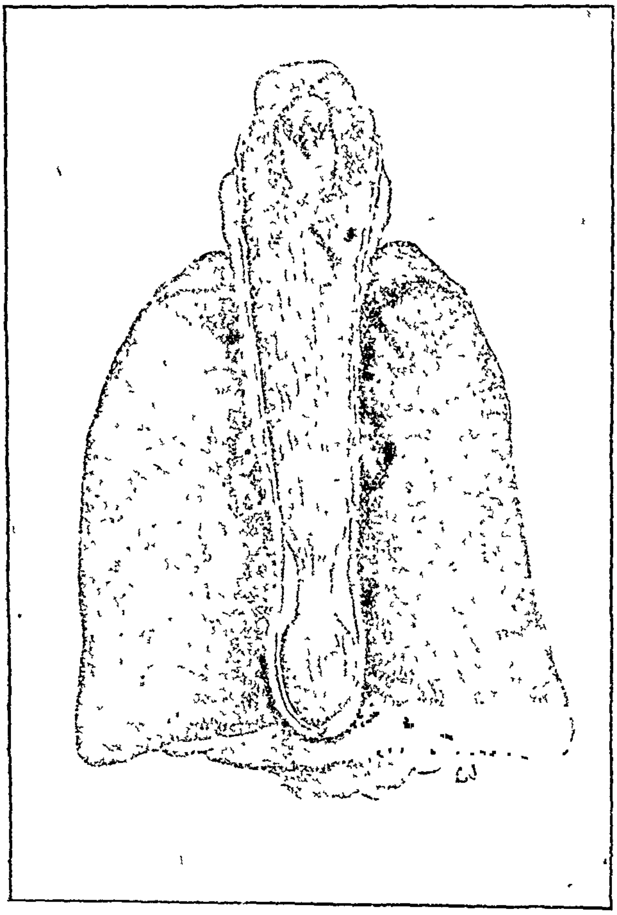
Messrs Down Bros were then instructed to make a series of gum elastic catheters of the usual sizes with centrally placed round terminal openings into which fitted the bulbous end of a fine wire This was passed through the catheter and was of such a length as to pass well beyond its upper end The object of this was that the smaller catheter might be withdrawn leaving the stylet *in situ* over which a larger sized catheter could then be passed through the stricture guided by the stylet

On Dec 4th the patient was again anæsthetised on the x ray couch and a very small Killian's œsophagoscope was passed but when this reached the pharynx it impinged on to the posterior wall at about the level of the fourth cervical vertebra, and as it was felt that it could not be passed further without undue force it was withdrawn A No 2 catheter, with a fine flexible wire stylet ending in a bulbous point as described above, was then passed with ease and was seen by the x ray screen to have passed into the stomach The catheter was then withdrawn, the wire stylet remaining *in situ*, and gradually larger catheters were passed over the stylet until a No 11 had been introduced The larger sizes were allowed to remain in the œsophagus for several minutes before being withdrawn so as to dilate and not merely to stretch the stricture During the passage of these instruments there was no sense of great obstruction which necessitated the use of force to push the catheters on, in fact only the largest size introduced was gripped at all and the greatest care and delicacy were exercised in their introduction Nor during their passage through the upper part of the œsophagus was there any sense of any resistance being overcome and followed by free movement of the end of the catheter, such as would have been caused by its escape into the cellular tissue outside the œsophagus Each catheter with its contained wire stylet was "screened while in the stomach and frequent observations were made with the screen in an attempt to determine the length of the stricture and the distance of its lower end from the cardiac orifice of the stomach

The patient was taken back to bed but on recovering from the anæsthetic swelling of the right side of the neck was noticed during the next two or three hours which spread steadily and rapidly to the left side and up on to the face The swollen parts crepitated under pressure and were somewhat painful when touched The child was very restless and the breathing became laboured By the next day the emphysema had spread over the thoracic and abdominal walls and the temperature began to rise respiration was more embarrassed, and the heart's action was rapid and weak The general condition was much worse and it was only too evident that during the attempts to dilate the stricture the œsophageal wall had been unfortunately perforated During the following two days (Dec 6th and 7th) the subcutaneous emphysema varied slightly in amount from time to time but delirium, cyanosis and intense abdominal pain which was only relieved by morphine, supervened Four Southey's tubes were inserted into the subcutaneous tissues of the neck and chest but failed to relieve the tension On the 7th the patient was very distressed and had much difficulty in swallowing She was continually retching and frequently vomited brown material Continued stimulation was of no avail and she died that afternoon with a temperature of 104 8° F Her weight taken three days before death was 19 pounds 12 ounces

Necropsy —At the post mortem examination the body was found to be fairly well nourished The subcutaneous tissues were much distended with emphysema which extended from the face over the thorax and abdomen the right side of the neck and face as high as the supra orbital ridge being the parts most affected The upper part of the œsophagus was dilated and at a point three quarters of an inch below the level of the bifurcation of the trachea there was a sudden narrowing of the calibre the tip of the finger just entering a circular ring which partially yielded to quite moderate pressure On slitting up the œsophagus the stricture was seen to be of a fibrous nature and quite half an inch in length (see illustration) In appearance it was white thick semi translucent and firm and quite unlike the remainder of the œsophageal wall which was such as is usually seen The stricture terminated one and one third inches above the cardiac orifice of the stomach and the lower end was as sharply defined as the upper The terminal portion of the œsophagus below the stricture was also somewhat dilated On the right side a little below the epiglottis there was a small perforation through all the coats leading into the surrounding loose cellular tissue One inch below this there was a small laceration of the mucous membrane and just above it were two symmetrical oval patches one on either side of the lumen where the mucous membrane had been slightly injured There was no evidence throughout the œsophagus of any old traumatism erosion or ulceration From the perforation a large septic track containing air and a small quantity of offensive grumous fluid, probably food, led down into the mediastinum which was also infected

The right pleura was the site of a large pneumothorax. It contained a few ounces of yellowish fluid and was covered by an adherent layer of lymph. No evidence of perforation of the pleura was found. The lung was collapsed and airless. On the left side there were numerous petechial hæmorrhages under the pleura which presented a little lymph and contained a small quantity of fluid. The left lung was normal. The pericardium contained a slight excess of fluid and loose shreds of lymph around the base of the heart. The heart itself was normal. The stomach showed advanced post-mortem digestion and tore easily. There was no peritonitis or lesion of the abdominal viscera beyond several small subperitoneal hæmorrhages over the surface of the liver. The condition of the œsophagus was the only abnormality present in the body.



Œsophagus laid open from behind, showing the position and extent of the stricture A rod is passed through the perforation. From a drawing by Mr. Lawrence Jones.

At the post-mortem examination it was considered that the bare bulbous-ended wire stylet had produced the hole which did not seem large enough to have admitted any of the catheters. Unless the same instrument had passed into the cellular tissue and wounded the pleura, the occurrence of the pyo-pneumothorax is not explained, but the pathologist (Dr. R. P. Rowland) could find no evidence of an injury to the parietal pleura near the hole in the œsophagus

Remarks by Dr. WHIPHAM and Mr. FAGGE.—Congenital malformations of the œsophagus of any kind are but seldom met with. Records of individual cases are found scattered over the literature but the text-books dismiss the condition in a few lines. Briefly speaking, these abnormalities may be devided into—

1. Congenital absence of the whole œsophagus—a very rare condition.[1]

2. Bifurcation of the œsophagus with junction of the two parts towards the lower end.[2] Of this condition we only know of one recorded instance.

3. Congenital atresia in which the œsophagus is divided into two parts—the least rare of all the varieties. As a rule, in these cases the upper end, which is continuous with the pharynx, ends blindly in a more or less expanded cul-de-sac, while the lower opens above into the trachea or one of the bronchi and below in a normal manner into the stomach. The two segments of the gullet may be connected by a fibrous or muscular band.[3] Much more rarely there is no opening of the lower part into the air passages, the two blind ends being merely joined by a fibrous cord.[4] In connexion with the upper cul-de-sac pressure pouches are sometimes formed. The obliteration of the œsophagus in such cases is stated to be a secondary process occurring opposite the diverticulum from which the lower part of the trachea and the lungs are developed.[5] It will be remembered that the epithelial lining of the larynx, the trachea, and all the air passages are derived from a diverticulum which arises immediately below the epiglottis from the ventral wall of the foregut.[6]

4. Pressure pouches which occur in the median line posteriorly are thought by some to be of congenital origin and to have become gradually dilated by the passage of hard food. That such exist during fœtal life is unlikely, especially as symptoms are not generally noticed till age is well advanced, or may be entirely wanting and the condition only discovered at the necropsy.

5. Stricture caused by a fold of mucous membrane projecting into the lumen of the tube, like a diaphragm (*a*) at the upper part of the œsophagus immediately below the pharynx or (*b*) near the lower end. The symptoms of such lesions are in most cases not manifested till the patient has reached middle or advanced life, and it has been suggested that the condition is due to a contraction—possibly reflex in origin—of the muscularis mucosæ or of the circular muscular coat. That some of these cases are possibly congenital in origin, however, seems likely from the three instances quoted by von Ziemssen,[7] in all of which dysphagia had been noticed since childhood. One was a case under the care of Everard Home,[8] that of a female, aged 46 years, who died from lack of nourishment owing to increased difficulty in swallowing, caused by a uniform circular contraction of the mucous membrane at the entrance of the œsophagus, the appearance of which was normal. The second, recorded by Cassan,[9] was that of a man, 77 years of age, who, although suffering from some dysphagia all his life, had only marked symptoms during his last year, when ulceration in the mouth, caused by a silver toothplate, had extended downwards into the œsophagus. A circular ring of mucous membrane with a puckered edge was found in the upper part of the gullet and below this a narrow canal, eight millimetres long, in which the mucous membrane was cast into longitudinal folds. The third, which was reported by Zenker, occurred in a woman, aged 66 years, who died from carcinoma of the pylorus. In the upper part of the œsophagus was a circular contraction, over which the mucous lining was pale, delicate, and freely moveable on the submucosa.

6 Stenosis of the lower end of the œsophagus, cases like our own. Such a condition seems to be excessively rare and after searching through the literature we have only been able to find records of six cases that are at all analogous. The earliest is mentioned by Blasius,[10] but of the details nothing is known beyond that there were two strictures at the lower end of the œsophagus with a curious saccular dilatation between them. Cruveilhier[11] figures a stenosis extending down to the cardiac orifice of the stomach but merely says that the case in many respects resembled that of Cassan mentioned above. In the dilated portion of the œsophagus above the stricture were numerous polypoid vegetations. Wilks[12] gives a fuller account of a man, 74 years of age, who died from pneumonia. He had had difficulty in swallowing and regurgitation of food since childhood and at the necropsy the lower portion of the

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[1] Morell Mackenzie Diseases of the Larynx and Œsophagus, 1884.

[2] Blasius Observata Medica Rariora, 1674, Table vi, fig 2.

[3] Two typical instances of this malformation, with records of other as to their origin, will be found in a paper by the Pathological Society, vol. xxvii, p 149.

[4] NCET, Feb 6th, 1904, p .361. Birmingham Medical Review, February, 1904, p 83

[5] Shattock Transactions of th ol. xli, p 87.

[6] Keith Human

[8] Practical of Stricture in the Urethra and in 393.

[9] A more detailed account of this case will be found in Cruveilhier's Anatomie Pathologique, livr. xxxviii., p 1.

[10] Observata Anatomica, 1674, p. 120, Table xv., fig. 6.

[11] Loc. cit, Plate vi.

[12] Transactions of the Pathological Society, vol xvii., p. 138.

œsophagus was found to be stenosed the lumen scarcely admitting the little finger Above the stricture the œsophagus was hypertrophied and dilated Hilton Fagge[13] records a somewhat similar case in a man, aged 84 years, though in this instance no dysphagia was noticed till after 40 years of age The lower end of the œsophagus presented a stricture on the upper part of which a recent epithelioma had arise ind dilatatior to the belief C Turner's ied from inanition At the lower end of the œsophagus, involving the cardiac orifice, there was a tight stricture which just allowed a No 2 catheter to pass There was no other malformation

A more recent case was described by B H Rogers[14] who has kindly furnished us with some additional details The patient was a male infant, one year and ten months old, who began to suffer from frequent vomiting about a year previously The condition became rapidly worse and was accompanied by emaciation A soft bougie was passed on several occasions into the stomach, for the tip came up acid, but on others it curled up on meeting the stricture Most of the food entered the stomach but part seemed to be retained in the œsophagus and it was sometimes several hours before it was returned Attempts at diagnosis by means of the x rays were not fortunate The child was fed on sponge cake mixed with carbonate of bismuth but no recognisable shadow could be seen The patient died from bronchitis and at the post-mortem examination a fairly tight stricture was found about an inch from the lower end of the œsophagus *The child's weight was 16 pounds 9 ounces*

The rarity till now of congenital lesions of the œsophagus causing stricture seems fully established by our researches into medical literature, but it remains for time to prove whether they are so uncommon as the paucity of recorded cases tends to show Now that attention has again been drawn to the condition by Rogers s and our own case it may well be that accounts of other cases will be forthcoming Until a comparatively short time ago congenital hypertrophic stenosis of the pylorus was an unknown condition but many instances of this lesion have been recorded during recent years and operative treatment has been undertaken with a fair amount of success It is, perhaps, not too much to hope that with improved methods of diagnosis cases of congenital stenosis of the œsophagus may be earlier recognised and that operative skill may effect their alleviation, for we cannot but think that such cases are not so few and far between as the records indicate At all events it is desirable that as many instances as possible should be recorded, so that an adequate explanation of their origin may be arrived at and definite lines for surgical treatment laid down, for hitherto efforts in this direction have been entirely unsuccessful It may be that stricture at the commencement of the œsophagus is caused by excessive narrowing of the fore gut where it contracts to form the gullet, as it has been shown by Balfour and Meuron that in most vertebrates—mammals excepted—at a certain period of development the lumen of the œsophagus becomes for a time completely obliterated at its upper extremity, and even in the human embryo at an early stage the cervical portion of the œsophagus exists only as a column of later becomes channelled the development of the the stenosis of its lower end Is it possible that our knowledge of the development of the alimentary canal is still incomplete and that further investigations in this direction are required?

In the *reports of the different cases recorded here and* in the references obtained from the different indices and catalogues in the library of the Royal College of Surgeons of England and elsewhere we can find no discussion or opinions on the surgical treatment of congenital stricture of the œsophagus In cases like ours where the stricture is low down, it seems that the alternatives are dilatation with bougies and gastrostomy, for division of the stricture must be regarded as too risky a procedure and electrolytic treatment as doubtful in efficiency

Experience of gastrostomy in children for stricture of the *œsophagus following corrosive inflammation is not entirely* satisfactory, the local irritation of the skin and other discomforts making life for the child almost unbearable, so here as it had already been possible to introduce a small bougie we decided in consultation that dilatation with bougies was more rational and probably likely to succeed, as the stricture did not seem either long or very inelastic It was proposed to dilate further to a 15 size catheter and it was hoped that after this the occasional passage of a full sized bougie would maintain a sufficient opening Otherwise, as it would be impossible to insure frequent dilatation with bougies for a prolonged period in a hospital child we decided to resort to gastrostomy if a rapid relapse followed There is no doubt, as was fully demonstrated by the post mortem examination, that anything like satisfactory and lasting dilatation of the stricture with bougies would have been impossible and that had the child lived gastrostomy would have been inevitable

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[13] [illegible]

[14] [illegible]

[15] [illegible]

VICTORIA HOSPITAL FOR SICK CHILDREN

A CASE OF PRECOCIOUS LACTATION IN A MALE CHILD.

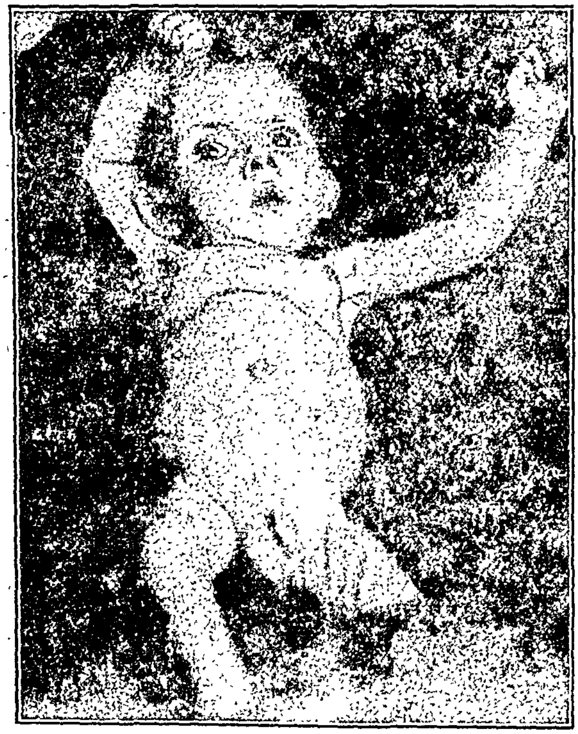
(Under the care of Dr MONTAGUE MURRAY.)

FOR the notes of the case we are indebted to Mr Robert M McQueen, clinical assistant at the hospital

The following case seems worthy of recording on account of this most unusual condition in a male child The patient, a male child, aged three and a half months, was admitted *into the Victoria Hospital for Sick Children* on July 8th, 1904, under the care of Dr Murray, for congenital morbus cordis from which he died on the 29th On were found to be enlarged to about all (the left being slightly larger were prominent and well marked, and the nipples were enlarged in proportion to the size of the breasts A fluid resembling milk was oozing from both nipples On palpation both breasts were firm and a well-marked mass of gland substance with an irregular outline could be felt There was neither pain nor tenderness Two or three drops of this milk like fluid could be squeezed from each nipple The child was breast fed and above the average size for his age having the appearance of an infant of from ten to 12 months old, the head was well formed the anterior fontanelle was nearly closed, and at death, three weeks after, was quite closed The genital organs were normal, both testicles were in the scrotum and of about the size of large cob nuts, and the penis was large *for the age* of the child The mother said that she noticed that the child s breasts began to swell when it was five or six weeks old and had gradually got bigger " She had never rubbed them nor had there been any nipple pulling and she had not noticed any swelling, pain, or tenderness of the breasts during the first week after birth During the three weeks the child was in the hospital until he died nothing was done to arrest the secretion, the breasts continuing to increase in size and to secrete

Necropsy —A post mortem examination was made and beyond evidence of congenital morbus cordis nothing was otherwise found Both breasts on section fully bore out that they were lactating breasts, which they appeared to be during life, the gland substance was *healthy and had every appear*ance of actively secreting glands, no cysts were present, there was no excess of blood, no injection lymph, or œdema, or any sign of active inflammation The ducts leading from the glandular substance were generally enlarged and irregular Unfortunately microscopical sections were not *made* The secretion was examined microscopically and was found to resemble milk except that there were fewer fat cells, in each field of the microscope one or two colostrum corpuscles could be seen

Remarks by Mr McQu between mastitis with lactation Sheild say associated with secretion and that the milky exud of some infants is ent central cells of the colur primary gland is formed He also quotes the case of a female child 16 days old whose right breast was opened for an abscess A milky secretion was seen issuing from the left breast This secretion under the microscope resembled maternal milk except that the latter contains more corpuscles.[1] That this case was not one of spurious lactation is borne out by the appearance of both breasts on section and the microscopical examination of the milk together with the absence of any tenderness, pain, or redness, or of any evidence of œdema or enlarged lymphatic glands; moreover, there was no history of irritation or injury and the breasts continued to enlarge and to secrete as long as the child lived. It seems probable that as the lactation did not begin until the child was five or six weeks old, it was not excited by a primary mastitis, a condition not infrequently found in infants a few days after birth. In further favour of this argument we find other evidences of precocious development in the unusually large sexual organs and the closure of the anterior fontanelle (*vide* illustration). There are several cases recorded of developmental precocity in female children. In one, a female child had great enlargement of the mammæ and menstruated under two years of age.[2] But I can find no mention of precocity of lactation similar to this instance, which, together with the fact that it occurred in a male child, seems to lend an additional interest to the case.



The illustration is reproduced from a photograph which was taken a few days before the child died after considerable wasting of the tissues had occurred, but shows the mammary enlargement, especially the right breast, and the abnormal size of the external genital organs.

OMDURMAN CIVIL HOSPITAL.

A CASE OF SWORD WOUND OF THE HEAD.

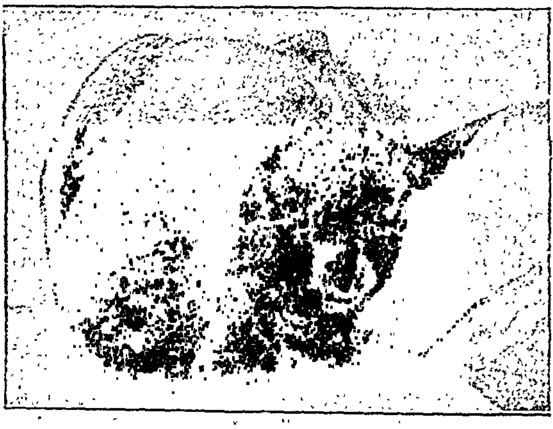
(Under the care of Mr. E. S. CRISPIN.)

THE patient, an Arab of fine physique, was admitted into the Omdurman Civil Hospital on Sept. 3rd suffering from a severe wound of the vault of the skull inflicted by a sword, with comminuted fracture and hernia cerebri. The injury had been inflicted on the night of August 31st, so that nearly three days had elapsed before admission; the first dressings had been applied by a native barber. The man performed the journey in a boat and was carried to hospital on his bed.

On admission there were signs of fairly free hæmorrhage, the patient was conscious but lethargic, his pupils were even and reacted to light, he had no obvious paralysis, and seemed in no particular pain. He had no incontinence of urine or fæces, was constipated, and his urine was drawn off by a catheter for the first 24 hours. He was unable to answer questions but seemed to understand when spoken to. The wound commenced about an inch over the left eyebrow and continued in a curved direction over the left parietal bone to about one and a half inches from the left occipital protuberance where it again took a sharp curve round towards the left ear. The total length of the wound was six and a half inches and its width in the centre was one and a half inches. The greater part of the left parietal bone was elevated half an inch; a quantity of brain substance, which was sloughing, protruded.

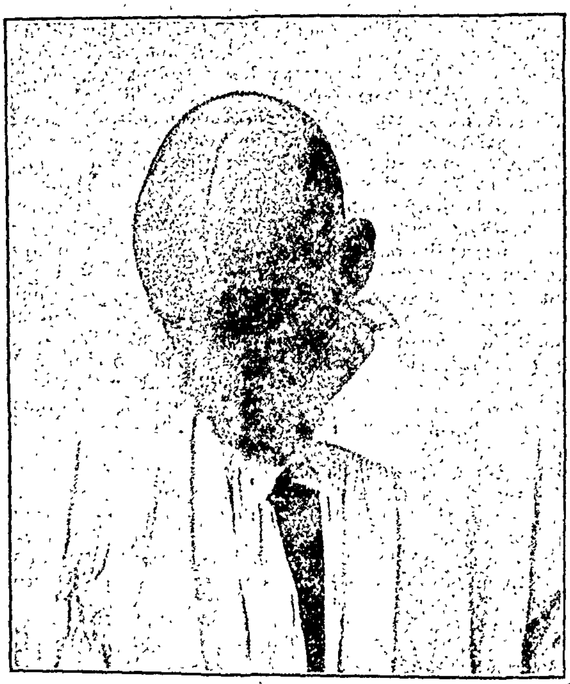
Immediately on admission the head was shaved, the wound was explored and some splinters of bone were removed, and clean dressings were applied; no attempt was made to bring the edges of the wound together on account of the sloughy condition of the brain and the elevation of the parietal bone. The accompanying illustration (Fig. 1) gives some idea of the condition of the wound some days after admission. There was no pus in the wound but a

FIG. 1.



Reproduction of a photograph of the patient's head taken lying in bed on Sept. 10th.

FIG. 2.



Reproduction of a photograph showing the condition of the head on leaving the hospital ten weeks after admission.

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[1] Diseases of the Breast, p. 57.

[2] Ibid., p. 59 (Meckel's Archiv für Anatomie, 1827).

copious discharge of cerebro-spinal fluid was present. A few days after admission there was some œdema of the eyelids and Mr. Crispin prolonged the incision downwards about half an inch and discovered a bead of pus; a fine gauze drain was inserted in this corner of the wound and a tight capeline bandage was applied, the œdema disappearing in a few days.

For 25 days the man remained in this lethargic condition, unable to speak; at the end of this time, in answer to a question, "How are you?" he answered "Taiib," which means "All right." But on trying him further, with "What is your name?" or "Put out your tongue," his answer was still, "Taiib." His friends put similar questions to him but the same answer was given to all. This peculiarity of speech lasted for 15 days more, during which time it was difficult to make him understand things. He had to be told several times to put out his tongue or to shut his eyes but eventually did it all right. At the end of this time—that is, about Oct 13th—more than six weeks after the infliction of the injury, he began to answer questions properly but very slowly, hesitating and stammering over them as though trying to remember a lesson; he used to hesitate even in giving his own name. From this date, however, there continued a steady improvement. He never had any apparent weakness in his grip or loss of movement anywhere. The part of the cortex that sloughed away must have been the centres for the head, eye, and arm to a great extent. The patient was altogether ten weeks in hospital and left with no other sign of injury than the scar.

Remarks by Mr. CRISPIN.—I think this case is worth recording on account of the enormous extent of the injury resulting in complete recovery with practically no surgical interference. It is improbable that a European would have survived this injury, but a native, with his less susceptibility to pain and shock and his fine constitution, frequently recovers in what at first sight appears a case of fatal injury. It will be interesting to hear whether the patient later develops epilepsy, as so often occurred in cases of bullet wound of the br[illegible] var which apparently at the [illegible]

The second illu[illegible] nt of the scar on discharge from hospital. Both photographs were very kindly taken for me by Mr. Turstig and Father Ohrwalder of Omdurman.

Medical Societies.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Election of Officers.—Fatal Lepto-meningitis.—Exhibition of Specimens and Instrument.—Tinnitus.—Internal Ear Deafness.—Cerebral Abscess.—Restoration of Hearing after Removal of Drum and Ossicles.

THE fifth annual meeting of this society was held on Dec. 5th, 1904, Dr. THOMAS BARR being in the chair.—The following officers were elected:—President: Dr. Thomas Barr. Vice-Presidents: Mr. A. E. Cumberbatch, Mr. John B. Story, and Mr. E Cresswell Baber. Honorary Treasurer: Dr. Edward Law. Honorary Librarian: Dr. Herbert Tilley. Honorary Editor of "Transactions": Dr. W. Jobson Horne. Council: Dr. Urban Pritchard, Dr. Arthur L. Whitehead, Dr. A. Logan Turner, Mr. Arthur H. Cheatle, Mr. Richard Lake, and Mr. [illegible] Secretaries: Mr. Hugh E. J[illegible]

An ordinary [illegible] eld.

Mr. A. E. CUMBERBATCH read notes of a case of Fatal Lepto-meningitis following upon acute suppurative otitis media of influenzal c[illegible] us lateralis were explored by [illegible] A small quantity of pus was [illegible] none in the sulcus or on the upper surface of the tegmen tympani No symptoms of any kind, except a rise of temperature to 106° F., followed the operation. At the necropsy purulent lepto-meningitis was found but no direct connexion between it and the focus in the temporal bone could be traced. Mr, [illegible] embers as to whether [illegible] a case.—Dr. WILLIAM [illegible] rachnoid space might [illegible] pointed out that in many of these cases the pus lay between the pia mater and the brain and that it was then practically impossible to drain away the pus but that occasionally where there was a localised collection of pus between the arachnoid and the dura mater it was possible to obtain a good result by operation. Mr. Ballance also remarked that meningitis occurred in influenza independently of an ear disease.—Dr. J. DUNDAS GRANT referred to the recent paper of Lermoyez, in which he advocated repeated lumbar puncture in the treatment of otitic meningitis.—Mr. HUGH E. JONES described two cases which illustrated Mr. Ballance's remarks; extensive removal of bone and multiple punctures of the pia mater had failed to drain the pus or to prevent extension of the suppuration.

Dr. ALBERT A. GRAY demonstrated by means of lantern slides the following specimens: (1) the Human Membranous Labyrinth, showing an accessory ampulla in the horizontal canal and supernumerary otoliths or calcareous deposits in the labyrinth; (2) the Membranous Labyrinth of the Seal, showing the large size of the organ and the large otoliths; (3) a section of the Cochlea of the Mouse; (4) a section of the Organ of Corti of the Mole, showing the spiral arrangement of the nerve termination at the base of the hair-cells; and (5) a section of the Cochlea of the Guinea-pig. In reply to a question Dr. Gray said that his method of preparing the labyrinth was described in the *Journal of Anatomy* two years ago.—The PRESIDENT, Dr. URBAN PRITCHARD, Dr. MILLIGAN, Dr. W. JOBSON HORNE, and Mr. P. MACLEOD YEARSLEY discussed the specimens.

Mr. RICHARD LAKE exhibited an Oto-masseur driven by a Turbine (Ash)

Dr. E. FURNISS POTTER read notes of a case of Severe Tinnitus, with almost complete loss of hearing, in a male, aged 21 years. Drug treatment had proved valueless. Dr. Potter asked for advice as to whether operative measures should be adopted—e.g., removal of cochleæ or division of auditory nerve.—An interesting discussion followed in which the speakers appeared to be unanimously of opinion that the tinnitus being diffuse and not "referred" to the ears, and there being an absence of any precise knowledge of the cause of the tinnitus, operation was not justifiable.

Mr. ARTHUR H. CHEATLE read notes of a case of Internal Ear Deafness of sudden onset. The patient, a middle-aged female, noticed loud noises in her ears after she had been yawning seven or eight times. The "noises" lasted from 20 to 30 minutes, when she found that she was deaf in the left ear, and it had a "dead feeling." There was no giddiness. The deafness had remained and occasional "noises" were heard. Examination of the ear revealed nothing beyond marked nerve deafness.—The case was discussed by Dr. MILLIGAN, Dr. DUNDAS GRANT, and others.

Dr. A. L. WHITEHEAD read notes of a case of Acute [illegible] boy, aged 14 years, who had [illegible] 12 months. He was seized [illegible] ours and coma lasting three [illegible] lled with pus and granula- [illegible] performed with subsequent exploration of the temporo-sphenoidal lobes on both sides. The result was negative but 36 hours later pus and sloughing brain material were evacuated on the right side and recovery followed.

Mr. CHARLES J. HEATH read a paper (founded upon an experience of 400 operations) on the Restoration of Hearing after Removal of the Drum and Ossicles by a modification of the radical mastoid operation for suppurative ear disease.—This paper was published in THE LANCET of Dec. 24th, 1904, p. 1767. Its discussion was adjourned to the next meeting.

CHELSEA CLINICAL SOCIETY.—A meeting of this society was held on Dec. 20th, 1904, Dr. T. Vincent Dickinson, the President, being in the chair.—Dr. R. L. Bowles read a paper on the Treatment of the Apparently Drowned, with a Practical Demonstration of the Best Methods of Resuscitation. The method advocated by Dr. Bowles was a modification of that originally introduced under the name of Dr. Marshall Hall, for whom in 1856 Dr. Bowles and others had carried out a series of experiments on the dead body. The three points chiefly insisted on by Dr. Bowles and now amply demonstrated by dissections on the dead body, by experiments on living animals, and by the experience of actual cases of drowning are the following: 1. That fluids are drawn into the lungs by the efforts at inspiration and that it is the presence of fluid in the lungs which is in most cases the immediate cause of death in drowning. 2. That the prone position is the only one that can be relied on for emptying the lungs of fluid and that this process of emptying the lungs must, on account of the inspissated character of the fluid from the admixture of blood, mucus, and saliva, be continued throughout the whole period of treatment. 3. That more air can enter the lungs through the aperture of the pharynx with the mouth shut than with it open. The method advocated by Dr. Bowles consisted of three separate movements. The first movement was to place the patient in the prone position and to employ firm but gentle pressure on the back of the ribs for three or four seconds. The pressure must then be suddenly removed to allow the entrance of air on the recoil of the ribs. In this position the tongue fell forward, leaving the entrance to the windpipe free for air to enter the lungs and fluid to leave them. The second movement consisted in grasping the patient's left shoulder and rolling him on to his right side. This movement should be repeated every, two seconds for about ten minutes. In this position the heart was left free and the liver did not press down on the heart and lungs. The third movement, which was to be employed if natural respiration had not been induced by the second, was an amplification of the latter. Instead of returning the patient at once to the prone position, the left arm was raised above the head until it was in a line with the body and brought back again to the side before the prone position was resumed. This movement assisted the expansion of the chest and allowed the air to enter the left lung more freely. These movements should be continued for an hour or until signs of natural breathing began.

Windsor and District Medical Society.—A meeting of this society was held on Dec. 21st, 1904, Mr. J. Brickwell, Vice-President, being in the chair.—Dr. George F. Johnston read a paper on the Nature of Hysteria. Arguing from the fact that hysterical patients can do without sleep for a very considerable period without suffering much from the lack of it, he suggested that the explanation of this might be that part of the brain of such patients was really asleep, or in a condition allied to sleep, all the time. He then alluded to cases of prolonged sleep, of trance, of ambulatory automatism (which he distinguished from post-epileptic automatism, giving examples of each to illustrate his meaning), and to cases of dual consciousness, all of which conditions he considered to be manifestations of hysteria and due to a partial or complete condition of sleep, affecting more or less continuously the whole or separate parts of the central nervous system. He further argued that such a condition would suffice to explain almost all, if not all, the manifold symptoms of hysteria. In order to do this, however, it was necessary to assume that the sleeping cells might be very few and it must also be recognised that higher and lower cortical centres, basal ganglia, cerebellar cells, and cells in the medulla and spinal cord might all be subject, separately or in combination, to this peculiar condition of abeyance of function or abnormal sleep. From this it followed that a "rousing" method of treatment should be adopted for hysteria. Hence the value of electricity, especially faradisation. He suggested as a definition of hysteria "a condition of instability of the nervous system in which certain groups of cells or combinations of groups of cells are liable to fall into a state of abeyance of function or sleep, leaving subordinate centres to act automatically and uncontrolled."—A discussion followed to which Mr. J. W. Gooch, Mr. W. J. Handfield Haslett, Mr. T. G. Drake, and Dr. G. E. Hale contributed.—The proceedings terminated with a vote of thanks to Dr. Johnston for his valuable and interesting address.

Reviews and Notices of Books.

The Life of Richard Wagner. By William Ashton Ellis. London: Kegan Paul. 1904. Vol. IV., pp. 537. Price 16s.

This is the fourth instalment of a voluminous biography written by a member of our profession. Mr. Ellis is an enthusiastic devotee of the Wagnerian cult and the reader will find evidence in every page of painstaking research. The period covered in this volume is barely two years—viz., 1853 to 1855—of the composer's life. Wagner was born in 1813. At the age of 19 years he wrote a symphony (his first composition having been an overture which was performed in 1830) and his first work for the operatic stage was *Die Hochzeit* in 1833. It was not till 1842 that the more generally known operas began to appear. Thus *Rienzi* was performed in 1842, *The Flying Dutchman* in 1843, *Tannhäuser* in 1845, and *Lohengrin* in 1850. From the first he was his own librettist and he always devoted considerable time to the writing of the "poem" which he intended to illustrate in "tone-colour."

In the volume under notice we have the history of his beginning the music of his *magnum opus*, "*Der Ring des Nibelungen*," the poems of which he had been elaborating since 1845. There is an interesting description of the discovery, owing to Mr. Ellis's careful investigations, of the fair copy of the poem of the Dresden *Siegfried's Tod*, written in the composer's own handwriting as a "revise" a few months after the original MS. of 1848. It had been given by Wagner to his friend Sulzer as a "keepsake," but the recipient died in 1897 and his family were unaware apparently that such a treasure was in their possession. (*Siegfried's Tod* is now generally known as *Götterdämmerung*, the fourth part of *Der Ring*, the first three parts being *Das Rheingold*, *Die Walküre*, and *Siegfried*. Though in four parts, the whole work is alluded to as a "trilogy," *Das Rheingold* being considered the prologue.) In 1853 Wagner, an exile from his country (on account of supposed connexion with political intrigues), was living at Zürich. It was there that the first "Wagner Festival" took place. With considerable difficulty he got together an orchestra capable of performing selections from *The Dutchman*, *Tannhäuser*, and *Lohengrin*. A week before the concert he gave readings of the "poems" to a "freely invited and non-paying audience," so anxious was he to demonstrate the close connexion between music and words (Chapter III.). This festival was a great success from a musical point of view but the composer was depressed, physically and mentally, as is shown by his letters to Liszt and others. The loneliness of expatriation worried him, overwork was causing insomnia and lassitude, and financial difficulties added to his worries. Thus to Liszt he writes on May 30th, 1853: "I am very tired and knocked up"; and to Roeckel on June 8th of the same year, in speaking of his intentions for the future, "I have to gird up all my strength and health—which often is very ailing—to carry out the musical composition of my Nibelungen dramas." In another letter to Liszt he sums up his temperament in the following words: "I can live in nothing but extremes—the greatest activity and excitement and the most perfect calm."

What was the precise nature of Wagner's disabilities? We learn from the book before us, first, that he was the subject of a hernia "that necessitated the wearing of a truss (never properly adjusted according to the statement of his last physician)"; secondly, there was nerve-strain—"undiagnosed eye-strain," Mr. Ellis considers it to have been, and this is also the opinion of Dr. G. M. Gould.[1] For his neurotic symptoms he was recommended a sojourn in St. Moritz and thither he went in July, 1853. But he did not derive much benefit therefrom, for he wrote: "I'm too restless to be able to abstain for long from all activity; in short, I am no 'cure' subject—I have found out that—now I'm burning to go to Italy." And to Italy he went—a hurried visit—for he returned to Zürich in September, complaining of "loneliness," insomnia, and consequent "melancholy." He was longing to resume the composition of *Das Rheingold*; abstention from work was apparently more trying to him than the overwork which had produced his illness. Thus in January, 1854, he writes to Liszt: "During this work I often felt quite well; the storm clouds seemed to have wholly cleared." And a few weeks later his letters are full of despondency and longing for death. He lived, however, for nearly 30 years after that date. His visit to London to conduct for the Philharmonic Society took place in February, 1855. Particulars of this will form part of the next volume but it may here be recalled that his reception was anything but enthusiastic. His work was ironically termed the "music of the future" by most of the critics, but there is no denying the fact that his admirers and worshippers are now legion, and to them this detailed biography will prove most interesting.

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[1] Biographic Clinics, vol. ii. See also The Lancet, August 1st, 1903, p. 306, and March 7th, 1903, p. 672.

Pathological Technique: a Practical Manual for Workers in Pathological Histology and Bacteriology, including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By FRANK BURR MALLORY, A.M., M.D., Associate Professor of Pathology, Harvard University Medical School; First Assistant Visiting Pathologist to the Boston City Hospital; Pathologist to the Children's Hospital; and JAMES HOMER WRIGHT, A.M., M.D., Director of the Clinico-Pathological Laboratory of the Massachusetts General Hospital; Instructor in Pathology, Harvard University Medical School. Third edition, revised and enlarged. With 156 illustrations. London and Philadelphia: W. B. Saunders and Co. 1904. Pp. 469. Price 13*s.* net.

THAT three editions and a reprint should have been called for in seven years sufficiently attests the value set upon this work in the United States. Apart from this, however, anyone acquainted with recent American writings on pathology must have remarked this appreciation, as references to, or extracts from, the work of Mallory and Wright are to be met with constantly. The scope of the book is extensive as it deals with the practical methods employed in morbid pathology, histology, and bacteriology. Indeed, the work goes beyond what is indicated in the title, for not only is the technique of laboratory methods described but, in some cases at least, the deductions to be drawn from the observations are discussed. It could only be by a rigid selection of such methods as have proved of distinct service in practical work and by cutting out all antiquated or unpractical matter that the subject could be treated within the limits of what is, after all, only a book of moderate size. As might be expected from the authors, the selection of methods is judicious and the whole treatment of the subject is such as to leave but minor points open to criticism.

The book is divided into three parts, treating respectively of post-mortem examinations, the technique of bacteriology, and the methods used in pathological histology. The instructions for the performance of necropsies are eminently practical, though some suggestions are not entirely suitable to English conditions. In the bacteriological section we notice that the preparation of agar is still spoken of as troublesome but most of the difficulties in filtration disappear with the proper use of the autoclave and of suitable filter paper, so that agar will filter as quickly as gelatine. Protest must be made, too, against the use of the term "superheated" as applied (p. 89) to the steam in the autoclave, as there is risk of a fundamental misconception since "superheated" steam has not the sterilising value of "saturated" steam. The steam in the autoclave is in this latter condition. Among Gram staining organisms the bacillus œdematis maligni is not usually grouped. One of the new methods introduced into this edition is Hill's "hanging block method" which does not seem to have any advantages over that described by Professor S. Delépine some years ago. The section dealing with special bacteriology is well arranged, clearly written, and the object of the book is kept clearly in view.

In Part III. several new methods are described, including one by Dr. Wright for embedding and manipulating frozen sections of small fragments of tissue. This appears likely to prove of considerable value to those who have to deal with scrapings and curettings of organs for diagnostic purposes. For the determination of the hæmoglobin in blood the method of von Fleischl is alone given, no mention being made of Haldane's hæmoglobinometer which is the instrument usually employed in this country. A new blood stain has been devised by Dr. Wright which claims to be an improvement on those of Leishman, Jenner, and Ehrlich on the grounds that it is more easily and simply made while it possesses all the differential staining properties of these stains with the easy fixation associated with the methyl alcohol method. It should prove a valuable addition judging by the illustrations showing films stained in this way. There is also a new method by Dr. Mallory for neuroglia fibrils. Short accounts of inoscopy and cytodiagnosis have also been introduced.

The book is illustrated with woodcuts and numerous reproductions of photographs, some of which are taken from well-known works but many of which are original. With regard to these latter, while we recognise their excellence we cannot see the advantage of the excessive magnification (× 2000) employed. The microscopist rarely sees his specimens, at least in English laboratories, under a greater magnification than from 600 to 1000 diameters, and these highly magnified figures are therefore somewhat misleading while they lose at the same time the sharpness of definition which could be obtained with a lower power. There is a very fine reproduction of a segmenting malarial parasite in an unstained blood film. The book is well printed and does credit to the publishers.

The Röntgen Rays in Therapeutics and Diagnosis. By WILLIAM ALLAN PUSEY, A.M., M.D., Professor of Dermatology in the University of Illinois; and EUGENE W. CALDWELL, B.S., Director of the Edward N. Gibbs X-ray Laboratory, New York. Second edition, revised and enlarged. London and Philadelphia: W. B. Saunders and Co. 1904. 8vo, pp. 690. Price 21*s.* net.

THE full and favourable reviews which this work received on the issue of the first edition in 1903 make it unnecessary to describe it now at any great length. As was said then, this work is probably the best that has been published on this subject in the English language. The arrangement is the same as formerly. The first part is written by Mr. Caldwell and deals with x-ray apparatus and its use in diagnosis. It has been brought up to the date of going to press in January, 1904. The chapter on the choice of an x-ray outfit will be of the greatest value to those intending to take up this fascinating line of work. The whole of this section is very well done. The description of the various apparatus and practical methods is very clear and the numerous illustrations will be found of the greatest help to those whose experience has not been very extensive.

The second section is by Dr. Pusey and deals with the effects of the x rays on living tissues and the application of these effects in the treatment of disease. The changes produced in normal tissues form a proper opening to this section. These, both macroscopic and microscopic, are described in detail. Then follow the changes produced on diseased tissues and also on bacteria. Various methods of technique are fully described and in this chapter the special appliances necessary for x-ray therapeutics are indicated, including protections against the undesired effects of the x rays on both patient and operator. After dealing with the indications for the use of the x rays the author proceeds with the treatment of special diseases. At first sight Dr. Pusey's results in the treatment of cutaneous carcinoma are very startling. It is a fair criticism, however, that many of the cases which he records as "cutaneous carcinoma" would be regarded in this country as rodent ulcer. After making due allowance for this the author's results will be found to correspond practically with those obtained in this country. A valuable feature of this chapter is that the reports of the cases mentioned in the first edition have been brought up to date. On the whole, the results are encouraging. The author, while careful not to advise the substitution of the x rays for excision in operable cases, approves of the use of the rays as a prophylactic. This is a matter of very great importance and it is earnestly hoped that the use of the x rays after operation for malignant disease will be practised more generally and that recurrences will be less frequent. The work is thoroughly to be recommended. It is printed in clear type on good paper and the illustrations are numerous and excellent.

Les Rayons N et les Rayons N_1. (The N Rays and the N_1 Rays.) By Dr. H. Bordier. With 16 figures. Paris: J. B. Baillière et Fils. 1905. Pp. 95. Price 1 franc 50 centimes.

This is one of a long series of similar small manuals and deals with the Blondlot rays, sometimes called the "n" rays because Professor Blondlot, who discovered these rays, is a professor in the University of Nancy. Their discovery goes back to March, 1903, when Professor Blondlot whilst endeavouring to polarise the rays emitted by a Crookes's tube, found rays beyond the ultra violet, which rays, he stated, pass through aluminium, do not exhibit fluorescence, and, unlike the x rays, can be refracted. According to Professor Blondlot, these rays are emitted by a Welsbach light, a Nernst lamp, the sun, and even non-luminous bodies in a state of strain or compression—e.g., wood or steel. They are said to increase the intensity of a small flame. Many regard this increased luminosity as a subjective phenomenon due to a physiological change in the eye itself. An account is also given of those marvellous statements of Professor Charpentier that nerve and muscle in action emit these "n" rays and that the rays thus emitted affect a small luminous flame, making it more brilliant. In England, at least, not much credence is attached to the experiments of Professor Charpentier in this regard. The treatise is quite an elementary one and until verification of the phenomena which it describes is complete it is not likely to attract much attention on the part of medical readers, more especially as many physicists doubt even the existence of these much-belauded rays.

Biological Chemistry of Muscle and Nerve. Ten Lectures by W. D. Halliburton, M.D. Lond., F.R.S. (Published under the authority of the University of London.) London: John Murray. 1904. Pp. 160. Price 7*s.* 6*d.* net.

These excellent lectures are the outcome of two courses of lectures, one delivered in New York in January of last year by their author as the first Herder lecturer and the other delivered in the University of London. Three pages are required to set forth the titles of the principal researches published by the author or in conjunction with colleagues or carried out under his superintendence. The earliest paper dates from 1883 and the lectures may be taken as a *résumé* of the subjects with which they deal and the contributions made thereto by the author and his pupils. The real keynote of our knowledge of muscle proteids was struck by Willy Kuhne in 1864. Since then detail upon detail has been added and theories have been retracted. Kuhne also by using the muscular part of the diaphragm showed that the red colour of the so-called red muscles is due to the presence of hæmoglobin. Four lectures are devoted to muscle—its composition, heat [illegible] -proteids, ferments, extractives, and [illegible] chemical side, while in Lecture V. we find a short account of the chemical changes accompanying the contraction of muscle and the chemistry of tendon. The remaining five lectures deal with the nervous system under the following heads: chemical composition, metabolism, coagulation, temperatures of nerve proteids and its relation *inter alia* to hyperpyrexia, the chemistry of degenerative nervous diseases, and the degeneration and regeneration of nerves. The author regards the regeneration of nerve fibres as due to an outgrowth from the nerve cell and opposes the view of Bethe and others of auto-regeneration of nerve fibres. The white substance of Schwann is regarded as formed in relation to the axis cylinder and not by mesoblastic cells. Throughout the author has given full credit to those who have been his pupils and also to those who assisted him in actual experimentation. His joint researches with Dr. F. W. Mott and Dr. T. G. Brodie are set forth in an instructive form. Most of the results have already appeared either in text-books or lectures, so that there is no need to refer to the subjects in detail.

Atlas der deskriptiven Anatomie des Menschen. (Atlas of Descriptive Human Anatomy.) By Dr. Med. J. Sobotta, Extraordinary Professor and Prosector of Anatomy and of the Institute of Anatomy at Wurzburg. Second fasciculus. The Viscera, including the Heart. With 19 coloured plates and 187 illustrations (some in colours) from originals by K. Hajek (Artist). Munich: J. F. Lehmann. 1904. Pp. 169. Price M.16.

Grundriss der deskriptiven Anatomie des Menschen. (Essentials of Human Anatomy.) Second fasciculus. By the same Author. Pp. 155. Price M.3.

The atlas is the second volume of Dr. Sobotta's Atlas of Descriptive Human Anatomy and the descriptive letterpress appears as the second volume of Essentials of Anatomy by the same author. We have already noticed the previous issue of the same work and this one is in every respect similar to its predecessor. The atlas comprises 19 coloured plates and 187 figures besides. These are devoted to the viscera. The digestive tract stands first in order, the illustrations of the temporary, permanent, and developing teeth being particularly numerous, no less than 20 figures being devoted to this part of the subject. The salivary glands and the thyroid are illustrated in the same lavish manner. The usual views of the constrictor muscles of the pharynx appear and call for no remark. A very successful representation of the mutual relations of the œsophagus, trachea, bronchi, and great arteries is found in Fig. 302. The illustrations of the stomach, liver, spleen, pancreas, and kidneys are more or less familiar, being on the lines of the models by His. There are some good semidiagrammatic representations of the peritoneal reflexions and some figures showing the development and folding of the alimentary canal. The thorax is treated in a similar way to the abdomen and the plates which represent the right and left views of the mediastinum after removal of the lungs appear very useful. There is nothing very new in the illustrations of the pelvic viscera and the heart. The atlas is a good and painstaking production whilst the descriptive volume is accurate but by no means exhaustive.

Report on the Preparation of "Rinderpest Protective Serum." By Alfred Lingard, M.B., M.S. Durh., D.P.H. Cantab. Calcutta: Government Printing Office. 1904. Pp. 42.

As bacteriologist to the Government of India Dr. Lingard has had exceptional opportunity for studying the question of the value of different sera against the ravages of rinderpest in cattle and his report is a summary of the [illegible] to the present time. Dr. Lingard [illegible] valuable assistance received from Captain G. K. Walker and Captain J. D. Holmes of the India [illegible]

Civil Veterinary Department. The bile method of Koch was found to confer an active immunity lasting from two to five months, the bile of from three to seven animals being required to protect each hundred animals operated upon. Its action is not curative. The immunising effect of the bile injection begins on the fifth day and is not complete until the tenth day. It is curious to note that immunity against the disease by the use of rinderpest bile can be conferred upon plains bovines and plains and hill buffaloes, but not on the hill breeds of cattle. Edington's bile method can only in equivalent doses give a passive protection for a very limited period, as glycerine destroys the "contagium" of rinderpest. The injection of virulent blood after the injection of bile fails to prolong the period of protection already afforded. The injection of a quantity of fortified serum on one side of the animal's body and a small quantity of virulent rinderpest on the opposite side confers a considerable immunity and the serum has the following advantages over bile: it is cheaper, it can be prepared in large quantities, it can be kept, and it will not communicate any other disease. The actions of defibrinated blood and serum in animals are similar but the disadvantages of the blood are that it will not keep, it can communicate other diseases, and a very large quantity is required; its only advantage is that it can be utilised when no serum is procurable. Dr. Lingard discusses fully the methods of preparation of anti-rinderpest serum, the susceptibility of cattle and buffaloes indigenous to India, and the period during which the anti-rinderpest serum will retain its protective power after exposure to various temperatures. In an appendix some 50 tabular statements of the actual details of the result of one or other of the different methods employed are given, the whole report showing in a very condensed form the result of much labour in the field of preventive medicine.

LIBRARY TABLE.

The Anatomy of the Brain: a Manual for Students and Practitioners of Medicine. By J. F. BURKHOLDER, M.D., Professor of Anatomy in the Illinois Medical College and the Illinois Eye, Ear, Nose, and Throat College; Professor of Physiology in the Dental Department of the University of Illinois and the Dearborn Medical College. With 86 full-page plates. Chicago: G. P. Engelhard and Co. 1904. Pp. 174. Price $2.—The short title of this book is misleading, the brain described being that of the sheep. This brain has been chosen as an example on account of the ease with which it can be obtained and its resemblance to the human brain. No doubt a student who conscientiously works through the dissections described will gain a very fair knowledge of the naked-eye anatomy of a brain, but from a medical and pathological point of view nothing can ever replace a practical acquaintance with the brain of man. The plates, most of which are from the author's own drawings, are excellent and very clear but we have found the letterpress very difficult reading. Owing to the mixed terminology the book is neither English nor Latin and the Latin needs extensive correction, many errors having crept in. The revision of the book appears to have been very imperfect.

Medical Annals and Report of the Hamidié Hospital for Children, Constantinople, 1903-1904. Fifth year of publication. Constantinople, 1904.—The fifth issue of the reports of this hospital contains matter in French, German, and Turkish. The hospital besides being used for children also treats wounded soldiers. Among the notable articles is a most interesting one, unsigned, concerning "Hospitals in Islam," which gives an account so far as is possible of the celebrated one at Gondisapor which flourished in the eighth century. Dr. Salih Békir writes upon vesical calculus, which is common in Turkey. He gives details of 20 cases that came under his care at the hospital in two years. Of the 20 patients one was a girl. All the calculi were under ten grammes in weight except two, one of which weighed 14 grammes and one 45 grammes. The last named occurred in a male child aged six years. He was at first treated by means of rest, a milk diet, and Kara-Hissar water, and under this regimen the cystitis, which had at first prevailed, diminished. A lateral lithotomy was performed on June 9th, but the stone was found to be too big for extraction. On the 23rd the stone was removed by the suprapubic route. Some suppuration occurred but the child left the hospital on Sept. 19th completely healed and with no difficulty of micturition. The calculus was phosphatic.

Practical Nursing. By ISLA STEWART and H. E. CUFF, M.D. Lond. Edinburgh and London: William Blackwood and Sons. 1904. Pp. 432. Price 5*s.* net.—This admirable book was originally published in two volumes, the second of which appeared at some interval of time after the first published in 1899, and was reviewed in THE LANCET of Oct. 17th, 1903, p. 1099. The present edition is in one volume and, so far as we can remember, does not contain anything new. But the original edition was so excellent that practically nothing new was needed. We commend the book to all who have to do in any way with the care of the sick.

Practical Ambulance Tablets. By SYDNEY PARTRIDGE, M.D. Edin. Fifth edition. London: J. and A. Churchill. 1904. Pp. 71. Price 1*s.*—The continued demand for this little book is ample evidence of its merits. Dr. Partridge, who is an examiner and a lecturer to the St. John Ambulance Association, intends it to be a companion to the text-book of the association and it no doubt summarises very conveniently the chief points to be observed in the rendering of first aid. All the accidents and conditions described are urgent, hysterical unconsciousness excepted, and the directions given are intentionally very concise. A page or two might, however, have been devoted to advising rescuers as to their own protection when entering places filled with smoke or noxious vapours. There are eight pages of illustrations of conveyance of the injured, artificial respiration, and other kinds of first aid.

JOURNALS AND MAGAZINES.

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, F.R.S., ADAM SEDGWICK, F.R.S., W. F. R. WELDON, F.R.S., and SYDNEY J. HICKSON, F.R.S. With lithographic plates and engravings on wood. London: J. and A. Churchill. 1904. Vol. XLVIII., Part III. Price 10*s.*—The memoirs contained in this number of the journal are:—1. On the Existence of an Anterior Rudimentary Gill in Astacus Fluviatilis, by Margaret Moseley, with plates xxiii. and xxiv. 2. On the Development of Flagellated Organisms (Trypanosomes) from the Spleen Protozoic Parasites of Cachexial Fevers and Kala-azar, by Leonard Rogers, M.D. Lond., with one plate. Captain Rogers maintains that kala-azar is a severe form of malarial cachexia or cachexial fever. He depicts the divisional forms without development and the developmental forms which present themselves after development of one, two, three, and four days, and shows that the infection especially affects particular houses and is always extremely localised, removal to a new site half a mile distant proving successful in preventing the spread of the disease, which, he thinks, is effected by flies. 3. The Epithelial Islets of the Pancreas in Teleostei, by John Rennie, D.Sc., with three plates. He regards the islets as blood glands with internal secretion. 4. Observations on the [illegible] fertilisation of the Egg of the Axolotl, by J. W. [illegible] plates. 5. Notes on the Anatomy of the Gazelletta, by G. H. Fowler, B.A.

The Veterinary Journal.—In the December number of this journal we note that the paper is bidding farewell to Professor W. O. Williams, one of its editors, this gentleman having been appointed principal of the new Veterinary School in connexion with the University of Liverpool. The articles contributed include one on Natural and Conferred Resistance to Disease in the Animal Body, by Mr. Frederic Lewis, several clinical cases, numerous translations from the French and German periodicals, and a continuation of the article on Veterinary Toxicology by Colonel J. A. Nunn of the Army Veterinary Department.

Caledonian Medical Journal.—The opening article of the January number is a biography of Mr. Hector McColl of Tobermory in the Island of Mull, who was born in that island in 1799 and died in 1891. Dr. A. C. Miller, medical officer of health of Fort William, contributes a paper on Medico-legal Experiences in a Highland District; two of the fatal cases which he describes were due to attacks by infuriated cattle. Dr. David Rorie of Cardenden gives the puerperal history of a woman who, in eight pregnancies, had three times borne an anencephalic fœtus. One of the editorial paragraphs announces that the annual meeting of the Caledonian Medical Society will be held in Manchester next summer.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

CLINICAL THERMOMETERS (HALF-MINUTE OBSERVATION).

(JAMES J. HICKS, 8, 9, AND 10, HATTON-GARDEN, LONDON, E.C.)

SOME doubt has been expressed as to whether accurate observations of the temperature of the body may be made by employing quick-registering thermometers, limiting, say, the time of exposure of the thermometer to half a minute. The accuracy of the record depends upon the care with which the observation is made. It is well to bear in mind that in cold weather thermometers which presumably register the correct sub-lingual temperature by half-minute observations will take a longer time to register that temperature than when the external temperature is near the normal (60°F.). On the whole, however, the rapid-registering clinical thermometer will be found to record accurate results when certain simple precautions are observed. At least we have found such to be the case with a number of clinical thermometers (half-minute observation) sent to us by the above maker. These clinical thermometers possess the important advantage that the height of the column of mercury may be easily read owing to its magnification by the lenticular form of the capillary tube. In one experiment six thermometers, the temperature of the air being 63° F., were placed in a water bath at 102·4° for half a minute. The temperatures recorded by the six thermometers tested were respectively as follows: 102·4°, 102·2°, 102·4°, 102·2°, 102·4°, and 102·2°. The mean reading of the six thermometers was thus 102·3°, so that the greatest *minus* deviation was 0·1° and the greatest *plus* deviation 0·1° also. In the second experiment the temperature of the water bath was 96·8°. After immersion for half a minute the thermometers recorded the following results: 96·80°, 96·90°, 96·70°, 96·60°, 96·80°, and 96·75°. The mean result was 96·75° and the greatest *plus* deviation from the mean was 0·15° and the *minus* deviation 0·05°. Next the temperature of the body was taken by placing the thermometers under the tongue for half a minute. The readings were as follows: 98·1°, 98·2°, 98·0°, 98·3°, 98·0° and 98·0°. The mean was thus 98·10° and the greatest *plus* deviation from the mean was 0·2° and the greatest *minus* deviation was 0·1°. Next the thermometers were placed under the tongue of the same patient but for three minutes instead of half a minute. In all cases the column of mercury was reduced to just below 95° before the experiment was commenced. The results were as follows: 98·0° 98·1°, 98·1°, 98·1°, 98·0°, and 98·0°. The mean was thus 98·05° and the greatest *plus* deviation was 0·05° and the greatest *minus* deviation was 0·05° also. It will be seen that although the results in the three-minutes observation are closer than in the half-minute observation, yet for all practical clinical purposes the half-minute reading was as accurate as the three-minute reading. With quick-reading thermometers it is important that they should not be cold or below 60° F. before they are used. Observing these precautions it is evident from the above results that these thermometers are quite trustworthy for making clinical observations.

CREMANT DU ROI (SAUMUR VEUVE AMIOT).

(COCK, RUSSELL, AND CO., 36, GREAT TOWER-STREET, LONDON, E.C.)

We have on more than one occasion referred to the excellence of the sparkling wines produced in Saumur. There is no reason, we think, for regarding them as dietetically inferior to the wines produced in the Champagne district. The highly trained palate will detect a difference in the æsthetic qualities and that is all, but the majority of people would drink a good sparkling Saumur and find it just as pleasing as is a high-class and a high-priced champagne. Both the extra dry and the dry Crémant du Roi are excellent sparkling wines with the attractive character of a good champagne. The price is 45*s.* per dozen, On analysis the "very dry" specimen gave the following results: alcohol, by weight 12·38 per cent., by volume 15·30 per cent., equal to proof spirit 26·82 per cent.; extractives, 3·40 per cent.; mineral matter, 0·11 per cent.; volatile acidity reckoned as acetic acid, 0·18 per cent.; fixed acidity reckoned as tartaric acid, 0·65 per cent.; sugar, 1·90 per cent.; and ethers reckoned as ethyl acetate, 41·36 grammes per hectolitre. This is a pleasing, "clean" wine, free from volatile acid and containing a small proportion of sugar. The "dry" specimen gave the following results: alcohol, by weight 11·62 per cent., by volume 14·37 per cent., equal to proof spirit 25·18 per cent.; extractives, 4·37 per cent.; mineral matter, 0·11 per cent.; volatile acidity reckoned as acetic acid, 0·13 per cent.; fixed acidity reckoned as tartaric acid, 0·69 per cent.; sugar, 2·65 per cent.; and ethers reckoned as ethyl acetate, 48 grammes per hectolitre. The only important difference between the two wines is that implied by the distinctive terms "extra dry" and "dry," the latter having been liqueured a degree higher than the former. This is illustrated in the proportion of sugar shown in the analysis. Both are excellent sound wines.

CHELTINE MALTED MILK COCOA.

(CHELTINE FOODS AND CHOCOLATE, LIMITED, CHELTINE WORKS, CHELTENHAM.)

Our analysis of this preparation brought to light just the results which might be expected from the description given of its composition. It is made from cocoa, dried (full cream) milk, and a malted food. We found that nearly 40 per cent. of the food was soluble in cold water, while the fat amounted to 24·80 per cent., the proteid to 22·40 per cent., the mineral matter to 4·20 per cent., and the moisture to 6·75 per cent. It is practically free from unaltered starch. The above figures show this preparation to be a complete food and it follows from the particular method adopted in its preparation that it must be easily digestible.

BRANDIES (A. L. BOITEAU AND CO.)

(AGENTS: J. N. BISHOP AND SONS, 13, COOPER'S ROW, CRUTCHED FRIARS, LONDON, E.C.)

We have received three specimens of brandy described respectively as Fine Champagne (ten years old), Brut Cognac, and Liqueur Fine Champagne (25 years old). They all give results consistent with the description that they are grape spirit distilled in the pot still. The specimen of Fine Champagne ten years old gave the following results: alcohol, by weight 41·90 per cent., by volume 49·40 per cent., equal to proof spirit 86·56 per cent.; extractives, 1·74 per cent.; and mineral matter, 0·02 per cent. The secondary products, given in grammes per 100 litres of alcohol present, amounted to as follows: volatile acidity reckoned as acetic acid, 24·00; aldehyde, 6·50; furfural, 1·00; ethers reckoned as ethyl acetate, 128·48; and higher alcohols, 100·00; total secondary products, 259·98. The specimen of Brut Cognac gave the following results: alcohol, by weight 40·25 per cent., by volume 47·62 per cent., equal to proof spirit 83·45 per cent.; extractives, 1·65 per cent.; and mineral matter, 0·01 per cent. The secondary products, given in grammes per 100 litres of alcohol present, were as follows: acidity reckoned as acetic acid, 90·00; aldehyde, 10·00; furfural, 1·25; ethers reckoned as ethyl acetate, 122·80; and higher alcohols, 104·20; total secondary products, 328·29. For a Cognac brandy described as "brut" the amount of extractives is somewhat excessive. The Liqueur Fine Champagne 25 years old gave the following results: alcohol, by weight 41·80 per cent., by volume 49·29 per cent., equal to proof spirit 86·37 per cent.; extractives, 0·29 per cent.; and mineral matter, *nil*. The secondary products, given in grammes per 100 litres of alcohol present, were as follows: acidity reckoned as acetic acid, 60·00; aldehyde, 10·00; furfural, 1·50; ethers reckoned as ethyl acetate, 126·60; and higher alcohols, 120·00; total secondary products, 318·10. Here we should have expected in a brandy described as 25 years old more extractive matters and less furfural. The results throughout, however, indicate genuine brandies—that is, grape spirit distilled in the pot-still—and their æsthetic qualities are satisfactory and such as support the interpretation placed upon the analytical results.

VINCIGLIATA ITALIAN WINE.

(MORISON, POLLEXFEN, AND BLAIR, 34, LEADENHALL-STREET, LONDON, E.C.)

On analysis this wine gave the following results: alcohol, by weight 10·08 per cent., by volume 12·49 per cent., equal to proof spirit 21·89 per cent.; extractives, 2·58 per cent.; mineral matter, 0·19 per cent.; volatile acidity reckoned as acetic acid, 0·02 per cent.; fixed acidity reckoned as tartaric acid, 0·28 per cent.; and sugar, 0·15 per cent. This is a red Italian wine with a peculiar aroma and flavour but it is quite acceptable to the palate. The wine was practically non-acid and free from sugar. We believe it to be a sound, wholesome wine and it evinces slightly less "body" than usually characterises wines of this class and nationality.

MALTOFF.

(D. LAWRENCE & SON, 34, HIGH-STREET, HOMERTON, LONDON, N.E.)

This sweetmeat is described as malted cream toffee, a description with which we have no fault to find in view of the results of our examination. The toffee contains extract of malt, cream, butter, and cane sugar. The materials are evidently of a pure description and we could find no evidence of metallic contamination. The flavour is good, the toffee tasting pleasantly of malt.

ARGEX FLUID BEEF.

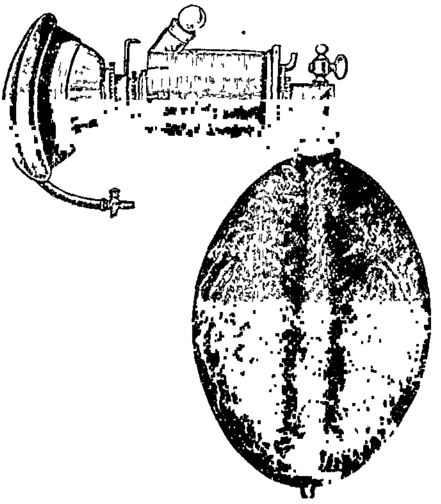
(THE ARGEX FLUID BEEF CO., 5, STATION BUILDINGS, ACTON-STREET, HAGGERSTON, LONDON, N.E.)

According to our examination this fluid beef is something more than a mere extract of meat, for it contains albuminous principles which are precipitated on adding bromine. The precipitate was voluminous. On quantitative analysis the following results were obtained: moisture, 53·47 per cent.; solid matters, 31·65 per cent.; and mineral matter, 14·88 per cent. On the addition of alcohol a precipitate was obtained amounting to one-fifth of the weight of the preparation. Peptones were present and in the sediment meat fibre was recognised. This fluid beef is a concentrated preparation of some merit containing reparative materials as well as merely stimulating extractives. The flavour is good and free from excess of seasoning or salt.

New Inventions.

A NEW FORM OF INHALER.

The inhaler shown in the illustration has been made for me in two sizes by Messrs. Arnold and Sons of West Smithfield, London, E.C., who have taken great pains in carrying out my wishes. It differs from the ordinary forms of Clover's inhaler in the following details:—The lid is removable, an arrangement which allows the interior of the body to be inspected and cleaned. The lid and the winged screw which fixes the lid are made of aluminium, which helps to reduce the weight. The lid lies on two indiarubber washers and when screwed firmly down forms with the top of the inhaler a watertight joint. The inner central tube has been made without the usual vertical partition, which diminished the airway by one half. By placing the windows of the inner tube near its upper extremity I find that the anæsthetic does not splash down the tube on to the face of the patient. The diameter of the central tube is one inch in the large and seven-eighths of an inch in the small inhaler and its windows are correspondingly large. The weight of the small inhaler is 1 pound 5 ounces. The angle piece has a short nozzle and tap for attachment of the indiarubber tube from a nitrous oxide bottle. The bag is made of red indiarubber and is reversible. The stopper is made of thick hollow glass, its neck being surrounded by a piece of red indiarubber tubing which, unlike vulcanite, is not destroyed by the anæsthetic. The stopper plainly indicates the amount of anæsthetic in the reservoir. The body is cylindrical and made of plated copper. There are two face-pieces, one large and one small, made of aluminium with inflatable rubber rims; aluminium being flexible, the face-piece can be easily moulded to suit various types of face. The stopper is the only part likely to break, and then only if extreme violence is employed. It is easily replaced. The threads of



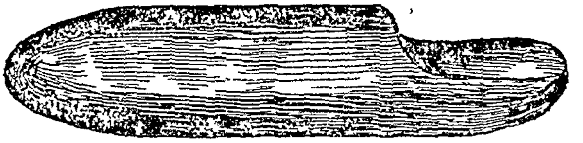
the screws have been made extra deep. With the above inhaler I find it easy to administer all the ordinary anæsthetics, including ethyl chloride, and after removing the bag mixtures of chloroform and ether or chloroform alone. To use a different apparatus for each variety of anæsthetic is inconvenient and it is a great advantage to have an inhaler which can be properly cleaned and which is at any time available for the administration of all the ordinary anæsthetics.

C. HAMILTON WHITEFORD,
Senior Honorary Anæsthetist, South Devon Hospital.
Plymouth.

A NEW RECTAL DILATOR.

THE accompanying illustrations show a new form of rectal dilator made on the same principle as Hegar's well-known uterine dilators. This set of dilators has been made for me by the Holborn Surgical Instrument Company, of 16, Thavies Inn, Holborn Circus, London, E.C., from whom the set of dilators can be obtained. They have the great advantage over any form of mechanical rectal dilator that no damage to the mucous membrane of the rectum can result from their use. They dilate perfectly gradually and smoothly and no force is required in using them. They are very much better than dilating bougies as being made entirely of metal they can be sterilised by boiling. Each dilator is four inches long and, except for the point which is cone-shaped, the sides are parallel. The handle is conveniently shaped to take the ball of the thumb. In using them the smallest size is introduced and allowed to remain till it is no longer nipped but can be withdrawn easily. The next size is then introduced and so on until sufficient dilatation has been obtained. It is possible with this instrument to stretch the sphincters sufficiently to paralyse them without administering an anæsthetic and without hurting the patient. I originally had these dilators made for the purpose of stretching the sphincters in cases of hypertrophy and spasm of these muscles; I have since found them to be of considerable value in a variety of other conditions.

FIG. 1.



Side view of dilator.

FIG. 2.

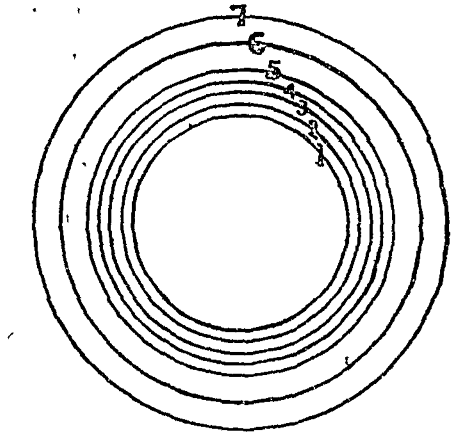
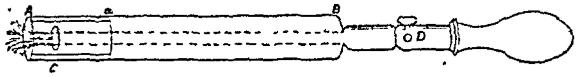


Diagram showing various sizes.

P. LOCKHART MUMMERY, F.R.C.S. Eng.
Cavendish-place, W.

A NEW FORM OF VAGINAL ELECTRODE.

HAVING observed that sinusoidal currents when applied by electrodes in the form of a brush produced well-marked irritation of the skin, hyperæmia, and cutis anserina in cases in which electricity conveyed by the usual electrodes did not give rise to any phenomena either subjective or objective, it Bologna 1 to 530, in Pisa 1 to 530, in Naples 1 to 460, and in Pavia 1 to 330. In towns where there is no university occurred to me that this property of exercising an intensive irritant action might be useful in the treatment of disease when it was desirable to increase the blood-supply of the uterus and adnexa. In my first attempts an electrode in the form of a brush was introduced into the vagina through a speculum, but the process was tedious and not always practicable. I therefore devised an instrument in which an electrode and a speculum are combined. As shown in the illustration, the speculum is in this arrangement represented by a cylindrical vulcanite tube of the requisite length provided with a straight handle. The portion of the tube, *a* B, next the handle for about three-fourths of its length has a central perforation for conveying a copper wire, whilst the distal extremity, A *a*, is hollowed out into a wide recess in which a kind of piston carrying a brush can be moved to and fro for a short distance (limited by the nut C), so that the brush may at will be either fully drawn into the recess or may project at the end. During the introduction of the tube into the vagina the brush is within the recess until the desired part is reached; the tube is then drawn back, leaving the brush exposed and the current is turned on, the conducting wire being clamped by the binding screw D. When sinusoidal currents were employed in this way their power of attracting blood was quite perceptible but the results of the physiological observations must remain for future consideration.



Gynæcological Institute, Moscow. Dr. G. SNEGUIREFF.

THE SOCIAL AND ECONOMIC POSITION OF MEDICAL PRACTICE ON THE CONTINENT.

ITALY.

A FEW months ago[1] we gave our readers the result of inquiries addressed to friends in various continental countries with a view of eliciting trustworthy information regarding the various aspects of medical practice and the conditions under which it is carried on amongst those nations. The facts so obtained showed that the grievances complained of in our own country exist in an equal or an aggravated degree in France, Germany, and Austria, and it will be seen from the following account that the condition of the profession in Italy is no better. On account of the extraordinary cheapness of medical education in the latter country the proportion of students recruited from the poorer classes of the population is very large. The fees, taxes, and so on, for the whole six years curriculum do not amount to £40, including the cost of the diploma, whilst the expense of living in the university towns can be reduced to a very modest figure indeed. The ambition to belong to a learned profession and the opportunity thus afforded on such easy terms of rising in the social scale attract many to the study of medicine who in Great Britain would naturally gravitate into other and humbler walks of life. This tendency is the more marked because of the comparatively low industrial development to which the country has as yet attained and is noticeable in regard to the legal even more than the medical profession. Young men who in other circumstances would become bookkeepers or shop assistants or enter in some other capacity into industrial or commercial life are thus drafted into the medical profession in overwhelming numbers. The total number of medical men in Italy at the last census (February, 1901) was 22,168, or 1 for every 1460 inhabitants, but these figures do not give a just idea of the overcrowding of the profession in the kingdom, since the proportion in the villages is much less, every town or village of less than 10,000 inhabitants having the services of the *medici condotti* who are disseminated all over the country in a proportion of about 1 for every 2500 or 3000 inhabitants. In the large towns, particularly where a university exists, the ratio is much greater; for instance, in Catania it is 1 to 800, in Palermo 1 to 790, in Turin 1 to 610, in Genoa 1 to 600, in Padua 1 to 560, in Rome 1 to 550, in Florence 1 to 550, in the ratio is usually less, being in Milan 1 to 840, in Venice 1 to 900, in Verona 1 to 1020, in Bari 1 to 1040, in Leghorn 1 to 1200, in Lucca 1 to 1470, in Trajiani 1 to 1570, in Alessandria 1 to 1650, and in Ravenna 1 to 2000. It will thus be seen that another factor conducing to the overcrowding of the profession is to be found in the multiplication of medical schools which abound all over Italy and vie with one another in opening their portals as wide as possible. From these issue yearly hundreds of graduates who are let loose, as it were, into fields where the harvest is *not* plenteous and the labourers are already far too many. Indeed, for the vast majority the harvest to be gleaned pecuniarily is a very scanty one. We have already in a previous article[2] spoken of the *medici condotti*, who in the smaller towns and villages hold the medical practice almost exclusively in their hands. They number 12,000. Their salary is a very small one, varying from 1500 (£60) to 2500 (£100) or 3000 lire (£120) for attendance sometimes on both rich and poor, sometimes for attendance on the poor only, the better off among the inhabitants in the latter case generally paying a yearly capitation fee for medical treatment. As living in the country is cheap the existence of the *medico condotto*, if not free from financial cares, is still a comparatively easy one. Far otherwise is it with the ordinary practitioner in the larger towns. If attached to a hospital or university and enjoying a wide reputation he may indeed earn from 10,000 to 30,000 lire (£400 to £1200) per annum. Some are said to earn more, even as much as 150,000 lire (£6000) per annum. But such incomes are quite exceptional amongst Italian physicians and surgeons, whilst very many are even smaller than those of the *medici condotti* and in general the greatest dissatisfaction exists both with the amount of the annual income and with the often absurdly small amount of the visiting fee. For a single visit a fee of five lire (4*s.*) is reckoned tolerably good and one of ten lire (8*s.*) excellent. We are told on good authority that one or two fortunate men even receive a fee of 50 lire (£2) per visit, but such visits are probably "few and far between." On the other hand, according to the same authority, a fee of three lire or even two lire is very common, and, indeed, in some districts the unfortunate practitioner receives but one lira (10*d.*) per visit! The hardship of this miserable scale of remuneration for professional services is much aggravated by the frequency of bad debts contracted by the very poor and by the long delay on the part of richer patients in discharging their accounts. As in England patients often dispute their bills, well aware of the reluctance medical men feel in resorting to legal measures for enforcing payment. Except in the case of the *medici condotti* the system of yearly payments of a stipulated sum by families does not obtain. Friendly societies and clubs, who employ medical men at a fixed capitation fee, abound in Italy, but the tyranny which these bodies undoubtedly exercise has not yet raised such resentment in the profession here as it has in England; at all events it has not so far provoked any united action on the part of the "Ordini dei Medici," an association which performs much the same functions as the British Medical Association.

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[1] THE LANCET, July 23rd, 1904, p. 242.

Quacks give very little trouble in Italy. The law is severe on quackery, punishing it by fine and imprisonment. But great harm is done by the encouragement which is freely given by a few members of the profession to quack nostrums, almost every newspaper containing objectionable advertisements of such remedies with testimonials to their efficacy from medical men whose portraits are often published to increase the *réclame*. The title of "Doctor" is bestowed on every medical man in Italy without regard to the origin of his qualification to practise. The distinctions made in Great Britain [illegible] not possess the right of calling [illegible] "Doctor." For this reason [illegible] he has no university [illegible] which becomes even a [illegible] Italian degree, since the fact would debar him from reaping the benefit of that provision in the law whereby a foreign practitioner is excused from attendance on classes and from certain parts of the examinations if he be a graduate of a foreign university of repute. The name of "Doctor" being thus so universally applied it has become a habit, especially amongst the lower classes who love titles of courtesy, to call every medical man "professor," even if he be not strictly entitled to that designation, to which, however, not only the holders of university chairs, but also their assistants and the numerous body of *liberi docenti* are legally entitled.

In Italy there is no sharp line of demarcation between the general practitioner and the consultant, especially in medical practice. The hospital physician who cultivates and obtains a consulting practice is almost always ready to attend as a general practitioner when called upon to do so and the same is true of most specialists. There are, however, consulting surgeons who decline to take cases without the consent of the practitioner in attendance. The fees charged by surgeons and specialists for operative work are remunerative but as a rule not excessive and sometimes, again, they are absurdly small.

The social position of the medical man in Italy is, on the whole, good, but the profession has suffered much in general estimation through the unfair treatment accorded to the numerous *medici condotti* by the communes employing them and the neglect of their well-founded grievances by the Government. These grievances, of which some account was given in the article already referred to,[3] have now been mostly remedied and the ground lost will doubtless be soon regained. The profession enjoys the advantage of being fairly well represented in the legislature, the newly elected chamber containing 22 medical deputies, and although there has sometimes been a tendency shown by those in Parliament to sacrifice the public welfare to their own supposed interests—as in the case of the attempted legislation against foreign practitioners—on the whole the country and the profession have alike benefited by their presence in the national assembly and many enactments having an important bearing on the public health of the community have been passed through their influence. This has been notably felt in regard to the sanitary law, to the work of midwives and their training,[4] to the measures against pellagra and malaria and for the gratuitous supply of quinine to the poor, and to [illegible] towns which previously were [illegible]

In connexion with the soc[illegible] Italy it will not be out of place to refer here to the admirable institution founded at Perugia through the initiative of Professor Ruata of that university for the orphans of medical men. In response to our request for information regarding this college Professor Ruata sends us the following interesting note: "Medical men in this country, though generally able to make ends meet financially, are for the most part far from rich and when one of them dies young leaving behind him a young family the poor widow and her little children are frequently plunged into abject poverty and great misery. To provide a remedy for such a sad state of things it occurred to me to found a college in Perugia for the orphans of medical men. Perugia seemed to me best adapted for this purpose not only as being most centrally situated and easy of access both from north and south but from the fact that it offers rare educational advantages with its university, elementary schools, gymnasium, high schools, technical schools, technical institute, normal school for teachers, Royal agricultural college, and school of fine arts for painting, sculpture, and music. The late King Humbert interested himself in the scheme, urging the immec[illegible] wish to succeed,' [illegible] with three or four orp[illegible] of a great institution, and do not think of large buildings but make a start at once.' Accordingly in 1891 the college was opened with five boys and only 4000 lire (£160) of capital. In 1898 the number of boys had increased to 21 and the capital to 100,000 lire (£4000), the principal source of income at that time being annual voluntary contributions of 5 lire each from about 1000 medical men. The progress already made had thus been most satisfactory but it became evident that the needs of the profession were immensely in excess of what could be provided by such means and it became necessary to find some other way of obtaining the requisite funds. The best plan which suggested itself was to impose a tax of 5 lire (4*s.*) by Act of Parliament upon every medical man practising in Italy, and after four years of incessant work [illegible] g of an Act which imposed this [illegible] in receipt of a salary, however small, from any public body. The income thus produced amounts to about 100,000 lire (£4000) per annum. There are now two sections in the college, one for boys, who [illegible] for girls, of whom there [illegible] from all parts of Italy." [illegible] by educating and training these poor orphans, not for professions but for trades by which they are all enabled on leaving the institution at once to earn a comfortable livelihood.

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[2] THE LANCET, Feb. 13th, 1904, p. 470.

[3] THE LANCET, Feb 13th 1904, p 470

[4] Vide THE LANCET, Jan 9th, 1904, p. 113.

THE LANCET.

LONDON: SATURDAY, JANUARY 7, 1905.

The Army Medical Service.

As we announced last week, the King has been pleased to approve of the appointment of Surgeon-General Alfred H. Keogh, M.D., C.B., to the post of Director-General of the Army Medical Service. We also pointed out briefly that the appointment of Surgeon-General Keogh marked a new departure in that his selection for this important post was clearly not based upon seniority of service. We may assume that the War office in sending Surgeon-General Keogh's name to the King at the present juncture for this important and responsible post was accepting the recommendation of the Advisory Board whose intention it was to emphasise the policy of promotion by selection. In the correctness of this principle we must at once declare our belief; indeed, as the readers of this journal well know, it is one for which we have always, in what we conceived to be the interest of the public service, contended. One of the ablest and most independent Director-Generals who ever occupied that post was strongly in accord with this view, for it was one of the essential features of the Royal Warrant issued in the time of the late Sir William Muir that promotion to the upper ranks of the Army Medical Department was to be exclusively by selection, a method which, to the regret, as we know, of some of the best men in the Army Medical Service, fell more and more as time went on into abeyance. We have always considered that, however necessary the possession of military rank and titles might be found to be, the Army Medical Service must in the first place be regarded as a scientific branch of the army, that a way should always be kept open for the reward of professional merit, and that this should be counted as a more important factor in establishing a claim to promotion than was seemingly the case in days gone by.

Having so long held and advocated these views we can, while sincerely sympathising with the distinguished officers who, by virtue of their rank, seniority, and past services had earned an expectant title, as it were, to the post and whose legitimate hopes and ambition have been disappointed, honestly and consistently congratulate Surgeon-General Keogh on his appointment—an appointment which represents the adoption of a new and, as we believe, sound principle in this respect. In the various drastic changes which have been proposed or carried out in our whole army system since the late war in South Africa it became certain that the medical branch of that service would share. But it is obvious that at first sight the selection and promotion of a comparatively junior officer as best qualified for the post of Director-General, in the opinion of those who had the responsibility of making the appointment, over the heads of so many of his seniors was calculated to cause great surprise. The senior officers, be it remembered, had been previously selected for advancement to administrative rank and some of them had rendered very distinguished service in that capacity. We have turned to Surgeon-General Keogh's record of service. It is, undoubtedly, a good one and of a varied kind, but so far as his more military medical duties are concerned probably not better than could be shown by others. But it is to be noted that he has been chosen on several occasions to take part in the proceedings of War Office commissions and boards of a mixed kind in connexion with most responsible and important inquiries, and it seems clear to us, moreover, that he has on such occasions exhibited qualities which have most favourably impressed those with whom he has come in contact. We may assume, as we have said, that Surgeon-General Keogh was strongly recommended for promotion to his present post by the Advisory Board, a board which, it should be borne in mind, in addition to specially appointed civilian members, includes also military officers some of whom are army medical officers, and it may be fairly inferred that these latter concurred in the course adopted. It remains for the newly appointed Director-General to justify, as we feel sure that he will, the confidence that he has created and the distinguished honour implied by his selection in the exceptional circumstances of the case to the post which he now fills. He has our best wishes for his success.

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The Decline in the Birth-rate in New South Wales.

The decline in the birth-rate in this country of recent years is a matter of grave importance and is one which has long occupied the minds of those who take an interest in the future welfare of the British race. This decline in the birth-rate is to be found not only in almost all the countries of the Old World but has now spread to the countries of the New. The matter has, indeed, assumed such importance in New South Wales that last year a Royal Commission was appointed to inquire into the "decline in the birth-rate and the effects of the restriction of child-bearing on the well-being of the community." The commission carried out its inquiry with much completeness and its report, which has just been issued, is a document of great interest and importance. As a result of its statistical inquiries it confirmed the fact that there had been a very definite and marked decline in the birth-rate in the colony since the year 1889 and that the rate had exhibited a tendency to decline for a few years anterior to that date. The commission further found that such a decline was existent not only in its own colony but also in all the States of Australia and that a similar phenomenon was present in the birth statistics of most of the countries of Europe and in many of the large cities of the United States and South America.

The birth-rate in New South Wales began to fall in a most remarkable and sudden manner in 1889 and has continued to fall steadily until the year 1902, when the diminution amounted to as much as 10 per 1000 of the population. Further inquiry showed that there had been a rise in the marriage age during the years 1889–1902 which would in itself account for a slight fall in the birth-rate. Having proved to its own satisfaction that such a marked decline in the birth-rate actually existed the commission set to work to attempt to discover whether any condition existed which could be attributed to natural causes and which was sufficient to explain this remarkable fact. Its investigations failed to show any such natural cause. It found that the fall in the birth-rate was independent of any change in the age constitution of the population generally or in the age constitution of the women of the conceptive period, and that it was independent of such causes as any variation in the marriage-rate or any tendency to lessened fertility. Indeed, no adequate natural cause could be found and the commissioners were forced to come to the conclusion that the main factor causing the decline was to be found in some condition quite independent of natural causes and over which individuals had some control. In their endeavours to determine the character and nature of this force they examined a number of medical practitioners, including most of the leading medical men of the colony. The view which they finally adopted is in agreement with that held by the majority of the scientific writers who have discussed this difficult question of the falling birth-rate—viz., that it is due to the prevention of the results which nature has ordained to follow marriage, or, in other words, to the deliberate curtailing of reproduction by the prevention of pregnancy. This practice is not one of any recent growth but, if we are to believe the medical men who gave evidence before the commission, it has become excessively common of recent years amongst all classes of the community. Such a procedure is not only harmful, inasmuch as it leads directly to a diminution in the fecundity of the women who practise it, but the evil results which follow it lead in their turn to an absolute diminution in the fertility of these women. No doubt can be left in the mind of any intelligent observer that these practices are followed by results not only deleterious to the general health of the patients but also only too often by temporary and even permanent ill-effects on the genital organs of such a character as to cause ultimate sterility. Further than this, the commission found that there was a growing tendency to the procuring of criminal abortion and that this fact was also responsible in part, at any rate, for the decline in the birth-rate. The commissioners have no doubt that the reasons influencing those who practised limitation of the size of the family are such as generally prevail in all communities where these practices are found. Their origin is essentially a selfish one and although the adherents of this view are accustomed to still their consciences with the sophistry that it is for the good of the children themselves, as the parental means will not allow the rearing of a large family, yet the real reasons are to be found rather in the desire to avoid their proper duties and responsibilities. An unwillingness to assume the care of children, a disinclination to put up with the discomforts of child-bearing, and a selfish love of ease and luxury, which the expense of a large family might curtail—such are the real causes in the great majority of cases. That such doctrines should in the course of time spread even to young communities such as the States of Australia is not surprising when we bear in mind how widely spread and how widely practised these customs are all over the world.

It is extremely difficult to determine with any degree of accuracy what are likely to be the ill results to the bodily health of the women who practise such methods of prevention. The medical men who gave evidence before the commission were almost unanimous in laying stress on the evil results likely to ensue but we must bear in mind that the direct connexion between the practice of the prevention of pregnancy and the various gynæcological disorders which they held to follow these practices is one very difficult to prove. In the case of procured abortions we are on surer ground. That numbers of women are disabled every year by such procedures there can be no question at all, in fact, in only too many cases the death of the patient can be directly traced to such practices. Whatever may be the opinion as to the physical ill-effects which follow the prevention of pregnancy there can be no reasonable doubt as to the evil moral effects. As the commissioners point out in their report, "although criminality does not attach to the prevention of pregnancy, while it does to the procuring of abortion, yet both practices, as methods of avoiding procreation, are equally opposed to that morality upon which the welfare of the race essentially depends. They lower the standard of right living and thinking in a community, create laxity of morals, debase character, and ignore the sanctity of human life." Nor does the evil end here. The physical and moral advantages of large families are well recognised. Members of small families, like only children, are poorly equipped for the struggle of life and the avoidance of obligations and responsibilities on the part of the parents does away with a very powerful factor in the education of the individual. The importance of a rising birth-rate to the Commonwealth of Australia is all the greater, since the future of that Commonwealth depends to a very large extent on its ability to people its vast expanse of country. What the diminution in the growth of the population means to Australia will be realised when we recall the statement made in the report of the commission that had it not been for the reduction in the birth-rate and the excess of mortality amongst illegitimate children over legitimate children which have occurred in the period 1864–1902, the population of New South Wales would now be more than 250,000 greater than it is; while for the whole of Australia the approximate loss of inhabitants amounts to no less than 940,000. What the effect of such a loss of population means to commerce and the prosperity of the country it is difficult to overestimate.

The commission attempted to formulate some suggestions which might help to check this powerful drawback to the welfare of the colony and amongst other measures it recommended that, in order to help to lower the death-rate from sepsis in connexion with childbirth, more hospital accommodation should be provided for parturient women, especially married women. The commissioners also showed themselves alive to the important part which the care of the unborn will play in the future by recommending the establishment of pre-maternity hospitals where pregnant women could be taken in before their confinements and treated if necessary. Further recommendations included the compulsory notification of puerperal fever, which at present is not required in the colony, the licensing of lying-in homes and private hospitals, the more perfect administration of the Poisons Act, and the prohibition of the sale of preventives and of the indecent literature relating to their use. We fear, however, that such measures, although they will no doubt remedy existing evils, will not go far to remedy the deliberate prevention of pregnancy. The report rightly lays great stress on the part to be played by the strengthening of religious feelings. Upon this would follow the abolition of those motives of self-interest which at the present time have done so much to blind the people with regard to the immorality of such practices. It is only by the awakening of the higher sentiments of duty and self-control, sentiments which play so important a part in the development of the race, that any good is to be hoped for. The danger is one of imperial importance, it concerns not only the colonies but also the Mother country, and is one which becomes of increasing importance every year that it continues. Medical men can do much to assist and it is to their influence and to that of the teachers of religion that we look for help in the checking of customs which inevitably lead to decay of the social and moral qualities of the race and imperil in a very high degree the future well-being of the whole British nation.

The Amendment of the Workmen's Compensation Act (1897).

IT has for a long time been evident that the Workmen's Compensation Act (1897) is capable of improvement in several particulars and a departmental committee of inquiry was appointed to this end by the Home Secretary in November, 1903. The report of this committee was made in August, 1904, and its various recommendations included several which were open to serious objection. But, for the moment at any rate, we propose only to allude to those parts of the report which deal with the appointment of medical referees, this being, in our opinion, a matter of the first importance for the medical profession.

The Act of 1897 contains clauses providing for the performance of certain duties by medical referees but it is well known that these clauses have remained almost entirely inoperative owing to the services of the present medical referees not having been used by the county-court judges. A completely new suggestion is now made by the departmental committee. In Paragraph 265 of its report it is proposed that the medical referee shall be a "public official rather than a medical man in practice," and that he shall be remunerated not by fees but by salary. At first he might be allowed to combine the work of medical referee with some other public appointment, such as certifying factory surgeon or medical officer of health to a local authority, but the opinion of the committee is that the medical referees should eventually become part of the civil service. On the ground that the change partakes of the nature of an experiment it is recommended that only a limited number of such referees should be appointed and those only for a limited period, such as three years. In Paragraph 259 it is recommended that the reports of the medical advisers of the employers on the one hand and of the workmen on the other, if any, should be filed with the registrar of the county court, that the county-court judge should have a discretionary power as to ascertaining the opinion of the medical referee, and that a copy of the report of the medical referee should be accepted as conclusive evidence of the condition of the injured person at the time of the report. It is also suggested that the judge shall have power to summon the medical referee to sit in court as an assessor. Another important duty to be discharged by medical referees would be the giving of certificates as to the condition of aged, infirm, or maimed persons, and those certificates would presumably be "conclusive evidence." In framing these recommendations the members of the committee no doubt acted with the best possible intention, but they do not seem to have recognised fully the inherent difficulties of the medical questions involved or the extent of the departure from the existing system which incorporation of their proposals in an Act of Parliament would bring about. In the medical profession it is universally held that personal experience in the treatment of patients is essential to the formation of a sound opinion with regard to any given case, and in the application of a Compensation Act which necessarily presupposes divergence of opinion the weight of authority will usually be on the side of the most experienced witness. The departmental committee, however, oblivious of this cardinal principle, actually proposes that the referee of the future shall be a "public official rather than a medical man in practice" and would thereby prevent such appointments from being accepted by those who are the most competent to fill them. Under any Compensation Act conflicting opinions will have to be reckoned with, rebutting evidence will often be forthcoming, intricate questions of diagnosis must sometimes arise, and patients will occasionally present symptoms regarding which it may be very difficult to obtain "conclusive evidence." In fact, it requires no special faculty of discernment and no great familiarity with the methods of officialism to foresee that the recommendations of the departmental committee would tend to create a class of medical referees consisting either of (1) men willing to give their whole time on a three years' engagement, or (2) of medical officers of health who, being appointed solely to discharge administrative functions, have given up general medical practice, or (3) of certifying factory surgeons happening to have a practice so small that it is not worth retaining. We cannot regard any of these as ideal medical assessors under a Compensation Act.

We do not believe that the departmental committee could possibly have made these suggestions if there had been placed before it evidence of the importance of the offices which it was intended to create, to say nothing of the essential necessity of the medical referees or examining surgeons being men who would have the confidence of the medical practitioners in each district and whose opinions would be generally regarded as "conclusive." It would be intolerable if medical men of long experience in general practice or consultant surgeons of great special knowledge should have their opinions reviewed by officials of the status which is now foreshadowed. We notice also that, as in the Act of 1897, the county-court judges are to have the option of calling in the medical referees or not, and if the status of the medical referees is not unimpeachable it is easily to be seen that their services will not be required by the judges, when the amended Act, so far as the medical referees are concerned, will continue to be the dead letter that it is at present. We have long been of opinion that in the interests both of employer and employed the medical referees should decide all medical questions and that their decisions should be final, but the very fact of this finality, from which there is to be no appeal, makes the appointment of men of the highest professional knowledge and experience a *sine quâ non.* It will be our duty to watch the introduction of the Bill that is now being drafted and if it contains the recommendations of the departmental committee as to the appointment of medical referees, it will also be our duty to advise the medical profession to bring every possible influence to bear on Members of Parliament so that only men of position and experience may be appointed as judges over their *confrères.* It should be pointed out that with proper regulations and systematised arrangements by the court of the work of the medical referees the services of hospital surgeons could be obtained at certainly not larger expense than that of salaried officials—that is, if any reasonable or sufficient salaries are proposed to be paid. The question of the employment of experts, although mentioned in the evidence before the committee, is not touched upon in the report but will require consideration. If an employer or a workman has had the opinion of, say, a consulting ophthalmic surgeon, it would seem incongruous to remit that opinion to be revised by a medical man who had not given special attention to diseases of the eye. We think that the Secretary of State would do well, before passing the final draft of the amending Bill, to assure himself that any suggested rules for the appointment of medical referees would be likely to meet the views of medical men, as the success of the scheme is dependent on the absence of friction. The harmonious working of the medical referees with the medical men interested in the various cases is absolutely necessary unless the Act is to become a farce and we are sure that this can only be obtained by the appointment of medical referees of the highest standing with proper arrangements for due emolument, which implies mainly a due regard for the waste of the valuable time of busy men.

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The Public Appreciation of the Dangers and Treatment of Cancer.

MR. A. W. MAYO ROBSON, whose Bradshaw lecture before the Royal College of Surgeons of England was published in full in THE LANCET on Dec. 3rd, 1904, p. 1545, concluded his address by expressing the hope that some of the views that he had enunciated might filter through the medical profession to the public. In our columns a fortnight later we published a letter from Mr. C. HAMILTON WHITEFORD urging "the direct education of the public by the profession" in the earlier signs of cancer, when the need would become apparent for resort to operation early, if the best results are to be obtained from surgical treatment of this malady. All of us must oftentimes have seen cases of cancer where delay in resorting to an operation has seemed to have [illegible] of the case, and it not [illegible]ly to surgeons in such an advanced stage of malignant disease that cure by operation is wholly out of the question. It naturally occurs to us in the face of such tragedies to regret that the knowledge possessed by all operating surgeons had not been available to save the patients from such a calamity. But the question arises, What is the best way in which these disasters are to be prevented? And we are not prepared at once to adopt the position that the profession should take active measures to instruct the public in the signs and symptoms of the early stages of malignant disease in order that operative treatment may be obtained at the first possible moment. The risks of such a course are as obvious as they are real. A half-educated but wholly frightened public might try to force the hands of the general practitioner in junctures when the general practitioner would particularly require to be unembarrassed that he might face a difficult situation in a calm and unprejudiced manner. All those of the patient's relatives who had been educated, as they conceived, in the science of disease would at once take views on the possible or probable malignancy of the patient's condition. They might urge operation when the medical adviser deemed the course unnecessary or they might regard as an indication of innate bloodthirstiness his avowed intention of using the knife. In such circumstances the medical man's difficulties would be doubled and the patient would become the unconsulted spectator of a quarrel in the rights of which he might very well think that he was the chief person interested.

Let us also remember that to advocate education of the public in the dangers of neglected cancer is to imply that the public alone is at fault when the distressing situation occurs that patients die from malignant disease whose lives could have been saved if the condition had been detected in an earlier stage. We are not prepared so unreservedly to exonerate the medical profession from playing a part in the lamentable and admitted situation. Some cases of malignant disease come to surgeons at too advanced a stage for curative operation and the delay in resorting to surgery has sometimes been due to the failure of the medical adviser first consulted to appreciate the significance and gravity of the symptoms presented to him. In saying this we are not bringing a "railing accusation" against a large number of the medical practitioners of this country. We are well aware that there is something more that needs to be said on this subject. For many years now what are called "pre-cancerous diseases" have been described and in this respect there was absolutely nothing said in his recent Bradshaw lecture by Mr. MAYO ROBSON that has not been said before and often reiterated. Only our older readers can recall the time when Sir JAMES PAGET first described the disease of the nipple, which now bears his name, and described it too as a precursor of cancer of the breast; and many of us do not care to remember how many years it is since the various forms of chronic superficial glossitis were recognised as often ending in epithelioma of the tongue. The same is true of our knowledge of warts passing into cancer, of moles originating sarcoma, and of chronic mastitis terminating in cancer. Why has this knowledge been so slow in laying hold of the entire body of the medical profession? The answer to the question, we think, is this. Practitioners generally do know the facts, but they are often prevented from giving the soundest advice to their patients by two considerations. In the first place, with growing experience they see patients having these so-called pre-cancerous conditions living to a ripe old age without developing malignant disease, and the optimistic tendency is so strongly developed in many of us that what we have seen occasionally as a happy exception we are fain to take as a type of the commonplace and fairly expected event. Again, men of large experience have seen operations for cancer performed in the very earliest recognisable stage of the disease which have failed to relieve the patient entirely of his malady. We fear, from the way in which the question is sometimes discussed, that some surgeons encourage the thought that cancer is certainly curable by operation if only it be attacked in its early stages. There can be no doubt that the earlier any given case is treated and the more freely the suspicious tissue is excised the better the prospect of cure, but we do not think it is in accordance with known facts to say that, if only all cases of malignant disease were treated by the surgeon as soon as a diagnosis was satisfactorily arrived at, they would all be cured. It must not be forgotten that the malignancy is shown in more than one way. In some cases it is especially a local malignancy which may have many forms of expression, but in other cases the malignancy is chiefly expressed in an early infection of distant parts, while the local changes show but slight departure from benignancy. There is no doubt that the infection of internal organs by external cancers occurs at a most varying time in different cases, and the success of an operation for cancer depends not only upon the freedom with which the local affection is removed but also upon whether the operation anticipates internal infection. It must not be forgotten, too, that operations for malignant disease have of late years become more extensive than they were. This has been attended with a very considerable improvement in their results but we cannot doubt that the extent of operation has had influence in checking some members of the profession from recommending recourse to its assistance. We do not for a moment defend this position, but recognising the different ways in which the same facts are regarded by various minds we cannot help seeing that this also may be one reason why what is generally known appears not generally to be practised.

While we do not think that the public can be wholly blamed for reluctance to undergo operations upon grounds that must to some extent be speculative, and while we consider it unjust to reproach the medical profession —as is sometimes done—for the number of cases of cancer that reach the operating surgeon too late for operative interference, we think that the teachers of surgery must take their share of responsibility in the matter. They should be insistent upon the perils of delay and clear upon the duty of the medical practitioner to expect the worst in many circumstances where, after all, the happier issue may be the true one. The pre-cancerous states are seldom made the subject of much comment by teachers and do not suggest themselves as examination subjects. Lecturers, therefore, may be apt to omit the discussion of them with due stress, a fact which cannot be without its effect upon their pupils in the future exercise of their profession. We think that the medical profession, as a whole, should wake up to the fact that cancer is on the increase among us—at any rate, that many more cases can now be recognised than was possible formerly. But if the profession were to take upon itself the instruction of the public in the early signs and precedent conditions of all forms of malignant disease serious evil might follow. We all meet individuals who for many years of their life are overshadowed by a dread of the occurrence of cancer. Some have thought that this dread may in some occult way predispose to the attacks of the disease but, whether this is so or not, no one who has once witnessed the needless sufferings of an individual thus haunted would willingly risk the infliction upon a large number of the public of similar sufferings. Half-knowledge is a dangerous and distressing thing; in this matter the public would be at the best possessed with only half-knowledge. We think, therefore, that, at present at any rate, all that can be done is for the profession to consider thoughtfully the circumstances of the case. Practitioners must realise their great responsibilities; they must insist on all necessary examinations; they must, whenever possible, arrive at a diagnosis at the earliest moment; they must seek help in all cases where they feel difficulty in diagnosis or in treatment; and they must not shrink from advising operations in malignant disease, even where the signs of that disease are as yet but slightly marked, bearing in mind what must be meant by neglecting operation in malignant disease at the favourable time.

Annotations.

"Ne quid nimis."

THE RELATION OF THE LEISHMAN-DONOVAN BODY TO THE TRYPANOSOMA.

AT the time of the meeting of the British Medical Association at Oxford in July, 1904, the subject of the development of the Leishman-Donovan body had reached a very interesting point. Captain Leonard Rogers, I.M.S., had just announced by telegram from Calcutta that he had succeeded in developing trypanosomes from the Leishman-Donovan body. All those who heard this announcement and who were capable of grasping what it meant left the meeting anxiously looking for confirmation of the observation. At the present moment the state of belief may be summed up by saying that there is every probability that the observation is correct. Major W. B. Leishman, R.A.M.C., had already promulgated the idea that the parasite was probably allied to the flagellata and was directing his attention to the investigation of this belief. Other observers also were struck with several of the points of anatomical resemblance between the "body" and the trypanosoma, so that Captain Rogers's announcement fell upon minds ready to receive his conclusions. Since Sir P. Manson interpreted the significance of the crescent body in malaria bursting into flagella no more important scientific observation has been recorded, for the indications point not only to the "body" becoming a trypanosoma but the belief is entertained that the malaria parasites themselves may be but a phase in the development of these pathological occupants of the human blood. Dr. G. C. Chatterjee, with Captain Rogers's permission, has forwarded to us a paper on this subject with drawings of the trypanosoma cultivated in the laboratory from the Leishman-Donovan body. The paper is published at p. 16 of our present issue together with two plates, careful examination of which leaves little doubt as to the identity of the laboratory specimens of the parasite and those met with in the splenic blood of persons suffering from the obscure ailments caused by the presence of the parasite. The patient from whom Dr. Chatterjee obtained the specimens of blood on which his observations are founded is of particular interest, inasmuch as he came from Sylhet in Assam where kala-azar is prevalent. This puzzling ailment has long been a subject of discussion but there seems now to be but little doubt that the signs and symptoms and pathological changes characteristic of this disease are due to the Leishman-Donovan body. When the possible homology of these hitherto designated specific parasites and the apparently divergent diseases to which they give rise are contemplated the mind is directed towards a common origin for such diseases as malaria in all its intricacies, sleeping sickness, kala-azar, tropical cachexia, splenomegaly, and all the numerous undetermined febrile attacks and anomalous "continued fevers" with which the medical practitioner is familiar in hot climates. It would seem as though we were on the threshold of a great generalisation of primary pathological significance and of great scientific importance. The close bearing which the diseases of animals have upon those of man and *vice versâ* would seem to be carried a step forward by these recent discoveries. The trypanosomic diseases of animals here called nagana and surra, there called mal-de-caderas, and now horse and cattle sickness seem to have their counterpart in human beings. A parasite closely resembling the Leishman-Donovan body has been found in fish in Assam by Bentley in regions where kala-azar prevails, so that the inhabitants of the earth, air, and water seem to be linked together in their parasitic afflictions in a manner undreamt of but a few years ago. It is well known that plague attacks men and animals in common and it may be that many of the familiar diseases from which human beings suffer in temperate climates are "caught" from animals, especially domestic animals, to an extent which may tend to cause us to look upon pets of various kinds as dangers to health and to life.

THE REGISTRATION OF NURSES.

WHEN Parliament meets a few weeks hence the committee which is considering the subject of the State registration of nurses is expected to report the result of its deliberations. It is generally believed that the report will be adverse to the two Bills which at present hold the field, the proposals set out in the Bills being objected to rather than the principle of registration of nurses. It is recognised by many of those interested that some improvement of existing conditions is needed and should the proposals now put forward be condemned renewed efforts will be made to find some other means of dealing with the subject. But it is known that many members of the medical profession, from no narrow motives, but in honest belief that registration of nurses is not required, do not approve of either Bill, and the supporters of the Bills must recognise the features which render their proposals unacceptable if they wish to get anything like general medical approval. There are two features in the present proposals which are always sure to excite strong opposition and which might be eliminated without permanent harm to the movement for improving the training of nurses. The first is labour with a capital L and the second examination with a capital E. As regards the former there is no doubt that many influential persons are attracted to this movement by the promise that it gives of organising cooperation amongst an important class of women workers in order to prevent the exploitation of their labour by employers. Valuable as this step may be a proposal for registering nurses which carries with it a provision for forming any semblance of a nurses' trade union is doomed to fail in securing State recognition or even general support by the public. With respect to the second feature it may be noted that there is at present a strong revolt against the tyranny of examinations. The reorganisation of the University of London a few years ago was a direct result of this movement, which is also illustrated by Lord Curzon's action in abolishing many of the competitive examinations for posts in India and by the directions in Mr. Cecil Rhodes's will as to the method of selection of his Oxford scholars. It is therefore not to be wondered at that grave apprehensions are in the minds of many at a proposal to secure the proper training of nurses by setting up examinational tests. The ease with which the acquisition of facts from books can be tested and the difficulty of estimating so many of the qualities which go to make a good nurse lead some to regard with suspicion any sort of examination as a factor in a nurse's education. Certainly the idea of an examination conducted by examiners who have not taught the candidate, on the analogy of examinations for medical students in London, is undesirable as a test of the education of nurses. It would tend to superficial cram and would undoubtedly cause nurses to regard their all-important ward work as a mere means to an end. While any fear that this movement might be used to safeguard the interests of the employed against her employer can be eliminated by care in constituting the registration authority, so the evils of examination can be eliminated by care in deciding what shall be regarded as the qualification for registration. Certainly, so far as the great schools of nursing are concerned no more examination than is at present carried out in the schools themselves is necessary. The registration authority, however it may be constituted, would do enough if it set up an ideal curriculum as to length and general features and recognised all nursing schools willing to conform to the ideal, so that nurses who receive certificates of satisfactory training in these schools would be admitted to registration. It would, of course, be necessary to inspect the schools in the first instance and also to carry on a periodic system of inspection. The authority should, in fact, examine the schools and not the nurses, in which way, at any rate, so far as the nurses trained in the chief schools are concerned the dangers of examination could be avoided. We are sure that if the registration of nurses becomes a State duty it will be necessary to eliminate the evils of examination, but we are not so sure that the promoters of legislation in this direction understand the feeling of the medical profession or the public on the matter There are many who think that State registration, at any rate for the present, is unnecessary, and that a voluntary agency, erected by philanthropic effort, would meet the existing circumstances. Voluntary registration properly carried out would level up the education of nurses generally and would enable those nurses who have gone through a satisfactory training to secure some more public recognition of the fact than is provided at present by their hospital certificates.

SCURVY IN SOMALILAND.

IN a leading article in THE LANCET of Dec. 10th, 1904, p. 1659, we referred to some points in the etiology of scurvy. We have now received a reprint of an article in the *Indian Medical Gazette* (No. 7, July 7th, 1904), on "Scurvy in Somaliland; notes on the Condition of the Blood Serum," by Lieutenant F. A. Fleming Barnardo, I.M.S. Lieutenant Barnardo's observations were made with a view to determine the therapeutical value in scurvy of certain foodstuffs and drugs and also to try to elicit any information as to prophylaxis and treatment that might be of use in future campaigns. In the course of the investigation it was clearly shown that the essential feature in scurvy is a diminution of the alkalinity and coagulability of the blood. This fact had previously been demonstrated by Dr. A. E. Wright. Lieutenant Barnardo makes the plausible suggestion that the alimentary canal may be the seat of production of toxins in scurvy. That toxins evolved in the intestines do play an important part in many febrile conditions leading to blood destruction has been proved by the researches of Professor Ewald and others. Lieutenant Barnardo proceeds to argue that from the absence of any epidemic nature of scurvy and its inevitable onset after a dietary of insufficient alkaline foodstuffs it is certain that there is no new specific organism introduced into the system as in beri-beri. Probably the toxæmia, if toxæmia it be, is due to bacteria which are normally present in the alimentary canal but which have taken on an abnormally active development and formation of toxins consequent on the *diminished vitality* of the mucous membrane and a diminished bactericidal power of the tissues generally. In infectious and acute intoxications alkalinity of the blood is diminished, and as a condition of diminished alkalinity certainly predisposes to bacterial infection the disease is thus aggravated. These suggestions are certainly worth further consideration. If Lieutenant Barnardo's views are correct, indications for treatment are afforded which may prove to be of great value and the administration of intestinal antiseptics should be proceeded with. Lieutenant Barnardo utters a warning against the use of lime juice which has been kept in barrels. The juice of fresh limes, he says, is of value but he contends that the preparation which has been preserved for some time tends to decompose into carbonates and free citric acid and can then be of no avail.

CURRENT THEORIES OF THE HEREDITARY PROCESS.

THE first of a series of eight lectures on the subject of Theories of Heredity was given at University College, London, on Nov. 22nd by Professor W. F. R. Weldon, F.R.S., Linacre professor of anatomy at the University of Oxford. Starting from the standpoint that the study of generations of individuals showed, first, that the average character attained by most of the members of one generation was like the average character of the preceding generation—a generally constant though not universal rule in the phenomena of heredity; and, secondly, that average persons are descended from average parents and exceptional persons from exceptional parents, it was claimed that these formed the necessary data of the science. These were facts based on the study of human races, of plants, and of animals. There was no necessity for starting with biological hypotheses to describe and to classify these phenomena of heredity. But when an explanation was sought of the mechanism or *modus operandi* of heredity, one passed, he said, outside the domain of statistics and concrete facts and had to picture the invisible organic processes accompanying the growth and the reproduction of animals. Reproduction in unicellular animals was illustrated by a description, with diagrams and slides, of the process as it occurs in the stentor, one of the protozoa. The body of the stentor, which is of an elongated pyriform character, is not a homogeneous unit but shows differentiation of organs, such as a thick vibratile band of cilia in the oral region, a hard cuticle beset with small cilia externally and attached internally to a system of fine muscular fibrils, a long moniliform nucleus and three smaller micronuclei, a mouth, and a contractile vacuole or excretory organ, while the general cell protoplasm is finely granular in appearance and the ectoplasm forms a clear subcuticular layer. In the process of growth the "ectodermal" part produces more cuticle, cilia, clear protoplasmic layer, and myo-fibrils, and the granular protoplasm produces granular protoplasm—in fact, each part of the body exhibits increase of its special structure. The body of the stentor is, in fact, histologically differentiated. On section of the body transversely into two or three equal parts each part thus separated grows and regenerates itself into a complete stentor, the anterior or cephalic segment growing a body and foot portion, while the middle part regenerates both head and foot portions, and the third or foot portion regenerates body and head. Cut into slices half a millimetre thick, the cut slices regenerate, each into a complete stentor. A stentor is thus composed of "units" each of which, removed from the rest, is capable of rebuilding the whole body system of units. These units as they exist bonded together in the body must have many properties latent, but when, for example, the head region is cut off the neck region is roused from its latent or dormant state and regenerates a fresh head region. In the natural process of reproduction the stentor undergoes elongation and develops a constriction in the middle, the ciliated band, nucleus, and contractile vacuole each divides into two, and one each of these passes to the posterior half of the body which is then completely constricted off, each half or miniature stentor now rapidly growing into full size. There is thus a division and rearrangement of the bodily parts or "units" of the stentor preceding its reproduction by fission. Experiments made on all protozoa (except sporozoa which are impossible to experiment with) suggest similar facts and deductions of a general reaction essentially similar to the stentor. The stentor is asexual, concludes Professor Weldon, and the occasional meeting and adhesion of two individuals with partial exchange of material is necessary for their well-being (rejuvenescence), but this phenomenon has nothing to do with reproduction. In some protozoa after such partial union and exchange of material the separated organisms seem to exhibit increased power of reproduction. In hydra the phenomena of growth and regeneration are similar. Each tissue reproduces its kind and a thin section reproduces the whole body and tentacles. In hydra reproduction occurs in two ways or more, first by budding, in which a tubular finger-like projection of the body wall, or sometimes of the ectoderm alone, grows into a small hydra which eventually separates from the parent. The second method is the production of a large somatic cell (ovum) beneath the ectoderm. This gives rise to two polar bodies (*maturation phenomenon*), and after their extrusion the ovum is fit for impregnation. Other somatic cells of the hydra give rise by division into minute flagellate cells (spermatozoa) which are liberated. When these free-swimming elements meet the ovum one of them enters into and fuses with the latter (*fertilisation*). From the impregnated egg a young hydra arises by the usual process of embryogenesis.

THE TREATMENT OF EPILEPSY WHICH IS DUE TO TOXÆMIA.

Dr. Allan McLane Hamilton of New York has published an article in the *Medical Record* of New York of Dec. 3rd, 1904, embodying his own large experience in the treatment of those cases of epilepsy mainly due to conditions of toxæmia—auto- and hetero-toxæmia. The treatment of epilepsy from remote times has for the most part, says Dr. Hamilton, been empirical if we may except that of a surgical kind, while many drugs recommended for epilepsy have been "mere therapeutic guesswork" due to imperfect knowledge of its pathology. Putting aside those forms of epilepsy due to premature ossification of the cranial bones, to fœtal or infantile injury or disease of the brain, or to the growth of neoplasms, "there is a large number of so-called idiopathic cases which are exceedingly obscure, as it is impossible with any certainty to trace either a cause or underlying morbid process." These are the cases, he adds, which have been especially treated with bromides "with the idea of smothering the activity of the cellular elements in the brain." From a critical review of the work of Raymond and Petit, and especially of Voisin,[1] and from a consideration of the bio-chemical facts regarding the blood and urine of epileptics demonstrated by Herter and Smith, and later by Carlo Besta (1902) and other Italian investigators, it is rendered probable, says Dr. Hamilton, that toxæmia enters largely into the pathogeny of epilepsy. The occurrence of the fit betokens the accumulation in the body of some particular toxic agent in quantities sufficient to excite the cerebral nerve cells to convulsive discharge. The toxæmia was probably a mixed one—i.e., both autogenous and heterogenous. Eclamptic attacks and the functional epilepsy produced by absinthe drinking illustrated the action of toxæmia in the brain. Auto-toxæmia occurred in three ways: first, from gastro-intestinal derangement which set free purin bodies and putrefactive products (indican and skatol) in the alimentary canal to be taken up by the blood; secondly, the presence in the blood of certain familiar cocci, such as the staphylococcus aureus and albus; and thirdly, by poisoning of the cerebral nerve cells by degradation products of the nervous tissue, among such toxic products being cholin which was shown by Mott and Halliburton to be toxic to cats. Clinical study of the pulse shows a lowering of arterial tension before a fit, as was found in every one of 18 cases carefully investigated by Voisin and Petit. Such a soft pulse generally exhibited acceleration as well. "I have learned to look upon a soft rapid pulse," says Dr. Hamilton, "with considerable apprehension, for in many epileptic subjects its presence often precedes the development of an attack or series of attacks." The urine in these cases contains excess of indican. Among the therapeutic suggestions given by Dr. Hamilton are hydrotherapy, carbonic acid baths, friction, and massage to aid the elimination of waste products of metabolism by the bowels, the kidneys, and the skin. Meat, coffee, tea, and purin-containing substances should be practically excluded from the dietary. Calomel and boric acid are useful in aiding intestinal asepsis, while among the more valuable cerebral sedatives are chloral, the bromides, and veronal, the last of which should be given dissolved in hot water.

A PECULIAR FEATURE OF THE RECENT FOG.

DURING the time when the recent fog was densest on the ground a curious phenomenon was witnessed in THE LANCET offices and laboratory. The flames of the Bunsen burners attached to gas stoves, as well as of those used for laboratory purposes, which are normally of a bluish tinge, became a bright yellow colour, which on examination with a spectroscope proved to be due to sodium. The characteristic bright yellow colour of the flame was well marked and the usual soda line in the spectroscope was very brilliant. On examining the air no definite evidence either of sulphates or of chlorides could be obtained. The interesting questions are, What was the origin of the sodium and in what form did it exist? It is easy to imagine sea air showing the presence of sodium chloride but it is difficult to understand how under the conditions prevailing during the fog the air could contain particles of sea-water. It is true the fog was very general and possibly some of it had its origin in the sea but then no chlorides could be found in the air. Again, it may be conjectured that smoke might contain sodium salts derived from the combustion of coal but we find that sodium salts are seldom found in coal. We do not know, and have had no means of ascertaining, whether there was a local disturbance at any chemical works or other places where sodium salts are likely to predominate, these salts for some reason or other becoming scattered and thus giving rise to the curious flame phenomenon recorded. It was not due to our own laboratory operations, for the intense yellow colouration of the flame was evident in all parts of the offices and the colouration was just as intense on the lower floors as on the top floor, where the laboratory is situated.

LORD MOUNT STEPHEN'S MUNIFICENCE.

Lord Mount Stephen has for the second time made a princely donation to the King's Hospital Fund for London. It may be remembered that an anonymous donor recently offered to contribute capital producing £3800 per annum to the Fund if the public within a certain date would find capital to produce £10,200 per annum. The £14,000 per annum so raised would have brought the fixed income of the Fund up to £50,000 per annum. The anonymous offer, however, lapsed, the public having made no adequate response to the appeal issued by the Prince of Wales as President of the Fund. Lord Mount Stephen has now come to the rescue and has placed at the disposal of the Prince of Wales to be used for the Fund, bonds worth £200,000, producing £11,000 per annum, "leaving" as he says, only "£3000 a year still to be provided and affording a great opportunity for someone willing and able to do a beneficent act." Lord Mount Stephen's generosity is well known but he has never helped with his magnificently open hand a worthier object. The value of the Fund will be greatly increased by the possession of a fixed income of £50,000 and we can hardly doubt that the remaining £3000 necessary will be forthcoming.

HEREDITARY ANGIO-NEUROTIC ŒDEMA: ŒDEMA OF THE GLOTTIS IN FIVE MEMBERS OF A FAMILY.

WE have recently referred to a case of angio-neurotic œdema in which the larynx and stomach were affected and tracheotomy had to be performed.[1] At the meeting of the Société Médicale des Hôpitaux de Paris on Nov. 3rd M. E Apert and M. Delille described a remarkable case in which the disease occurred in a hereditary form and five members of a family suffered from œdema of the glottis. On Oct. 8th, 1903, a boy, aged nine years, was taken to hospital in a state of asphyxia with suprasternal and epigastric retraction. There was no sign of diphtheria but the whole of the soft palate and the uvula were transformed by œdema into a voluminous gelatinous-looking appendage which quivered, like the condition seen in acute œdema of the glottis in Bright's disease. There was an œdematous swelling of the sub-mental region. The dorsum of the right foot was white and swollen; the œdema was hard and pitted on pressure but only superficially and momentarily. There was no cardiac or renal disease. The heart was normal and there was no albuminuria. The nature of the œdema would have perhaps been doubtful for a long time if attention had not been attracted to the patient's uncle who accompanied the lad and was wearing a tube in his trachea. He stated that other members of the family were similarly affected. The patient's father and his two paternal uncles suffered from angio neurotic œdema as well as his only brother. On the other hand, his paternal aunt and his two sisters were not affected. A phenomenon sometimes observed in family diseases was illustrated. The disease appeared at an earlier age in the second generation. Thus the ages at which symptoms appeared in the first generation were 30, 28, and 20 years; in the second generation seven and five years. The patient had suffered from attacks of œdema which at first were rare, then became more frequent. The sites were variable—the upper limbs, the cheeks, and the forehead; more rarely the lower limbs. For the last four months whenever the face was affected swelling of the tongue and uvula followed and then obstructive dyspnœa indicating œdema of the glottis. Every fortnight almost exactly alternatively an attack of œdema of the limbs or of œdema of the face followed by œdema of the glottis occurred, the latter being usually accompanied, as in the patient's father, by pains in the stomach and nausea. When the boy was taken to hospital the temperature was 99·5° F.; in the evening it was 100·5°. On the following morning it was 103·2°, and the œdema of the glottis, uvula, and foot had disappeared; but there was a resistant swelling on the right cheek and a smaller one on the left side of the chin. On the third day there was no œdema of the cheek and the temperature was 99·1°. On the fourth day the boy was taken from hospital, having again a little œdema of the face. The hereditary transmission of angio-neurotic œdema is well recognised. Professor W. Osler has related an instance in which 22 out of 39 persons distributed in five generations were affected.

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[1] L'Epilepsie, Paris, 1897.

[1] THE LANCET, Dec. 24th, 1904, p. 1802.

INJURIES DUE TO GYNÆCOLOGICAL EXAMINATIONS.

In the *Journal of the American Medical Association* of Nov. 26th, 1904, Dr. Howard A. Kelly has drawn attention to a subject which has received little notice—the infliction of injuries, particularly to the rectum, during gynæcological examination. The organ which is being examined or the structures which lie between it and the examining fingers may be injured. The injury may be due to the delicate nature of the tissues examined or to roughness in examination. A thin-walled papillary cyst, vascular cystic sarcoma of the ovary, an extra-uterine pregnancy, or a pelvic abscess may be ruptured into the peritoneal cavity. Small effusions of blood may be produced under the skin of the abdomen from bruising during examination. Dr. Kelly has never seen injuries of the vagina but he has seen four cases of perforation of the rectum which is a much more delicate structure. All occurred in his hospital practice during the last 15 years. The examiners were not inexperienced students but competent assistants and, in one case, himself. In the first case a married woman, aged 52 years, was placed under ether in order to be curetted for menorrhagia. During examination the finger was pushed through the rectum into the peritoneal cavity. An incision was at once made in the posterior fornix. A vertical rent was found in the rectum four centimetres above the cervix. It was closed with fine silk sutures and recovery followed. In the second case a married woman, aged 63 years, had cystitis. Under ether an examination of the pelvic organs was made and they were found to be normal. The finger was pushed through the rectum into Douglas's pouch. An operation was performed similar to that in the previous case and an iodoform gauze drain was brought out through the vagina. Recovery was complicated by a fæcal fistula which closed spontaneously. In the third case a woman, aged 58 years, had a large left ovarian cyst widely adherent to the intestines and the omentum. During examination, before the anæsthetic was given, Dr. Kelly pushed his finger through the rectum into the peritoneal cavity. The abdominal incision for ovariotomy was made, the tumour was removed, and the rectal tear was exposed and sutured. No soiling of the peritoneum was apparent and drainage was not used. Recovery was uneventful. In the fourth case the patient was a woman, aged 28 years, suffering from menorrhagia. She was anæsthetised for curetting. In the course of a rectal examination the finger was pushed into the peritoneal cavity. A piece of gauze was pushed through the opening and brought out at the anus. On the following day there were symptoms of peritonitis, therefore the abdomen was opened, the tear was sutured, and the pelvis was drained. Recovery slowly took place. Dr. Kelly thinks that the cause of these accidents was the age of the patients (in three averaging 57 years) and weakened muscular tone of the bowel. In one case the patient was very stout, so that not only was a greater effort required to reach deep structures in examination but the tissues were probably more friable. Dr. Kelly recommends that in all cases the peritoneum should be opened and the rent sutured from the peritoneal side. Two layers of fine silk sutures are better than one. An iodoform gauze drain should be inserted through the vaginal vault. The most convenient route is through the posterior fornix unless the abdomen is about to be opened, but if the perineum and the vagina are rigid and contracted an abdominal incision would be preferable. In either case the operator must be skilful in sewing at a distance with long instruments. The sutures should be well placed, penetrating the coats of the rectum as far as the mucosa, and accurate apposition should be secured. As a rule no food but albumin water should be given for from five to seven days. The anus should be thoroughly dilated and if a rectal tube can be tolerated it will serve to carry off the gases and to keep the parts at rest. In order to avoid such injuries rectal examinations should be made with the utmost gentleness. It is well to empty the bowel beforehand. If the patient is then placed in the genu-pectoral position and a speculum is introduced so as to secure a maximum of distension with air, on placing the patient in the dorsal position the rectum will be found expanded and in closer relation to the pelvic structures. An important point, not sufficiently emphasised, is that the examiner should avoid the natural impulse to invaginate the wall of the rectal ampulla on the finger and push it high in the pelvis. This error will not occur if, after introducing the finger into the ampulla, the next step is to seek the so-called "third sphincter"—the rectal valves behind the cervix. The finger should be introduced between these, then up into the pelvis where the bowel lies in contact with the posterior surface of the uterus and left broad ligament. The examiner should be at ease and the fingers should be flexible during the examination. If the whole arm is made rigid in the effort to push in the perineum in order to gain a few centimetres the hand is also apt to become rigid. Dr. Kelly avoids rigidity of the arm by resting his elbow against his hip and pushing in his arm from the hip.

JUVENILE TABES AND OTHER HEREDITARY SEQUELÆ OF SYPHILIS.

Cases of juvenile tabes are still very rare. After careful search Marburg of Vienna (1903) could only collect 34 cases. In the *Journal of Nervous and Mental Diseases* for December, 1904, Dr. J. Grinker, lecturer in neurology at the North-Western University Medical School, U.S.A., records a remarkable case the family history of which is also full of interest in regard to the hereditary aspects of nervous diseases. The patient's mother came of a long-lived family, free from nervous or mental disease in the ancestry. She enjoyed good health, was married at the age of 18 years, and had a son who was in perfect health and was now 38 years old. Her husband died 15 months after the marriage from a fever. The woman remained a widow for 12 years when she married again, at the age of 31 years, her first cousin, a young man who had contracted syphilis four years previously and who had been in indifferent health since then. He was mentally normal but drank to excess and died after 22 years of married life, probably from chronic tuberculosis, The issue of this unfortunate marriage, says Dr. Grinker, comprised three children whose conditions illustrate the various hereditary sequelæ of syphilis in a striking way. The eldest, a male, was born in May, 1878, and developed into a typical case of juvenile tabes dorsalis; the second, also a male, born in October, 1880, manifested general paralysis during adolescence; and the third, a female, showed signs of infantile cerebral syphilis soon after she was born in 1882. The woman not only brought forth these hereditarily degenerate children but in the course of years developed into a case (rare in women) of tabes dorsalis herself. Her illness began 12 years ago with numbness and tingling of the feet and a sensation as though she was walking on a "stuffed cushion." Then followed paræsthesiæ ("pins and needles" and dull sensations of pain) in the legs. "During the last ten years she had the classical lightning pains of tabes, which were mostly at night." For the past five years similar shooting pains had occurred in the upper extremities. Vision was gradually lost in the right eye and subsequently in the left eye, so that the patient became at length totally blind. For seven years she had had the abdominal pains or "crises" of tabes—"twisting and grinding of the stomach and intestines," as she described them. Gastric crises with vomiting and intense agonising pain in the epigastrium lasting from 12 to 24 hours were also experienced. At present (1903), says Dr. Grinker, she is "a small, poorly nourished old lady of apparently 65 or 70 years, though her real age is 57." She is the subject of chronic locomotor ataxy, with absent knee-jerks, ataxia of station and of gait, and numerous peripheral areas of cutaneous analgesia. Complete optic atrophy is present. Intelligence and memory are good. The sphincters are beginning to show slight incontinence. The lightning pains, Westphal and Romberg symptoms, optic atrophy, gastric crises, paræsthesiæ, and absence of motor involvement make this an undoubted case of tabes dorsalis, while the children of the woman illustrate various pathogenic aspects hereditarily transmitted. This patient died in April, 1904, from coma.

THE medical officer of health of the Cape Colony states that for the week ending Dec. 10th, 1904, the condition of plague in the colony was as follows. At Port Elizabeth 2 cases were discovered during the week, both being of European females. Of 153 rodents bacteriologically examined 4 rats and 11 mice were found to be plague-infected. Plague-infected rodents continued to be found in East London. Elsewhere in the colony no plague infection in man or other animals was noted. As regards the Mauritius a telegram from the Governor to Mr. Lyttelton received at the Colonial Office on Dec. 30th states that for the week ending Dec. 29th there were 19 cases of plague and 11 deaths from the disease.

THE opening lecture of the spring session of the North-East London Post-Graduate College will be given at the Tottenham Hospital, N., on Jan. 10th, at 4.30 P.M., by Mr. John Langton, consulting surgeon to the hospital and to St. Bartholomew's Hospital. The subject of the lecture, which is open to all medical practitioners, is "Points which should be considered in Determining the Prospects of the Operation for the Radical Cure of Hernia."

Major Robert Bird, I.M.S., surgeon to His Excellency the Viceroy and Governor-General of India, has been appointed a Companion of the Most Eminent Order of the Indian Empire.

OUR Special Sanitary Commissioner, who recently visited the St. Louis Exhibition, took the opportunity while in the neighbouring State to investigate thoroughly the famous Chicago stockyards and the condition of the celebrated abattoirs. It will be seen that our representative, speaking from a wide experience of such matters in all countries, was not favourably impressed with the sanitary regulations in force for the slaughter of the animals.

THE annual dinner of the Laryngological Society of London will take place at the Imperial Restaurant, Regent-street, London, W., on Friday, Jan. 13th, at 7.30 for 8 P.M.

Mr. W. H. Cross, who has retired from the post of clerk of St. Bartholomew's Hospital after 38 years' service, has been placed upon the commission of the peace for Middlesex.

MALINGERY.

THE art of shamming disease has reached a high level of perfection. This is mainly to be attributed to the fact that the rewards of proficiency are great. Fresh in the minds of all is the recent case of a professional beggar in the City of London whose voluntarily paretic limbs stirred up the lively compassion of the passers-by, even of the poor, so that charitable gifts flowed into his ready palm. This case has excited some little attention chiefly because the police have prosecuted him successfully but he is only one of very many. So remunerative are these attempts on the charity of the benevolent that there is great danger that the publication of the details of the case that we have mentioned will rather induce others to follow his example than that his punishment will act as a deterrent. In one part of London it is said that ready-made ulcers on pieces of adhesive plaster can be obtained at a reasonable price and these are greatly in vogue with professional mendicants, for an outward and visible sign, such as an obvious ulcer, is far more efficacious in exciting the almsgiving propensities of the tender-hearted than any amount of internal pains. Paralysis, too, is a fairly good argument in favour of charitable assistance, for the giver contrasts his powers of movement with the weakness of the afflicted one, and as paralysis of a kind is readily counterfeited it is much in favour with the begging fraternity, though a great deal of of it will not stand a careful medical examination.

Many are the motives which incite a man to pretend to be suffering from a disease with which he is not afflicted. Probably the commonest motive is the wish to obtain contributions from the charitable and thus to prevent the necessity for working which is extremely distasteful to these professional beggars. Ulcers and paralysis are the usual forms in which this motive manifests itself and to these we have already alluded. Fits of all kinds are, however, frequently simulated, especially fits of an epileptiform nature, and in cases where the malingerer has had opportunities of observing someone afflicted with epilepsy the resemblance to the true epileptic seizure may be extraordinarily great; the frothing of the mouth is usually brought about by means of a small piece of soap, the discovery of which in a "patient's" mouth would, to say the least, cause the fits to be looked upon with grave suspicion The fits are usually also rather overdone and it is a common failing of the malingerer that he is not satisfied with a reasonable amount of disease. Another motive nowadays for simulating disease is to obtain admission into a hospital. The comfort, the rest, and the luxuries to be obtained in hospital make a deep impression on many patients, so that they leave with regret to return to their former work. Can we wonder, then, that some of them, lamenting the fleshpots of Egypt, should wish to return? All that is necessary is to possess some severe manifestations of disease and every resident medical officer of a hospital must have met with many cases of patients endeavouring to obtain admittance on account of some wonderful pain or spasm and doubtlessly many a time has he been deceived. This form of malingering is especially likely to be successful when there is some obvious lesion which may form a basis for the superstructure derived from the patient's imagination. In one case a young man a few years ago received a severe blow on the head and even now some irregularity can be detected on the skull. He describes attacks of Jacksonian epilepsy and as the lesion is situated over the motor area of the corresponding side of the body he readily gains admission into a surgical ward. He will even agree to have an operation performed for the removal of the damaged portion of the cranial bone which is supposed to be causing his fits, though curiously he never has a satisfactory fit except when alone. His custom is to decline the operation when the day fixed for its performance arrives and on leaving the hospital he attempts, generally successfully, to repeat the performance elsewhere. One of the most inveterate of these malingerers is, or rather was, a man who had a genuine paralysis of the left arm with some weakness of the leg on the same side. He had tasted the delights of hospital life and as nearly every sojourn in the hospital was followed by two or three weeks at a convalescent home in the country or at the seaside he had an extra inducement to endeavour to be readmitted into a hospital. It was his custom when he felt inclined for hospital treatment to enter a tavern not far from a hospital. Here after a short time he would be seized with a "fit," and then he would be carried in an apparently unconscious or semiconscious state into the receiving room of the neighbouring hospital. The house surgeon would immediately detect the unilateral paralysis and would not unnaturally diagnose cerebral hæmorrhage or some other sudden interference with the circulation of the brain. The patient would be admitted at once and in a few weeks part of the paralysis would pass off leaving, however, some definite permanent loss of power, especially in the arm. Then would follow the convalescent home and later a return to the hard outer world where the unpleasant necessity of working would tend to obtrude itself on his mind. Then would come a visit, similarly inaugurated, to another hospital, with the same cycle of events. The number of hospitals in London being limited, it happened more than once that he returned to a hospital before the remembrance of his previous visit had quite died away. Some former clinical clerk who had become a house physician remembered his face or his history, which conscientiously he never varied, and then his well-planned enterprise was liable to come to a sudden and untimely end.

It is, however, in connexion with the naval and military services that the art of malingery finds its chief exponents. Indeed, the word "malinger" was first applied to the attempts of soldiers to evade arduous or unpleasant duty. It is of interest to notice the difference that exists between countries in which conscription prevails and those in which only voluntary service exists. In the former the most strenuous exertions are sometimes made to escape service and since most deformities disqualify for admission recruits, or rather those who were liable to serve in the army, have not hesitated to inflict on themselves the most severe injuries in order to avoid service. In the days when it was necessary for a soldier to bite off the end of the cartridge in loading his musket it was no uncommon event for a man to have one or more teeth extracted or filed down so as to obtain exemption. In countries such as our own at the present time, where voluntary service exists, we are more likely to find applicants for enlistment who attempt to hide diseases. In all countries, however, many soldiers, whether they have been called to the service by conscription or have entered it voluntarily, earnestly desire to leave it. There is an old tale, in all probability true, that illustrates well the trouble which such a man will take to escape from military service. A soldier was seized with paralysis of the right arm; the loss of power came on suddenly and without obvious cause. Malingering was suspected but all the efforts of the surgeon of the regiment were unavailing; no proof could be obtained that the paralysis was feigned. The man was examined by two medical boards and ultimately he was given his discharge. As he went off from the barracks on the top of the coach (it was in the days before railways) he waved a hearty good-bye to his comrades with his paralysed arm. Probably the best example of the perseverance which men will display in the attempt to leave a service which they detest is to be found in a case under the care of Cline. The patient was a sailor in the British Navy and it is worthy of note that he was a "pressed" man. He fell on to his head and a slight depression of the skull was produced. He immediately became unconscious and all efforts to rouse him failed. He lay quietly in his hammock and never moved. He seemed deaf to all sounds and at no time uttered any word. He was able to swallow food, both solid and liquid, and indeed he made signs with his lips and tongue when he wanted nourishment. He was brought back to England but no improvement followed and the "unconsciousness" lasted for 13 months. Then it was resolved to raise the depressed portion of bone. Flaps were made, a trephine was applied, and the bone was cut through. An elevator was then introduced to raise the bone and as the bone was lifted up consciousness suddenly returned to the patient and he spoke. At the time of the operation most of the onlookers accepted the case as genuine but no one would nowadays venture to support the idea that the patient really lay unconscious for 13 months, suddenly regaining consciousness on removal of the depressed bone. There can be no doubt that the man was a malingerer and adopted this arduous method of leaving a service into which he had been forced. The amount of pain and discomfort which malingerers are willing to endure to obtain their discharge is almost incredible but the facts are well attested. A limb has been held in a fixed position for many months and not even the application of the actual cautery has sufficed to move it. Many men have chopped off some fingers and have claimed that it was an accident. Mental derangement of one sort or another is a favourite form of malingery but the results usually resemble the popular or stage idea of insanity rather than the true products of mental alienation. It is not uncommon for the malingerer to combine two forms of insanity and this may be of value in detection. Still, it is often very difficult to be certain that a patient is shamming. There are, however, some phenomena which cannot be simulated. It is impossible for a sane man to imitate successfully the persistent insomnia which often occurs in the insane; the impostor cannot put off sleep beyond the second or third day.

Another frequent motive for malingering is to attract attention not for the purpose of obtaining money but merely to gain notice. This motive is most frequently seen in young unmarried women. The most common manifestation is to be found in the skin, where ulcers, bullæ, and other lesions suddenly appear. Simulated joint affections are also not rare and there are many other forms. These cases merge imperceptibly into hysteria and indeed in many hysteria is combined with the wish to deceive. It is not improbable that in some of these patients there is a certain degree of cutaneous anæsthesia which renders the self-mutilation more easy of accomplishment. There are other causes for simulating disease or injury. Sometimes it is done to avoid punishment, sometimes to wreak vengeance on another person who is accused of having inflicted the injury. To obtain compensation for injury in a railway accident several lesions may be simulated and especially those obscure and ill-defined conditions which have been attributed to "spinal concussion." These latter form a large and very important class the detection of the fraud of which is often most difficult. Sad to relate, many of the attempts to imitate disease have led to serious and irreparable results and even to death itself. A man excited an ulcer in his leg by means of a copper coin and later gangrene appeared and required amputation below the knee In endeavouring to excite hæmoptysis a man swallowed a cork into which pins had been inserted. He spat up blood and became very emaciated and then suddenly died from hæmorrhage. At the necropsy it was found that the cork and pins had lodged at the junction of the pharynx and œsophagus and that the pins had ulcerated through the œsophageal walls and had opened into the common carotid artery on both sides. Children are great adepts at feigning maladies and they frequently display a surprising acquaintance with the symptoms of disease. A little boy, five years old, complained that his urine was bright red, and so indeed it was, but it was found to be due, not to any blood colouring matter but to the red dye of his flannel shirt, a portion of which he had soaked in it. In another case a little girl vomited fæcal matter and this symptom only ceased when she was told that such methods were not allowed in the hospital.

The detection of malingering is often no easy matter and no general rule can be laid down which will be applicable to all cases. The mere threatening of severe methods of treatment is sometimes successful but frequently fails. The threat of the application of the actual cautery has cured paralysis but cases have been recorded where malingerers have endured the cautery on several occasions. A man who *simulated blindness was placed on the edge of a jetty* and told to walk straight forward. He stepped out and fell into the water, for he knew that those who were testing him dared not let him drown. In another case, however, a man who seemed to have paralysis of an arm allowed the amputating knife to be placed close to it without flinching but when thrown into the river he struck out with both arms and swam. A very useful method of detection is the suggesting of new signs and symptoms to the patient. The surgeon remarks—say in the case of a paralysed arm—in the hearing of the malingerer that it is strange that the little finger is flexed, it *ought to be straight*. In all probability at the next visit the little finger will have assumed the suggested position. The more *outré* and irregular the fresh symptoms suggested by the surgeon the more definite is the detection. In general anæsthesia we possess a valuable means of discriminating in certain cases between true and false paralysis or contractures. While the patient is just going under or recovering from anæsthesia the "paralysed" limb may be seen to move freely. It is well always to remember the possibility of a disorder being feigned, especially when a strong motive exists, for by this vigilance cases may be detected which would otherwise escape notice. In the detection, however, of cases which we imagine to be examples of malingery it is important that no methods should be adopted which can do harm, should our supposition be groundless, for it is far better that many impostors should succeed than that one real sufferer should be condemned uselessly to undergo further pain. It is no more than a mistake to be deceived by a malingerer, it is almost a crime to deal harshly with one who is really afflicted with disease.

ASYLUM REPORTS.

London County Asylum, Hanwell (Report for the year ending March 31st, 1904).—The average number of patients resident during the year was 2555, comprising 998 males and 1557 females. The admissions during the year amounted to 614—viz., 265 males and 349 females. Of these 518 were first admissions. Dr. R. R. Alexander, the medical superintendent, states in his report that the three chief causes which operated in the production of insanity among the admissions were alcoholic intemperance (21 per cent. of males and 12 per cent. of females), heredity (19 per cent. of males and 23 per cent. of females), and previous attacks (12 per cent. of males and 23 per cent. of females). 17 per cent. of the men and 2·5 per cent. of the woman were afflicted with general paralysis, as against 18 per cent. and 3 per cent. respectively in 1902. The number of cases discharged as recovered during the year amounted to 209—viz., 90 males and 119 females, or 8·2 per cent. of the average number resident. The deaths during the year amounted to 258, or 10·1 per cent. as calculated on the same basis. Of the deaths eight each were due to colitis and renal disease, 18 each to pneumonia and cancer, 20 each to cardiac disease and cerebral softening, 39 to senile decay, 39 to pulmonary and other forms of tuberculosis, 47 to general paralysis, and the rest to other causes. "The most remarkable feature of the general health of the asylum was the unprecedentedly high death-rate during the first quarter of the year. In that period we had 99 deaths (42 males and 57 females), or 38 per cent. of the total number of deaths of the year. ..... I am quite unable," adds Dr. Alexander, "to account for this death wave. It may have been partly owing to an irregular form of influenza, as we then had some undoubted cases of that disease ...... but most of the deaths had no apparent relationship to influenza and there was certainly no inclemency of the weather to account for the high mortality." The deaths included 33 patients (12 males and 21 females) over the age of 70 years. It is gratifying to add that a decline has been observed to occur in the mortality-rate of [illegible] sioners in Lu[illegible] and there is [illegible] rainfall of the year 1903 and the incapacity of the drains to carry off the *suddenly produced and torrential volumes of* rain water on May 30th and July 18th, two of the female wards were submerged. The flood invaded the female infirmary ward No. 7 to the depth of about 18 inches. All the patients (45 in number) had to be carried into other *wards and retained there until the* damage to the floor was repaired. The flood caused considerable damage also to other parts of the asylum. The committee of management states in its report that further measures have been taken to secure the safety of the inmates in the event of an outbreak of fire, including the provision of alternative exits for five female and four male wards, the formation of an additional fire station on each side of the asylum, and improvements in the fire-alarm system. Improvements in the boiler plant have been made and the cost of repairs, alterations, and improvements has amounted to £6982.

COCOA CHEMICALLY AND PHYSIOLOGICALLY CONSIDERED.

I.

ALTHOUGH cocoa was introduced into this country some five centuries ago and several years before either tea or coffee was known, it enjoyed but little popularity until comparatively recent days. It is an important fact, however, that cocoa is now in very great demand and official returns show that its consumption has increased enormously in this country in particular, the demand for it having given rise to a very considerable expansion of trade. There must, however, be some more special reason for this selection of cocoa as a beverage than can be explained by mere commercial enterprise. The present popularity of cocoa as a beverage and the fact that so many give it preference to tea and coffee raise some important physiological questions which claim more attention than they have hitherto received.

All three beverages—tea, coffee, and cocoa—contain well-known and well-defined stimulating principles, but there are marked and important differences of chemical composition between the three substances as might be expected considering that coffee and cocoa have their origin in the seeds of a plant while tea consists of a leaf. Moreover, all these undergo considerable modification during their manufacture. Coffee is roasted, tea is fermented and dried, and cocoa goes through a process of fermentation and roasting, and besides is submitted to a further treatment by which a considerable quantity of its fat is expressed. Thus the development of the flavour and the peculiar character of coffee is brought about by merely roasting, but in tea and cocoa both a fermentative process and a species of roasting are employed to the same end. These processes, though directed chiefly to the development of æsthetic qualities, are, of course, not without effect upon the chemical composition of the product and this effect has probably a dietetic significance. In coffee there are a loss of caffeine, the stimulating alkaloid, and a development of oil; in tea there is reason *for believing that the tannin or astringent* principles are rendered less soluble by the fermentative process (green tea is not fermented and yields much more tannin than does black tea); and in cocoa the initial bitterness of the bean is considerably reduced and its colouring is deepened, while roasting the cocoa according to the degree to which the process is carried intensifies the colour still more, and develops at the same time an oil of pleasing character much in the same way as does roasting coffee. In cocoa also some of the tannin is apparently changed into a colouring matter termed "cocoa red." Even in their original form, however, the proportion of theine and tannin differs widely in tea, coffee, and cocoa, and it is improbable that the tannin in the finished products is identical in kind. The tannins are a very numerous class of bodies, varying widely in character, and it is probable that coffee, tea, and cocoa contain each a different tannin or astringent principle, presenting not only different chemical but different physiological characteristics also. Tea certainly gives the most powerful astringent infusion, coffee coming next, while cocoa appears to possess quite a feeble astringency. It may be easily surmised that it is to this latter property that cocoa owes its negative effect upon digestive functions. Tea contains 10 per cent. and upwards of tannin, and coffee and cocoa contain 4 per cent. As regards their content of alkaloid, tea yields from 3 to 4 per cent. of caffeine, coffee 1 per cent., and cocoa about 2 per cent. of theobromine, an alkaloid closely allied to caffeine.

Apart from these considerations cocoa is consumed not in the form of a clear liquid, as are both tea and coffee, but in the form of an infusion containing in suspension, in a more or less finely divided state according to the particular mode of its manufacture, the whole of the cocoa. In other words, while the teaspoonful of tea or the teaspoonful of coffee is not entirely represented in the cup the teaspoonful of cocoa is. The cupful of tea or coffee infusion represents but a fraction of the tea or coffee used; the cupful of cocoa contains the whole of the cocoa used. On the one hand is a clear infusion, on the other an emulsion or infusion containing suspended matters in a more or less finely divided state. Whatever differences exist therefore between tea, coffee, and cocoa, the last, by the manner in which it is employed in making a beverage, must necessarily be more economical in use. This is a point of some importance which must be considered when making a comparison between the chemical composition and the dietetic value of the three products. Tea and coffee may thus be said to resemble meat extracts containing merely the stimulating principles of the prime substance while cocoa may be placed on the footing of the meat itself assuming that cocoa contains food materials. As a matter of fact, recent experiments on the behaviour of cocoa under the influence of digestive ferments have convinced us that cocoa is *per se* a valuable food yielding on digestion hydrolysed products which are available for the repair of the waste of the body. We shall return, however, to this point in a future number when our experiments are concluded.

A good preparation of cocoa is often recommended where tea and coffee have been shown to disagree and a great proportion of the public has been led to abandon tea and coffee in favour of cocoa, probably for a sound physiological reason. Leaving out all question of the pernicious habit of excessive tea or coffee drinking it remains to consider why it is that cocoa often is suitable when tea or coffee disagrees. As regards influence on digestion it is, at any rate, fairly well established that cocoa does not affect unfavourably either salivary or gastric digestion, and while tea and coffee reduce the absorbing capabilities of foods (probably by the hardening action of the astringent principles on the proteids) cocoa actually increases this power. Chemically, therefore, there may be tannin in cocoa but physiologically it behaves as though it had lost its astringent property. It would appear, therefore, that cocoa, far from being harmful, may be beneficial in acid dyspepsia. The observation has, in fact, been made that cocoa is tolerated and is even of advantage in enfeebled digestive power when tea and coffee set up serious interference with the digestive process. Again, the action of cocoa on the nervous system is very much less than that of tea or coffee. Cocoa differs in one very marked particular from tea and coffee in that it contains a very high proportion of fat. In raw cocoa this fat amounts to about 50 per cent.; in the manufactured article it is about 30 per cent. In spite of its low melting point—a characteristic which, as a rule, is in favour of the digestibility of a fat—cocoa fat has been asserted to be difficult of digestion. Distinct proof of this appears to be wanting and it is probable at any rate that cocoa fat is very readily emulsified and split up by the action of the pancreatic juice. One way of reducing the proportion of fat in cocoa has consisted in mixing starch with the cocoa—a proceeding which obviously attenuates the cocoa and whatever dietetic value it may possess is thus considerably diminished.

We may next turn to the approximate composition of the cocoas on the market. Excepting those cocoas which are admittedly mixed with substances foreign to cocoa itself the cocoas of the leading firms exhibit according to our analysis the following ranges in composition.

TABLE I.

Moisture	3·0 to	8·0	per cent.
Nitrogenous matter (N × 6·3)	19·0 ,,	20·0	,,
Fat	26·0 ,,	31·0	,,
Mineral matter (ash)	3·9 ,,	8 8	,,
Starch	2 7 ,,	7·3	,,
Cellulose	6 8 ,,	7·2	,,
Other non-nitrogenous matters	29·0 ,,	31·0	,,
Theobromine	1·7 ,,	2·0	,,

There are slight variations in the percentage of moisture which affect not very materially the proportion of the other ingredients. The variation in the percentage amount of mineral matter is in some cases considerable and this depends upon the method adopted in the manufacture of the cocoa. The preparation of cocoa from the raw material is a comparatively simple operation. It is roasted, ground, and the fat is pressed out while hot. The pressed cocoas are then finely ground. The degree of fineness to which the cocoa is ground is a matter of considerable dietetic importance as will appear from further experiments which we shall record. Cocoa so prepared commonly exhibits an acid reaction and has a tendency to deposit more or less rapidly a considerable sediment in the cup. Cocoa is not, strictly speaking, soluble in water; but by certain processes of manufacture it can be reduced to a largely soluble state by first of all grinding it exceedingly fine and then by increasing the proportion of its natural salts. Such cocoa is not acid to test paper owing to the neutralising action of the alkaline organic salts and yields practically no sediment in the cup, the exceedingly fine particles being in a state of perfect suspension, a condition which is assisted by the salts. This important modification in the method of preparation accounts for the variations in the amount of mineral salts found in the various commercial cocoas. There are thus practically two classes of cocoa in the English market—one which is simply roasted, ground, and the fat expressed, and another in which in addition to the above the natural salts are increased in order to raise the true solubility of the cocoa.

It has been freely stated that some cocoas in the English market are largely manipulated with alkali. Our experience gives no support whatever to such a statement. On the contrary, of 11 cocoas purchased in the open market we have not found a single one to contain anything in the nature of an alkali. They were either acid in reaction or perfectly neutral as regards alkali. By alkali we mean either the carbonates or hydrates (caustic) of the so-called alkaline metals (potassium and sodium). Moreover, in no instance was the slightest trace of soap found, formed by the action of alkali on the cocoa fat. The charge of using alkalies in the preparation of cocoas has chiefly been made against the Dutch manufacturers and there are some very excellent cocoas sold in this country which are manufactured in Holland. We give below a list of the cocoas which we have examined and the results of their analysis as regards the question of alkali in the cocoa itself, total mineral matter, and the alkalinity of the ash.

TABLE II.

Cocoa.	Total mineral matter (ash). Per cent.	Alkalinity of ash reckoned as potash. Per cent.	Alkali in cocoa.
Bensdorp's Soluble (II.)	7·10 ...	2·35 ...	None.[1]
Barry's Essence (I.)...	4·60 ...	1·08 ...	,, [2]
Van Houten's Soluble Cocoa (II.) ...	8·80 ...	3·14 ...	,, [3]
Epps's Cocoa Essence (I.)	3·90 ...	0·75 ...	,, [4]
Fry's Concentrated Cocoa (I.) ...	5·50 ...	1·97 ...	,, [5]
Cadbury's Cocoa Essence (I.)... ...	4·00 ...	0·65 ...	,, [6]
Mazawattee Cocoa (II.)	5·50 ...	2·06 ...	,, [7]
Schweitzer's Cocoatina (II.)	5·70 ...	2·02 ...	,, [8]
Suchard's Soluble Cocoa (II.)... ...	6·40 ...	3·55 ...	,, [9]
Rowntree's Elect Cocoa (II.)	7·40 ...	3·14 ...	,, [10]
Loose Cocoa (II.)	7·70 ...	2·96 ...	,, [11]

[1] Slightly alkaline potassium salts, but neutral as regards free alkali. [2] Slightly acid reaction. [3] Slightly alkaline reaction due not to alkali but to organic salts of potassium and phosphates; otherwise perfectly neutral. [4] Acid reaction. [5] Acid reaction. [6] Acid reaction. [7] Neutral reaction. [8] Neutral reaction. [9] Neutral. [10] Neutral, rich in organic salts of potassium, including phosphates. [11] Neutral, rich in organic salts of potassium, including phosphates.

The Roman numerals in parentheses indicate the class to which the cocoa belongs.

Certainly as regards the well-known manufacturers of cocoa which is sold in this country, whether English or Dutch, there is here no evidence whatever of the use of alkalies in the preparation of the cocoa. There is abundant evidence, on the other hand, showing that the natural organic salts of the cocoa have been materially increased as regards both some of the English and the Dutch manufactured cocoas. These salts are converted into carbonate on incineration. The natural salts of cocoa consist of tartrates, malates, or citrates of potassium, which all give a slightly alkaline reaction and carbonate of potash on ignition. Besides these salts there is invariably present also the important alkaline salt potassium phosphate. Of such cocoas (Class II. in the second of the tables) it would be just as true to say that they contain alkali as it would be of wood because on burning it yields potash or potassium carbonate in the ash.' Again, tea yields a strongly alkaline ash due to potassium carbonate derived from the organic potassium salts in the leaf but it would be obviously absurd to conclude that *potash or alkali exists as such in tea; in fact,* all vegetable matter more or less contains organic salts of potassium which decompose into the alkaline carbonates found in the ash. While we are able to state that the cocoas sold by well-known manufacturers in this country do not as a rule contain alkali, we are aware that alkali (ammonia, soda, and potash) is sometimes employed for the purpose and that this is especially the case with cocoas of German manufacture chiefly sold in Germany.

In a future number we propose to give some experimental evidence which we have been able to obtain bearing upon the food value of cocoa and particularly upon the digestibility of its constituents as determined in experiments *in vitro* with digestive ferments. We may add that the indications so far are in favour of pure cocoa being a valuable and complete food, although it must be borne in mind that the quantity of cocoa contained in a cupful of cocoa is obviously small.

(To be concluded.)

Looking Back.

FROM

THE LANCET, *SATURDAY,* Jan. 6, 1827.

HÔPITAL ST. LOUIS.[1]

This Hospital, which was built during the reign of Henry IV., owes its origin to the prevalence of some fatal disease which reigned in Paris in 1606, and was supposed to be contagious; the Hotel Dieu, at that time the only public hospital, was so incommodious and badly managed, that it served only to accelerate the death of the unfortunates sent into it. St. Louis, at the time of its construction, was at a distance from any populous quarter of the city, and to prevent more effectually the spread of the supposed contagion, the architect surrounded it with a court 100 feet wide, enclosed within double walls. The hospital forms a parallelogram of 360 yards by 240, and thus presents a superficies of 259,200 feet. The principal buildings are situated around an area of 300 feet square toward the centre of the enclosure, and are two stories high; the attics of the building are large, but unemployed.

This hospital contains 1100 beds, and is destined principally to diseases of the skin. Some surgical and epileptical cases are admitted, but the number of beds occupied by these patients seldom amounts to more than 160.

The principal medical officers are Alibert and Biett, and the principal surgical, Richerand and Jules Cloquet.

Dr. Gales, who was formerly apothecary to the hospital, imagined that he had discovered animalculæ in the vesicles of the itch; he contrived to convince Latraille of their existence, as well as the greatest part of the members of the committee appointed by the Academy of Sciences. In the Dictionary of the Medical Sciences, (Art. *Gale.*) there are engravings given of these insects, which are dignified with a peculiar order and genus. . . . . . . Many of the ancients considered that the proximate cause of the itch was the presence of an animalcula between the epidermis and skin. Redi, an Italian, described some insects which he thought he had seen in the itch pustules, as early as 1685; the same assertion has been repeatedly made by Fabricius Hildanus, Gaubius, and Morgagni, but the subject was almost unknown to the public, until Dr. Gales renewed the investigation, and declared that he had seen these beings in thirty-five patients at St. Louis. He engaged a celebrated draughtsman to copy some of them, and these were afterwards shown to the academy; a committee was appointed to examine into the matter, and they agreed in saying that they also had seen them. Latraille in his Genera Crustaceorum, and, indeed, most entomologists since his time, have named them *sarcoptes scabiei*, and placed them with the family of the *acari*. Linneus has placed them in the class aptera, and has called them *acari scabiei*. Geoffroy has called them *cirons de la gale*, and De Geer, *mittes de la galle*. They have been drawn in the Dictionnaire des Sciences Medicales, and are represented as having six legs, and two small horns, magnified 250 times, so that they appear as large as ordinary beetles. Alibert has carefully *examined many scabious patients, and declares* he could never find any sarcoptes or acari; and Biett, who is a very careful and reflecting man, has examined a large number of patients with the person employed by Gales to draw the insects, but they could never discover any in the vesicles under any circumstances. The painter afterwards owned to Biett that he had never seen any one of the insects in the itch vesicles or pustules, but always outside them. Lugot continued these investigations in 1819, 1820, and 1821, with the strongest lens, but with the same result as the preceding. This is strong authority against the *vital itch*, and goes a great way to upset the force of the observations of Gales and the others.

CHICAGO.

THE STOCKYARDS AND PACKING TOWN; INSANITARY CONDITION OF THE WORLD'S LARGEST MEAT MARKET.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

IT was in mid-November that I left St. Louis for Chicago. The train first followed the banks of the Mississippi and went under the great St. Louis bridge. The immense *accumulation of railway wagons and the multiplicity of* railway lines were remarkable. Very ugly red brick warehouses often blotted out the sight of the majestic Mississippi, while numerous yellow refrigerator railway vans suggested the tasteless meat and unappetising *menu* of the American cold storage dinners. During the whole day, in spite of the advanced season, beautiful summer weather prevailed. The country was flat and uninteresting. The leaves still hung to the trees, though in a dried up condition. In the dining car roses decorated the tables and after so much sunshine and such summer experiences the contrast on arriving was the more painful to note. At Chicago the sky was black, though there was no fog or mist, and huge clouds of dense smoke spread over the city like a pall. The streets were dark and gloomy and being hedged in on either side by ugly houses ranging from ten to 20 storeys in height it seemed, on leaving the station, like penetrating some sinister ravine rather than walking along the best streets of a great and wealthy city. But for the gas burning in the shop windows and various electric advertising contrivances it would have been quite difficult to see. At rare intervals a little pink speck indicated that some abortive effort had been made at electric lighting and that was all the trace noticeable of municipal enterprise. Miserably slow horse tramcars rumbled along badly paved dark streets where desperate men not infrequently *stop and rob pedestrians.* Murders have increased fourfold in America within recent years and such being the case the streets should be well lighted. This, my first impression, did not lead me to anticipate that any very progressive information or example would be available at Chicago. Yet I had soon to recognise that a very bold and gigantic scheme was in process of execution to divert the drainage which used to fall into Lake Michigan and to direct it inland, where it will not injure the inhabitants of Chicago, whatever harm it may do to those who live elsewhere. By this means an inland river course is contaminated but the Chicago water-supply, which is derived from the lake, will no longer be exposed to the risk of receiving some of the city sewage. Then, again, it must be admitted that according to the official figures the death-rate is not high if Chicago is compared with other large industrial centres. The sanitary authorities have also much to show that indicates careful organisation to secure prompt action in dealing with cases of infectious disease, so that early isolation and thorough disinfection may protect the community at large from the danger of epidemics.

In spite of all this it is at once evident that those inhabitants of Chicago who take an earnest interest in the social conditions of their great city in any case are not satisfied. One great stain is ever present; it is always in sight and sometimes it is not only seen but it is smelt and felt. The greatest of the local industries, that for which Chicago is celebrated all over the world, is the principal cause of complaint. It is from the stockyards and "packing town" that the ever visible black smoke emanates which conceals the sky and the sun from that part of Chicago over which it is spread. Wherever the wind blows the smoke, there it deposits soot, blackens the houses, the clothes, and the hands and the faces of the people. With it come unpleasant odours of a meaty nature and as of burnt animal matter which seems to parch the throat and this helps to explain the difficulty that many inhabitants of Chicago experience in articulating their words distinctly. But the smoke nuisance, serious as it is, only constitutes the outward and visible sign—visible from an immense distance—of the abominations perpetrated within. The providing of food, of every form of animal food, should be a matter of public concern. It is a sacred trust, for so much depends on the sanitary condition of slaughter-houses and the efficient inspection of meat. In Great Britain and all over Europe the feeling gains ground that private slaughter-houses should be abolished and model public abattoirs instituted in their stead either by the State or by the municipalities. In previous studies of this subject descriptions have been given showing how at Berlin the State and the municipality combined to establish a model cattle market and abattoir.[1] An account likewise appeared relating how so far back as the year 1836 the municipality of Brussels built a public abattoir and abolished all private slaughter-houses.[2] It was just about this same period that from being merely a fort and a settlement Chicago reached the more dignified position of incorporation as a city and in 1837 it had a population of 4170 inhabitants. What an immensely wealthy town Chicago would have been to-day had it then and there followed the example of Brussels and built its own abattoir. But it need not have adopted such a progressive policy so early in its history. In 1850 there were but 29,963 inhabitants, though by 1860 this number had grown to 109,206. There was then still time to act and it was not till 1870 that Chicago became one of the leading commercial centres of the United States. There were then 306,605 inhabitants. The next year a large portion of the city occupying three and a half square miles, and on which stood 17,500 buildings, was burnt down. The property destroyed was estimated at £40,000,000 and some 100,000 people were rendered homeless. Here, then, was an opportunity for the adoption of heroic measures, and in view of likely future local developments the most obvious of all such measures was the prohibition of private slaughtering so as to secure at once the protection of public health and the creation of public revenues. In 1903 the population of Chicago was estimated at 1,873,880 and the killing to provide meat for such a number of people represents a large and remunerative business. But this is a very small part of the killing done at Chicago. The supply of animal food by cold storage, by curing, pickling, or tinning is provided at this centre for all parts of America—indeed, for all parts of the world.

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[1] Excerpts only have been transcribed.

It is estimated that between 3,000,000 and 4,000,000 cattle are taken to the Chicago stockyards annually. The number of hogs is set down at from 7,000,000 to 8,000,000 and there are from 3,000,000 to 4,000,000 sheep. Some of these animals are sold to farmers, to cattle breeders, or to exporters of live cattle destined to be slaughtered abroad. But the greater proportion, from two-thirds to three-quarters of these animals, is killed on the spot. Berlin may serve as a comparison with Chicago, for there we find probably the largest State and municipal abattoir in existence. All that relates to the transport of the cattle and so on is in the hands of the State, while the buildings for slaughtering belong to the Berlin municipality. The system of payment is, as usual, a fixed charge per head for the use of the accommodation and the control supplied by the authorities. The highest charge in proportion to their size and value is that made for hogs. This is natural because much more careful examination is necessary. The owner therefore has to pay 1.50 marks for every pig killed. But of this sum no less than .80 pfennigs go to the cost of examination, 25 pfennigs for the working expenses, and 55 pfennigs as the salary of the microscopist; so that the charge for the actual slaughtering is only 70 pfennigs. A higher price might be obtained in America than in Germany, yet even at the Berlin estimate we may reckon in American money 40 cents per hog and at the rate of 6,000,000 hogs this would make an income of $2,400,000 per annum, but there were actually 6,648,449 hogs killed here in 1902. For cattle at Berlin the charge is 1.90 marks per head, of which only 50 pfennigs are required for examination. In America this would equal in round figures half a dollar, or for 3,000,000 cattle, including calves, $1,500,000 per annum. There remain some 3,000,000 sheep at 30 cents each, or $900,000. Therefore the cattle, hogs, and sheep, even at the Berlin rate for slaughter-house fees, would at Chicago bring in at least $4,800,000 per annum. But a great amount of poultry is killed here and there is also a very large horse market, so that the present amount of business done might easily bring in more than $5,000,000 or £1,000,000 per annum to the Chicago municipality. With such an income it would be easy to defray the working expenses and to repay the loan made for building the public abattoirs; there would then remain an increasing revenue which the town might utilise for the reduction of taxation or for the carrying out of works of public utility. Such is the opportunity which the municipality of Chicago has missed.

Nor does the matter end here. It must be clearly understood that no one possessing technical knowledge of the question would buy meat from Chicago if it were possible to obtain it at about the same price and quality from an efficiently controlled municipal slaughter-house such as exists at Brussels, Berlin, Paris, and many other great railway and canal navigation centres. It will scarcely be believed, but it is nevertheless a fact, that at Chicago not only is there no municipal abattoir but there are no private abattoirs in the technical sense of the term. It is true that millions of animals are slaughtered annually but they are not slaughtered in slaughter-houses. For many hours I wandered about the stockyards and I saw many animals killed but nowhere could I discover the smallest trace of a slaughter-house. The animals were killed not in abattoirs but in mills or factories—huge, hideous box-shaped buildings five and six storeys high. The pigs notably were killed on the second or third floor of these buildings. As for all the principles of sanitation laid down to govern the construction of abattoirs, these were ignored from the first to the last. Consequently the insecurity is so great that several nations of the more civilised parts of the world have thought it necessary to enact special laws against Chicago. The exportation of pork products from Chicago to Germany, Austria, France, and Denmark is prohibited unless accompanied by a certificate issued, not by any local authority, but by the Government of the United States itself. The entire American nation thus pledges its honour that no product that has not been carefully examined under the microscope shall be exported from Chicago to those countries. As for American citizens or for British citizens it does not matter. They may swallow trichinæ wholesale; no one seems to think it is worth while to attempt to protect them. Yet it was formerly shown that of the hogs taken to market 3 per cent. were infected with trichinæ. Fortunately some Governments, especially the German Government, have taken energetic measures to prevent the spread of trichinosis and therefore hog rearers and dealers are more careful. Greater attention is now bestowed on the rearing of pigs and consequently the prevalence of this serious disease is considerably reduced. The inspectors appointed by the central Government at Washington cut three different samples from each pig killed at Chicago which is to be exported to the countries mentioned. These samples are examined for trichinæ under the microscope. Instead of 3 per cent., as formerly, only 1½ per cent. of the animals examined at Chicago are found to be infected with this disease. But the pork products prepared for the American and the British markets are not so examined and this though it is known that on an average 1½ per cent. of the total are infected with trichinæ. Fortunately, this parasite is generally destroyed by cooking but there are some sausages made with raw pig's meat and it is difficult to understand why precautions judged necessary by so many continental nations should not be equally needed to protect the American public and the British public. Of course, if there were at Chicago an abattoir managed on similar lines to that at Berlin none of the existing hostile legislative and protective measures now enforced against the produce of the Chicago stockyards would be necessary nor would they have been enacted.

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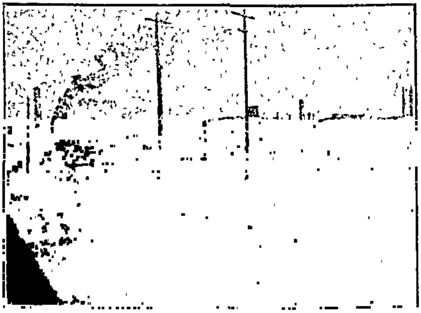
[1] THE LANCET, July 14th, 1894, p. 101.

[2] THE LANCET, Dec. 17th, 1892, p 1409.

Several years ago when in Servia, I was consulted by the authorities as to what could be done to improve the material resources of the country. The founders of both rival dynasties, the Karageorgewitch and the Obrenovitch houses, had been engaged in the rearing of pigs. Indeed, pigs and prunes are the principal products of the country, so I urged that instead of sending at great cost living pigs to the Hungarian markets a model slaughter-house should be constructed according to the latest principles of sanitary science. Close to Belgrade, either on the banks of the Save or of the Danube, there is an abundance of vacant space admirably suited for such a purpose. Here shambles made mainly with iron and glass, bathed in daylight and sunlight, with double ventilating roofs, could be constructed. Of course, there would be good laboratories for bacteriological research and microscopical examination. With such measures and precautions the products might attract many purchasers by reason of the security which enlightened scientific and State control would insure. Is it now too late for such arguments to be applied at Chicago?

As the stockyards of Chicago cover an area of some 500 acres no general view can be obtained but the accompanying illustration (reproduced from a photograph which I was able to take of a small portion of the stockyards) shows three things. First, that there is a large amount of vacant ground in their immediate neighbourhood; therefore a model abattoir could be built sufficiently close for the continued utilisation of such portion of the existing plant as is fit to be preserved. Secondly, the factory character of the buildings will be noted, though it will be difficult for anyone to believe who has not seen that it is in such buildings that the animals are actually slaughtered. Thirdly, one chimney, at least, forcibly illustrates with what recklessness and utter indifference to public welfare the atmosphere is befouled by the blackest of smoke.

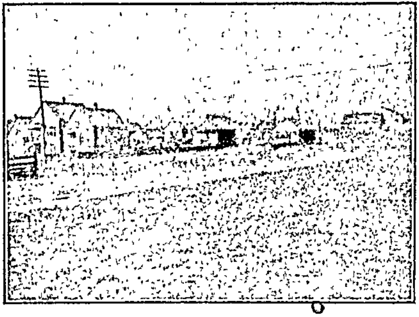
FIG. 1.



Chicago. The stockyards. View showing the factory character of the buildings in which the slaughtering is done, the amount of vacant space at hand, and the smoke nuisance.

The next illustration is reproduced from a photograph which was taken from an open and large space of waste ground in Forty-eighth Street. Here a portion of "Packing Town" may be seen—namely, the wooden cottage homes of the people who work in the stockyards at packing and preparing the meat to be sent to all parts of the world. In the background the smoke and escaping steam from the stockyards can again be noted. It will be seen how sparsely the ground is built upon and that, therefore, land must be comparatively cheap. Consequently there should be no insurmountable financial difficulty in securing a suitable and sufficiently extensive site for the erection of sanitary slaughter-houses such as exist in most civilised countries. In the construction of the cottages it will be observed that in spite of the abundance of land they are sometimes placed too close to each other. The cottages to the left of the picture have barely three feet of open space between them. This would not matter so much were it not for the fact that some of the cottages are so long or deep that windows have to be cut in the walls of the narrow passage between the dwellings. Such windows receive insufficient air, but little light, and no sunshine. This is one of the many instances showing with what thoughtless disregard of human health interests cheap dwellings are sometimes erected. On the other hand, the vast amount of waste ground, the scattering of the dwellings, and the absence of overcrowded streets are some of the principal reasons why the insanitary condition of the stockyards has not produced as much injury to the people who work in them as otherwise might be expected.

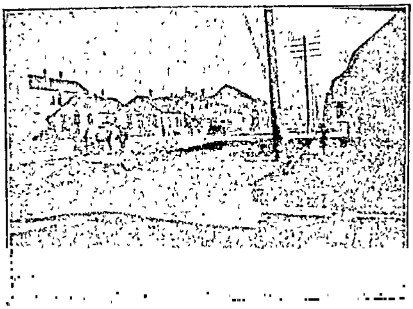
FIG. 2.



Chicago. "Packing Town," from Forty-eighth Street, showing the workers' cottages, the large amount of open space, and the stockyards smoke nuisance in the rear.

Going to the more populated end of Forty-eighth Street—that is, near Ashland Avenue which is the main thoroughfare of the district—I was startled to find that men and horses were engaged in ploughing the street. It is true that they were not going to sow wheat in the middle of the thoroughfare but the fact that it was possible to plough a street without interfering too much with the traffic indicated how slight that traffic must be and consequently how very little crowding there is in the neighbourhood. As it will certainly be maintained that the vital statistics do not demonstrate that any great harm is done by the stockyards, it is important to bear these facts in mind. It does seem as if the unwholesomeness of the stockyards is to a large extent counteracted by the healthy character of the workpeople's houses. In Berlin, Paris, and many other European towns there are reverse conditions—namely, proper, clean slaughter-houses with plenty of light and sunshine but the workers are compelled to live in crowded tenement houses built in the narrow streets of teeming cities. The accompanying illustration (Fig. 3) shows the enormous amount

FIG. 3.

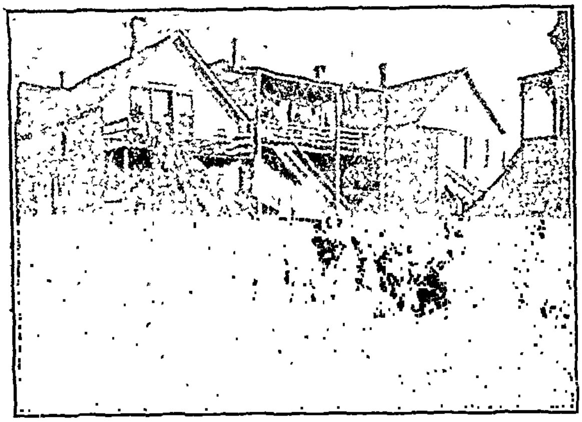


Chicago. Ploughing in Forty-eighth Street.

of open space enjoyed even in the more populated end of Forty-eighth Street. The photograph was taken at the lunch hour. In the foreground the horses are resting by the side of the plough and it will be seen how they have ploughed up the earth in the middle of the street. To the right a curbstone stands up above ground to the height of more than one foot, a very convenient contrivance for tripping people up in the dark. The object of ploughing the middle part of the street was to loosen the earth so that it might more easily be lifted and thrown on the other side of this curbstone and thus the level of the side walk would be raised a little above that of the street. Of course, there is no pavement and, indeed, the whole of the district is more like a country settlement than a town. When the population increases, if great reforms are not accomplished at the same time, there will be serious consequences.

Finally, I took a photograph of a house in this same neighbourhood where there has been an exceptional prevalence of tuberculosis (see Fig. 4). The front opens on to a very broad street so I photographed the back of the house where the conditions are not so good and yet it will be seen how large is the amount of open space. Indeed, no fault can be found topographically with this house. The workpeople engaged at the stockyards may consider themselves very fortunate to be able to live in what, so far as breathing space is concerned, is more like the country than a city boasting of nearly 2,000,000 inhabitants, but when they leave their homes to work within the stockyards then indeed they have good cause to complain.

Fig. 4.



Chicago. "Packing Town." Workers' dwelling where there have been many cases of tuberculosis.

(*To be continued.*)

THE SERVICES.

Royal Navy Medical Service.

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet-Surgeon John Speare Lambert has been placed on the Retired List, with permission to assume the rank of Deputy Inspector-General of Hospitals and Fleets (dated Dec. 22nd, 1904) and Surgeon Arthur Heaword Prichard has been placed on the Retired List (dated Dec. 19th, 1904).

The following appointments are notified:—Surgeons: E. R. Grazebrook to the *Cambridge*, additional, for the *Theseus*, and F. J. McKenna to the *Hussar* on commissioning.

Royal Army Medical Corps.

Lieutenant-Colonel (temporary Surgeon-General) A. Keogh, C.B., to be Colonel, vice W. Donovan, C.B., promoted (dated Dec. 2nd, 1904). Lieutenant-Colonel J. I. Routh to be Colonel, vice A. Keogh promoted (dated Dec. 3rd, 1904). Colonel A. H. Anthonisz is placed on retired pay (dated Dec. 22nd, 1904).

Army Medical Staff.

Colonel W. Donovan, C.B., from Royal Army Medical Corps, to be Surgeon-General, vice Sir W. Taylor, K.C.B., K.H.P. (dated Dec. 2nd, 1904). Colonel (temporary Surgeon-General) A. Keogh, C.B., from Royal Army Medical Corps, to be Surgeon-General, to complete establishment (dated Dec. 3rd, 1904).

Army Medical Service.

Surgeon-General A. Keogh, C.B., is appointed Director-General, vice Sir W. Taylor, K.C.B., K.H.P., retired (dated Jan. 1st, 1905).

Army Medical Reserve of Officers.

Captain H. W. Thomson, Glasgow Companies, Royal Army Medical Corps (Volunteers), to be Surgeon-Captain (dated Dec. 24th, 1904).

Volunteer Corps.

Royal Garrison Artillery (Volunteers): 1st Gloucestershire: Surgeon-Lieutenant-Colonel D. S. Davies resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated Jan. 4th, 1905). 2nd Sussex: Surgeon-Major H. Habgood to be Surgeon-Lieutenant-Colonel (dated Jan. 4th, 1905).

Rifle: The Cambridge University: Surgeon-Lieutenant H. B. Roderick to be Surgeon-Captain (dated Jan. 4th, 1905). 1st Bucks: Supernumerary Surgeon-Major (Brigade-Surgeon-Lieutenant-Colonel) W. H. Bull (Senior Medical Officer, Home Counties Volunteer Infantry Brigade) to be Surgeon-Lieutenant-Colonel and to remain seconded (dated Jan. 4th, 1905). 1st Sutherland (The Sutherland Highland): Surgeon-Lieutenant S. Elliot resigns his commission (dated Jan. 4th, 1905). 7th Middlesex (London Scottish): Surgeon-Lieutenant-Colonel J. Cantlie resigns his commission and is granted the honorary rank of Surgeon-Colonel with permission to wear the prescribed uniform (dated Jan. 4th, 1905).

Royal Army Medical Corps (Volunteers).

The London Companies: Captain A. Granville is seconded whilst holding a civil appointment under the Egyptian Government (dated Nov. 28th, 1904); Surgeon-Captain E. A. Snape, from the 2nd Middlesex Royal Garrison Artillery (Volunteers) to be Captain (dated Jan. 4th, 1905). The Manchester Companies: Gordon William Fitzgerald to be Lieutenant (dated Jan. 4th, 1905).

Indian Honours.

Major Robert Bird, I.M.S., surgeon to the Viceroy and Governor-General of India, has been appointed a Companion of the Most Eminent Order of the Indian Empire.

Mountainous Tibet.

We have already dwelt upon the very difficult geographical features of the country which was the scene of the late Lhasa expedition. The following will give some idea of these and of the altitudes traversed by the troops. The Karo-la has an elevation of 18,500 feet; the mean altitude is over 16,500 feet, the valleys being from 14,500 to over 17,000 feet, the peaks from 20,000 to over 24,000 feet, and the passes from about 16,500 to 19,000 feet.

The War in the Far East.

The first act at any rate in the tragic drama that has been so long going on in the Far East has come to an end and the curtain has fallen with the capitulation of Port Arthur. Whether it is to be continued or not will, we suppose, materially depend upon the internal state of affairs in Russia. The news of the surrender of the beleaguered fortress has been received by all civilised nations with an intense feeling of relief. General Stoessel, whose heroic defence all must admire and respect, has had the moral courage to accept the inevitable and to realise that further resistance would only lead to increased suffering and a perfectly futile sacrifice of life on the part of his devoted garrison. This much may be said for the Japanese, they regarded that the seizure of the fortress by the Russians in 1897 and its continued occupation by them since that time meant a matter of life and death to their nation. They have now retaken possession of Port Arthur at an enormous sacrifice of life and treasure and with an exhibition of desperate courage and pertinacity of purpose on their part which have probably never been exceeded in the history of war. We have no intention to compare the defensive difficulties of Ladysmith and Mafeking in the late Boer campaign with those of Port Arthur but we may gratefully recall the fact that the defence of the former, happily for the British, proved successful. It is stated that there were 15,000 wounded men in the already overcrowded hospitals with only 5000 convalescents and able-bodied men available for fighting in Port

Arthur at the time of its surrender. The absorbing news regarding the capitulation of Port Arthur has naturally engrossed everybody's attention to the exclusion of events occurring elsewhere. There is, however, little or no news concerning the belligerent armies. They still remain inactive but confronting one another on the Shaho. The Russian field kitchens used by the troops are very good and have enabled them to partake of a warm meal at all sorts of times and places. The ambulatory kitchens supply them with hot soup and tea at night or during an engagement. The reports regarding the health of the troops are somewhat contradictory and it is very difficult to ascertain their actual condition in this respect.

A message from Moscow to the *Novoe Vremya* says that as 12 per cent. of the wounded from the Far East return with open bullet wounds the city council has decided to acquire a Roentgen-ray laboratory for the purpose of searching the wounds of those brought into Moscow.

A telegram has been received in Moscow from the city Red Cross representative in the Far East that out of the 120 packets sent there in July and August over 100 were lost, including a quantity of Roentgen-ray apparatus so necessary for use in treating the wounded.

Major Louis L. Seaman, who is a major and surgeon in the United States Volunteers, has just published a book on the Japanese Army in Manchuria. Major Seaman served in Cuba during the Spanish-American war, in the Philippines, and with the allies in China at the time of the Boxer rising, and is consequently entitled from his experience to speak with authority. Major Seaman is unstinting in his praise of the Japanese Army Medical Service, both from the sanitarian standpoint and from that of practical and scientific medicine and surgery. The object of the Japanese Medical Service has been to prevent rather than to cure disease, and how successful the effort has been is shown in the fact that fighting in a notoriously unhealthy country the Japanese army has suffered but little from [illegible] of which 6636 were cases of the wounded; of the entire number up to that time only 34 had died." The results at the naval hospital at Sasebo were equally gratifying. Major Seaman gives a long account of the medical officer in the field and institutes comparisons between the Japanese army medical department and those of the most highly civilised nations, which are by no means flattering to the latter It would appear from a perusal of Major Seaman's book that the Japanese Army Medical Service has not only successfully imitated the best European methods but has even improved upon them.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7617 births and 6567 deaths were registered during the week ending Dec. 31st, 1904. The annual rate of mortality in these towns, which had been 18·6, 19·2, and 19·4 per 1000 in the three preceding weeks, further rose to 22·4 per 1000 last week. In London the death-rate was 21·0 per 1000, while it averaged 23·1 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 9·6 in York, 11·7 in King's Norton, 11·8 in Willesden, 12·0 in East Ham, 12·2 in Walthamstow, 12·8 in Leicester, and 13·1 in Handsworth (Staffs.); the highest rates were 28·6 in Huddersfield, 29·5 in Preston, 30·0 in Sunderland, 32·4 in Middlesbrough, 33·0 in Stockton-on-Tees, 33·3 in Oldham, 35 2 in Manchester, and 36·7 in Hanley. The 6567 deaths in these towns last week included 475 which were referred to the principal infectious diseases, against 438, 421, and 399 in the three preceding weeks; of these 475 deaths, 152 resulted from measles, 105 from whooping-cough, 80 from diphtheria, 54 from diarrhœa, 50 from scarlet fever, 31 from "fever" (principally enteric), and three from small-pox. No death from any of these diseases [illegible] on, Willesden, Hornsey, [illegible] ng, Handsworth (Staffs.), [illegible] or Rotherham; while the [illegible] in Great Yarmouth, Bristol, Hanley, Burton-on-Trent, Grimsby, Nottingham, Liverpool, St. Helens, Oldham, Blackburn, Stockton-on-Tees, and South Shields. The greatest proportional mortality from measles occurred in Devonport, Bristol, Leicester, Grimsby, Nottingham, Liverpool, St. Helens, Stockton-on-Tees, Gateshead, Tynemouth, and Merthyr Tydfil; from scarlet fever in Northampton, Coventry, and Blackburn; from diphtheria in East Ham; and from whooping-cough in Great Yarmouth, Bristol, Hanley, Derby, St. Helens, Oldham, Middlesbrough, and South Shields. The mortality from "fever" and from diarrhœa showed no marked excess in any of the large towns. Of the three fatal cases of small-pox registered in these towns last week one belonged to Bolton, one to Preston, and one to Bradford. The number of small-pox cases under treatment in the Metropolitan Asylums hospitals, which had been four, six, and 14 at the end of the three preceding weeks, had further risen to 17 at the end of last week; five new cases were admitted during the week, against one, two, and nine in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2386, against 2490, 2403, and 2393 at the end of the three preceding weeks; 201 new cases were admitted during the week, against 263, 242, and 242 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 448, 487, and 416 in the three preceding weeks, rose again last week to 521, and were 115 above the number in the corresponding period of last year. The causes of 123, or 1·9 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Leicester, Nottingham, Bolton, Bradford, Leeds, and in 29 other smaller towns; the largest proportions of uncertified deaths were registered in Burton-on-Trent, Birmingham, King's Norton, Liverpool, Bootle, Warrington, Manchester, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 19·7, 22·6, and 21·2 per 1000 in the three preceding weeks, rose again to 21·6 per 1000 during the week ending Dec. 31st, but was 0·8 per 1000 below the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 15·3 in Dundee and 16·2 in Leith, to 25·4 in Aberdeen and 27·7 in Perth. The 715 deaths in these towns last week included 40 which were referred to whooping-cough, 20 to measles, 12 to diarrhœa, two to scarlet fever, two to diphtheria, and two to "fever." In all, 78 deaths resulted from these principal infectious diseases last week, against 68, 80, and 90 in the three preceding weeks. These 78 deaths were equal to an annual rate of 2·4 per 1000, which was 0·8 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 38, 32, and 31 in the three preceding weeks, rose again last week to 40, of which 29 occurred in Glasgow, four in Edinburgh, three in Perth, and two in Leith. The deaths from measles, which had been ten, 17, and 19 in the three preceding weeks, further increased to 20 last week, and included 15 in Aberdeen and four in Glasgow. The fatal cases of diarrhœa, which had been 15, 16, and 25 in the three preceding weeks, declined again last week to 12, of which six were registered in Glasgow, three in Aberdeen, and two in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 204, 206, and 174 in the three preceding weeks, rose again last week to 184, and were seven in excess of the number in the corresponding period of the preceding year. The causes of 29, or more than 4 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·2, 25 3, and 24·5 per 1000 in the three preceding weeks, rose again to 25 0 per 1000 during the week ending Dec. 31st. During the 13 weeks ending on that date the death-rate has averaged 23·1 per 1000, the rates during the same period being 17·0 in London and 16·2 in Edinburgh. The 182 deaths of persons belonging to Dublin registered during the week under notice were four in excess of the number in the preceding week, and included 26 which were referred to the principal infectious diseases, against 14, 10, and 12 in the three preceding weeks; of these, 16 resulted from measles, six from diarrhœa, two from whooping-cough, one from scarlet fever, and one from "fever," but not any from small-pox or diphtheria. These 26 deaths were equal to an annual rate of 3·6 per 1000, the death-rates last week from the principal infectious diseases being 1·4 in London and 1·3 in Edinburgh. The fatal cases of measles, which had been six and ten in the two preceding weeks, increased last week to 16. The deaths from diarrhœa, which had been one, three, and one in the three preceding weeks, rose again to six last week. The 182 deaths in Dublin last week included 40 of children under one year of age and 48 of persons aged 60 years and upwards; the deaths of infants slightly exceeded the number in the preceding week, while those of elderly persons showed a decline. Three inquest cases and three deaths from violence were registered; and 74, or more than a two-fifths, of the deaths occurred in public institutions. The causes of eight, or more than 4 per cent., of the deaths registered in Dublin last week were not certified.

Correspondence.

"Audi alteram partem."

HOW THE GENERAL MEDICAL COUNCIL SUPPORTS ITS VISITOR AND INSPECTOR.

To the Editors of THE LANCET.

SIRS,—Having completed my work as inspector of the General Medical Council, and after the fierce attack made on Nov. 28th by its (past) President upon the accuracy of the report of the visitor and inspector of the Council upon the final examination of the University of Edinburgh, and my inability to get Sir William Turner to give both sides of the question which has been raised, I must ask you to publish the following inclosures.

I am, Sirs, yours faithfully,
Grosvenor-street, W., Dec. 26th, 1904. THOMAS BRYANT.

27, Grosvenor-street, London, W., Dec. 6th, 1904.

DEAR SIR WILLIAM,—I have just read and re-read the speech you made from the chair at the stormy meeting of the General Medical Council of Nov. 28th on the proposal of the chairman of the Examination Committee for the adoption of the report of the committee on the final examination of the University of Edinburgh, and I must add that I read your speech with sorrow and astonishment, for it was quite clear that you had on the occasion allowed your anger to obscure your judgment and consequently to make statements such as the facts in the report I signed with Sir G. H. Philipson by no means justify.

For instance, you quoted the following passage from the inspector's report,[1] and then said "you were going to *question the truth of the paragraph*," and you did this without drawing any attention of the members of the Council to the reasons given in the visitor and inspector's report for writing that paragraph, and which are to be read in the two paragraphs preceding the one you had quoted on page 13.[2]

Might I ask, are not the above reasons for such an opinion as is contained in the paragraph you quoted worthy of consideration? and was it quite fair (to use a mild expression) for the President of the Council to put only one side of a question before its members on such an important matter as was then under consideration?

You then made some rather wild remarks about a clinical examination at the bedside, as you understand it, in Edinburgh and drew some inferences which are your own, whilst my remarks, which you quoted (p. 14) and made fun over, had special reference to a more humane and better method such as is followed by the professor of surgery of Edinburgh University and successfully practised by him and others, the adoption of which would enable your professor of clinical surgery to give up using sick patients in a hospital ward for purposes of examination in surgical anatomy and surgical operations in the presence of other sick patients, as well as of their male and female visitors, and more particularly when these same surgical patients had been previously for the better part of two hours in the hands of the candidates for examination in taking a report of their cases.

Am I to understand that you approve of the practice my colleague and I saw carried out in the way described and which we say is neither humane nor decent? for the faculty of your University, I was pleased to read, admits that the criticism of the visitor and inspector with respect to patients' friends in the wards is reasonable, page 33, (2) and that other of our suggestions will have the careful consideration of the faculty. At the same time the faculty, in page 35 of the report, condemn the visitor and inspector for the opinion they gave and which is contained in the sentence you have quoted. When that sentence was penned, as I have shown to have been the result of the extraordinary arrangements which have been described and which must have spoiled any clinical surgical examination, however otherwise excellent.

The questions the examiners gave may have been good, but in the practical examination they were not applied and were not tested; the examination, in fact, was all talk, nothing practical.

I could say something about the report of the Examination Committee, for it illustrates the "doubtful" condition of the chairman's mind. He saw only in the report what he wanted to see and nothing else. The report, moreover, of the Examination Committee is not accurate.[3]

I write this letter to ask what you mean to do. You admit that "to three-fourths of the examination the visitor and inspector could not have spoken in much higher terms," and this pleasant part of the report you accept as true, whereas you deny the truth of the criticisms of the surgical fourth which are as true as the other three-fourths.

If you have any thought of making the matter clear, so much the better. At present both you and the Examination Committee, by singular methods, obscure the truth which must be made clear.—Believe me, yours faithfully,

Sir W. Turner, K.C.B. THOMAS BRYANT.

Receiving only an evasive answer to this letter I sent the following:—

Grosvenor street, W., Dec. 20th, 1904.

DEAR SIR WILLIAM,—I have just returned from Oxford, having finished the inspection of the final examination in medicine of the University and find your answer to my letter of Dec. 6th.

In your letter you have evaded the questions I put to you

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[1] "During the three afternoons we (the inspector and visitor) devoted our attention to this part of the surgical clinical examination, not a patient was placed in the position of one who had to undergo the operation suggested. No mention was made of assistants or the use of instruments which might be required. No attempt was made practically to get out of any candidate any precise knowledge of the relation of an artery or nerve beyond what book knowledge would have given him; indeed, the examination was so unsatisfactory that we were enabled to realise the truth of the adverse criticisms we have heard of this method of examination in a way which we never before believed to have been possible."

[2] "Immediately on the conclusion of Part A of this clinical examination the candidate was required to carry out Part B and under another examiner to indicate upon the patient whose case he had reported, and upon whose case he had been examined, the lines of incision for two operations which had been previously indicated; upon the same patient he had, moreover, to be examined on surgical anatomy and surgical procedures, and it must be added that all this serious work was carried out in a ward to *which the patients' friends and visitors, male and female, were freely admitted.* It need hardly be added that, under these circumstances, exposure of any part of the patient's body which was so essential for examination purposes was inadequate or impossible and that the examination suffered seriously in consequence."

[3] Page 42. The chairman of the Examination Committee finds fault with the visitor and inspector for not having expressed an opinion as to the standard of the examination in [illegible]
when the slightest care woul [illegible]
of only two candidates had b [illegible]
wished that such a blunder had been committed to give him some reasonable excuse for fault finding. In the same page he states that no opinion is expressed by the visitor and inspector as to the standard of the oral examination in general surgery (p. 18). Had the chairman read to the bottom of page 19 he would have read that they were (visitor and inspector) much pleased with both the oral and practical surgical examination.

Page 44, the last 17 lines. After a quotation, the Examination Committee state that the medical faculty of the University do not admit the accuracy of the statements of the visitor and inspector and *from notes furnished by the examiners* the faculty is satisfied that the examination in surgical anatomy was not only appropriate but very searching. Happy faculty! who are satisfied with conditions they did not see and with an examination they did not hear, when the visitor and inspector *saw* what they have described on *three consecutive afternoons* and heard the examinations upon which they have given their opinion and to which they adhere and I therefore for a second time repeat them in a categorical form and trust that you will consider them worthy of your attention.

Question 1.—Was it quite fair (to use a mild expression) for the President of the General Medical Council to put only one side of a question before its members?

Answer ....

Question 2.—Do you deny the truth of the following paragraph? Page 13 of report.

Immediately on the conclusion of Part A (about which no remarks are called for) "the candidate was required to carry out Part B, and under another examiner to indicate upon the *patient whose case he had reported*, and upon whose case he had been examined, the lines of incision for two operations which had been previously indicated; upon the same patient he (the candidate) had, moreover, to be examined on surgical anatomy and surgical procedures, and it must be added that all this serious work was carried out in a ward *to which the patients' friends and visitors, male and female, were freely admitted.*

Answer ....

Question 3.—Do you consider that such arrangements are from any point of view satisfactory?

Answer ....

Question 4.—Do you think it possible under such arrangements as have been described that any examination on surgical anatomy and surgical procedures could be otherwise than a failure?

Answer ....

Believe me, Sir William, yours faithfully,

Sir W. Turner, K.C.B. T. BRYANT.

To which on Dec. 23rd I received the inclosed:—

University of Edinburgh, Dec. 23rd, 1904.

DEAR MR. BRYANT,—I am in receipt of your letter of Dec. 20th, in which you ask me to reply to a series of questions put by you in a categorical form. In reply, I would state that the report on the final examination of this University is a public document open to criticism. It has been criticised by the Examination Committee of the Medical Council, by the Faculty of Medicine of this University, and by myself as the representative of the University on the Council. Those interested in the matter have the means therefore of forming an opinion on the points under discussion.

With all respect to yourself personally I decline to be further catechised on the subject.

I remain, very truly yours,

Thos. Bryant, Esq. WM. TURNER.

HÆMOCONIA.

To the Editors of THE LANCET.

SIRS,—I read with much interest Dr. Andrew Love's article on Hæmoconia in THE LANCET of Dec. 24th, 1904, p. 1781. I have been investigating those bodies for a considerable time and my observations regarding their classification correspond with his. I have found them in every blood I have examined with the exception of two cases. The blood in these cases was abnormal in this respect that coagulation of the drop appeared to take place as soon as the puncture was made. I had a difficulty in spreading the films and they showed on examination large solid-looking plates of fibrinous material. Hæmoconia were entirely absent in both cases, although I searched for them for hours. The group No. 2 of Dr. Love's classification I have found freely motile in a film closed with vaseline after three days. I have found group No. 2 in a urine I examined and in this patient's blood these bodies were present in great abundance; the whole plasma appeared scintillating with them. As yet I have come to no conclusion as to their prognostic significance. I have found them as freely in persons who are in perfect health as in those who suffer from disease. In some, however, there are few to be found, while in others they are numerous. I examined my own blood and found them very numerous and so far as I know was suffering from no disease at the time. I have also failed to stain them though I have tried every method available. At present I should not care to advance any theories regarding their function but I think they are well worthy of further investigation.

I am, Sirs, yours faithfully,

Edinburgh, Dec. 27th, 1904. FREDERICK PORTER, M.B. Edin.

INSTRUCTION OF THE LAITY IN THE EARLY SIGNS OF CANCER.

To the Editors of THE LANCET.

SIRS,—Mr. Skene Keith in his letter to THE LANCET of Dec. 24th, 1904, p. 1811, in one sentence objects to the public being instructed in the early signs of cancer on the ground that an omniscient first-aid graduate might undertake to differentiate between a malignant and an innocent growth, and in the next sentence says, "What the public require to be taught is to seek advice early." How the laity is to be "taught to seek advice early" without being educated in the early signs of cancer Mr. Keith has failed to explain and has at the same time entirely overlooked the fact that my letter from beginning to end advocates early appeal, not to the first-aid graduate but to the medical man as the judge who is to decide whether a growth is sufficiently suspicious to need removal. Quacks who flourish on cases of cancer, real or imaginary, will always exist; the number of their victims can only be diminished by educating the public in the signs and treatment by operation of cancer in its early stages.

The suggestion that many medical men need instruction in the early signs of cancer, true as I know it to be, is beside the mark, for the simple reason that however well informed the medical man may be he cannot recognise a case of cancer in its early stage unless the patient comes to be examined, and the patient who usually regards pain as the distinctive feature of cancer does not consult a medical man until driven to do so by the onset of pain, which frequently means that the growth has involved surrounding structures and is totally beyond cure or is curable only by a very severe and mutilating operation.

Mr. Keith wishes to know whether prevention includes the removal of every growth as soon as found. To this the answer is, Certainly not. A growth which has no suspicion of malignancy, is not enlarging, is not ulcerated, and is producing no symptoms should, unless its removal is desirable for æsthetic reasons, be left severely alone. But any growth which has any suspicious sign of malignancy, such as increase in size, persistent ulceration, or pain, should be removed. Removal of these small defined growths is easy, the risk of operation infinitesimal, and the chances of recurrence small. But when the growth has increased in size and invaded adjacent structures, with, perhaps, the formation of secondary deposits, the operation for its removal becomes correspondingly difficult and the chances of freedom from recurrence correspondingly diminished. Whether the earliest stage of a suspicious growth is precancerous and its removal by operation preventive rather than curative is a point of theoretical rather than practical interest.

The causes of cancer being still, in spite of alleged discoveries of cancer germs, absolutely unknown there is no immediate probability of our being able to prevent the formation of growths which, whatever their primary characteristic, ultimately become malignant. What we can and ought to do, is to teach the laity to have removed at once every suspicious growth while its removal is easy and the risk of the operation practically *nil*, and in this way give the growth no chance of demonstrating its innocency or malignancy. If Mr. Keith will work on these lines he will find that he can afford to disregard "the cures in the daily papers" and will have "a really practical method of prevention," not of the formation of tumours but of the development of these tumours into growths which ultimately kill patients.

I am, Sirs, yours faithfully,

Plymouth, Jan. 1st, 1905. C. HAMILTON WHITEFORD.

OPERATIVE TREATMENT OF RESULTS OF CONSTIPATION.

To the Editors of THE LANCET.

SIRS,—Dr. A. G. Barrs in THE LANCET of Dec. 31st, 1904, p. 1888, asks Mr. W. A. Lane for an account of the ante-mortem and post-mortem observations upon which his description of the changes taking place in the intestine and its peritoneal coat is founded. As Mr. Lane's house surgeon I have had the opportunity during the past three months of seeing him operate on six cases of chronic constipation. In every instance the small intestine was dilated and flabby; in four I could distinctly see bands running upwards and outwards from a dilated colon; while in the other two I had not personally the opportunity of seeing or feeling the cæcum. On consulting my predecessors during the past year I find that they can recall 16 cases in which they saw similar adhesions about a dilated cæcum. I believe that very few post-mortem demonstrators make a thorough examination of the intestines and peritoneum *in situ*, so that it is not surprising that the effects of chronic constipation observed at these operations have not previously been described by pathologists.

I am, Sirs, yours faithfully,
Guy's Hospital, Dec. 31st, 1904. J. H. Clatworthy.

CANCER GENESIS.

To the Editors of The Lancet.

Sirs,—Referring to the letter upon this subject in your issue of Dec. 3rd, 1904 (p. 1613), the controversy was not of my seeking and at your request in my reply brevity will be aimed at. No attempt will be made to follow your correspondent in his remarks upon the University of Edinburgh or in his personal attack upon myself. He mentions that he sent me a copy of his book in July, 1902. This at once recalled the book and all about it to my memory. I read it upon its arrival and I knew where it stood in my bookshelves but I had failed to associate the name of your correspondent with the authorship of that book.

Perhaps by a few references to "The Principles" I may be able to demonstrate more clearly the nature of the divergences between us. On p. 66 the author writes: "But in the higher organisms certain cells never attain a high degree of development: they remain in a lowly organised condition, and serve, according as they are more or less unspecialised, either as germs for reproducing the entire individual, or for forming and maintaining the various tissues and organs. Such cells are found in all growing parts; they are the only real cancer and tumour germs." In the first place, if this be true, it would follow that a tumour could not be a twin homologous or identical with the individual containing it, but a new generation younger than the individual harbouring it and this is in direct contradiction with Mr. W. Roger Williams's main thesis. Secondly, while all reproductive or germ cells undoubtedly possess the potentiality of ultimately giving rise to new individuals as incidental products of their activities, it is only the unconscious memories of a certain few of them which lead to this attempt, while they inhabit as the home prepared for them the body of a higher animal, and the "germs for forming, &c." various tissues and organs do not exhibit this faculty in vertebrate animals and in all probability do not possess it. As little can it be maintained that "there is no fundamental distinction between the various modes of reproduction—sexual and asexual, &c." The whole of modern embryological and botanical opinion will be found to be in opposition to this conclusion, for it is not in accord with the facts of nature. Again, speaking of the relations of identical twins to double monsters, the author writes (p. 123): "Thus when the division of the undifferentiated embryo into two equal parts is complete, and each of these develops into a new being, homologous twins are the result; and this is the only instance of reproduction by gemmation in the highest animals." If identical twins arise in this way how do identical triplets come to pass? Does the "germ" here divide into three equal parts? If so, how does it contrive to do this and how do the conditions witnessed in certain armadillos, such as praopus hybridus, come about? Here, according to von Jhering, there are from four to 12 embryos produced from one egg, all of the like sex, all homologous or identical, and some of them more or less rudimentary. These are facts, not fables, for the discovery has been confirmed by Koelliker, and Sir William Turner has informed me that he himself has seen and worked upon them but that he has never published any of his finds. Is Mr. Williams or anyone else able to conceive that a "germ"—i.e., a blastoderm—can so "split" as to form 12 identical embryos? Why, moreover, are they all in the one trophoblast or chorion—a part of "the embryo" according to orthodox embryology—if this "splitting" have happened? If this be the explanation of all the above phenomena in the higher animals why can it not be applied to the lower ones and to plants? Do the medusæ of a hydroid polype arise by a "splitting" of a "germ" which in favourable circumstances might have given rise to one big medusa? Are the prothalli—the sexual generation—of a fern produced by splitting or does not each prothallus arise by the independent development of a single cell, here called a spore? Then there are the two kinds of identical twins—the rare "looking-glass-image" ones and the commoner sort "from the same mould." To which of the two does the explanation of the "splitting" apply and what cause lies at the bottom of the production of the other variety? "Splitting" will not account for both. The "looking-glass-image" twins are the greatest wonder in animate nature and the only possible scientific explanation of them is that they have arisen from the two products—right and left—of the division of a single cell; indeed, of an immediate forerunner of two primary germ cells. Elsewhere I have shown, and in the last two years no one has attacked the conclusion, that the primary germ cells of metazoan development (the formation of which demonstrably precedes the unfolding of an embryo and from one and only one of which "the embryo" takes its birth) are the equivalents of the spore mother cells of plants and that like the products of these, the spores, each primary germ cell has the potentiality of unfolding as an embryo. If two develop at the same time identical twins or double monsters result; if three, or eight, or 12, then the sequel is three, eight, or 12 identical embryos. Possibly the finds of so-called "experimental embryology" will be cited. This I define as "experimental pathology," for the results are either pathological or border on this science and in making his "Eingriff" the observer never knows, or can know, what he has really done.

The final examples to be cited from the "Principles" are the classification of the tumours based upon the now extinct "parablast" theory of His and the failure on the author's part to show what a malignant tumour really is, why it is malignant, and the passage to these from the teratomata. On the latter score nothing more need be said. Regarding the former, the "parablast" theory of His has long disappeared from embryology and even Professor His himself admitted its erroneous nature some few years before he died. Your correspondent is not the first medical man to make the mistake of seeing in my conclusions only another version of those of Weismann. If it be, indeed, Weismannism to deny most of the conclusions he has advanced in his "Vortraege," then, undoubtedly, I must be a very ardent upholder of Weismann's views. There are some slight differences. For example, Weismann maintains the "all-sufficiency" of natural selection, direct development, recapitulation in development, somatic origin of germ cells, a doctrine of heredity based on biophores, ids, idants, &c., germinal selection, panmixia, &c., *and all these things I deny, while with Weismann Mr. Williams advocates the first four.*

Whether my conclusions be "degenerate" or not they were at least founded on solid facts of observation, and they were not drawn without that "patiently worked-out story of the morphological continuity of the germplasm" (i.e., the germ cells) which Professor W. Osler, in the finest compliment my work has ever received, describes as "one of the fairy tales of science."[1] The facts concerning the wide and impassable gulf between somatic cells and germ cells are contained in my various memoirs: in Mr. Williams's book there is nothing of any scientific import regarding the origin and history of the germ cells. In the earlier part of his last letter to you he admits this but only to contradict it in the later portion. The doctrine of a somatic origin of germ cells was enunciated by Waldeyer in 1870. From then until 1900 on his observations alone it really rested. In 1902, after some of my work had appeared, he abandoned this view entirely and wrote: "The consequences of this doctrine of the continuity of germ cells are almost incalculable for every branch of biology." So that now the position of affairs is this, that there are no trustworthy observations whatever proving a somatic origin of germ cells in the higher animals. Moreover, in consequence of my finds such a somatic origin cannot be demonstrated, unless it also be proven that the germ cells were not in existence at earlier periods than those at which they were supposed to have arisen from somatic cells. It is not science to "believe" in a somatic origin when the main observations supposed to support this have been retracted, when the chief observations extant are opposed to it, and when there are no observations worthy the name upholding it. None the less, it may be many years before the myth completely disappears. Until then Professor Waldeyer will have repudiated his results in vain, for it will always be stated that he "proved" a somatic origin!

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[1] W. Osler Science and Immortality, London, 1904, p. 58.

In his letters, as in his book, your correspondent provides excellent texts. Of course, "a single scale from the leaf or stem of a plant suffices for the reproduction of the whole organism." But the little finger of a man's hand or a bit of his skin has not this potency and there is no comparison possible between the asexual generation of plants, the sporophyte or flowering plant, and the sexual generation of animals, "the embryo" or individual. The conditions are, however, similar in the asexual generations of the two. Just as a single scale of a flowering plant may produce the whole individual plant, so also a small bit, even a single cell, of the trophoblast may on occasion give rise to ever more and more trophoblast, and the like is true of a malignant neoplasm. In all these instances we may witness unlimited powers of growth. This is why, for example, many of our choicest and commonest flowering plants owe their origin to a single individual plant which cannot with certainty be again produced from seed. This is why the investigators of the Imperial Cancer Research Fund were able from one fragment of a mouse tumour to "grow" ever so many pounds of cancer, transplanting other little bits to new ground. This is also one reason why cancer and sarcoma cells are never embryonic or somatic.

In my first article upon cancer in THE LANCET[2] there is in a footnote a rather long reference to the experimental researches of Driesch, E. B. Wilson, and others, who have followed in the footsteps of Roux. Is your correspondent aware that more recent investigators have considerably modified some of Roux's earlier results? Among his numerous observations Professor Roux has never recorded any work upon the origin and history of the germ cells of vertebrates. That he was the first to carry out certain experiments upon eggs in cleavage has no connexion with the question of the morphological continuity of germ cells or with that of the course of the life-cycle. In his former letter your correspondent had words of praise for Herbert Spencer; in his present one he strongly condemns him along with Weismann and myself. The association of my name, even in a damnatory sense, with the honoured ones of Weismann and Spencer, two good and faithful servants of mankind, cannot be other than complimentary, and it is herewith accepted as such a compliment. The future alone will decide the strength and stability of my "craft." I venture to believe that it may perchance weather all storms, for I know only too well what amount of hard, often midnight, work, unrequited by all else except results, it and its small cargo have cost.

I am, Sirs, yours faithfully,
Dec. 23rd, 1904. J. BEARD.

*** Dr. Beard's lecture, which originated this discussion, appeared in our columns on Oct. 29th, 1904, p. 1200. We have given now as much space to the controversy as we can afford.—ED. L.

HOSPITAL "ISOLATION."

To the Editors of THE LANCET.

SIRS,—In your issue of Dec. 17th, 1904, p. 1737, you make the following quotation from a communication received from Dr. F. Lucas Benham of Exeter, South Australia. "In THE LANCET of June 13th, 1896, you will find a letter from me on 'Isolation and the Public Health Act,' in which I think I anticipated even Mr. Marriott in contending that the necessity for public hospitals for infectious diseases was far from being proved. ...... In your issue of the following week (June 20th, 1896) Mr. Berry of Wigan wrote a letter in my support and not long after Mr. Marriott of Nottingham also entered the field on the same side." From this it would appear that I have usurped without the least acknowledgment the position of another. It happens, however, that I was in active opposition to the "isolation" craze 20 (or more) years ago and that many years before the appearance of Dr. Benham's letter (which it was my misfortune not to see) I was writing voluminously on the "isolation" question. Unfortunately, I have not any of these early communications in my possession but many of them were preserved by my distinguished friend Dr. C. Bell Taylor and are still available. It must be 25 years since the "Liverpool Committee" paid me a visit and took down my evidence *in re* the working of the local Notification Acts, which evidence was published verbatim in a report which is still extant.

To those who remember the days when the aggregation of *all* sick was regarded as a mistake to be remedied by the building of cottage hospitals the advancement of so self-evident a proposition as that the aggregation of the infective sick in large permanent hospitals must be bad will not appear to justify any considerable claim to honour and glory. Let us keep in mind the fact that nobody has ever yet explained the *raison d'être* of the aggregation hospital. The earliest experiment injured or killed everybody concerned with it, which made Sir Thomas Watson exclaim that but for a certain fact, now known to have been a fiction, these institutions which "concentrate the poison" were little else than a public danger. Later down the stream of time a chief inspector of the Local Government Board, Dr. Thorne, after having sung the praises of the "isolation" hospital to the Royal Commissioners on vaccination, was telling these Commissioners that he had made a great mistake and that the establishment of isolation hospitals at Leicester and Warrington had been accompanied by a marked increase in the scarlet fever attack rate. Since then sanitarians have been urging the municipalities all over the kingdom to build these hospitals without once telling them the reason why, and nobody knows or ever knew the reason why. The method of procedure was brilliantly illustrated recently at Lincoln. A few years ago this city was visited by an epidemic of—something. Dr. L.
who always approaches these
scientific spirit, was sent down f
Board to hold an inquiry. The inspector soon discovered that whatever it was he had to deal with it was not an epidemic of scarlet fever and that the trouble was not infectious. What happened? Lincoln forthwith broke out into an "isolation" hospital and only the other day his Grace the Bishop, surrounded by his *entourage*, was pouring out a libation to the gods because at last they could send the sick citizens to a place where if they had not got scarlet fever already they very soon would get it—and something else besides—and from which they would be able to return when convalescent to sow fever—and something else besides—broadcast in the interests of public health and as an object-lesson in preventive medicine. In conclusion, Sirs, I congratulate Dr. Benham on the fact that he contented himself with a letter in THE LANCET. Had he carried the thing further he might by this time have been the *mauvais sujet* of the public health profession. Instead of the peaceful life he is now living he would, having transgressed the sacred canons of that profession, have discovered that the way of transgressors is hard and that any stick is good enough to beat a medical reformer with.

I am, Sirs, yours faithfully,
Nottingham, Dec 24th, 1904. EDWD. DEAN MARRIOTT.

THE EVOLUTION OF MAN'S DIET.

To the Editors of THE LANCET.

SIRS,—I am not sure that Dr. Harry Campbell's general statements with regard to the digestion of cellulose have materially altered my views, but I venture to think that he has raised some points which would tend to support my position. Dr. Campbell brings forward the fact that a certain amount of chemical solution of cellulose takes place both in anthropoids and in man, but does not show that anthropoids are any more able to digest it efficiently than man by the agencies referred to. Cellulose "is remarkable for its great resistance to the most varied chemical reagents" and the digestion referred to is practically negligible, for the chief importance of cellulose in the diet lies in its inert and mechanical properties. Then, again, he suggests that the bitter and acrid taste of the food of anthropoids renders it quite unfit for human consumption. May we not suggest that these acrid and bitter tastes are the natural excitants of the salivary and other glands which have to do with the maceration and preparation of the cellulose? Moreover, if we at times were driven by hunger to eat such bitter foods might we not acquire the taste for them? Vegetable foods, especially fruits, very generally associate cellulose, sugars, acids, and acrid principles and it is scarcely right to consider the effects of any one of them when dissociated from the others. They naturally supplement each other. Thus while the cellulose on account of its physical nature is arrested in the mouth and disintegrated by the teeth the acids and acrid principles stimulate the flow of saliva and help to loosen the cellulose framework. Further, the acrid taste often remains in the mouth and continues to stimulate the flow of saliva even after the food has been swallowed. Then, again, the sugars stimulate the secretion of saliva, which further helps to macerate the cellulose. The mucous glands are likewise stimulated, and so the cellulose, and even any ligneous shreds which may accompany it, are coated with mucus and rendered fit for passage along the alimentary canal. Moreover, this copious secretion of saliva helps the more thoroughly to convert the starch and sugars, and the prolongation of the stage of alkaline digestion in the stomach has a certain importance in further disintegrating the cellulose.

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[2] THE LANCET, June 21st, 1902, p. 1753.

It is not only on account of the effect on the cellulose that I would refer to the collateral benefits of bitter and acrid tastes. I would refer to them because the orthodox habit of giving young children almost nothing but soft, bland, *generally alkaline food has disastrous effects that are never* dreamt of. Thus, being for prolonged periods deprived of these bitter and acrid substances, when opportunity affords children very generally over-indulge in quite unripe and acrid fruits or acid drinks. If, however, the taste for bitter principles is allowed, or, better, *gradually stimulated* to develop, then such excesses are not indulged in. Similarly, a liberal supply of fresh ripe fruit helps to prevent the craving for, and excessive indulgence in, sugar or sweets. At first strongly acrid flavours, generally and advantageously, act as deterrants in the selection of foods but by experiment and by following the example of the parents the taste for these bitter principles becomes largely acquired. Frequent association of acrid with irritant principles, however, has naturally prevented a pronounced development of the instinct for bitter principles which, when fully developed, is somewhat antagonistic to the desire for sweets. The supply of sugar which was available for our ancestors was very limited and therefore prevented an excessive indulgence in it however strong the craving for it became. It is important to recognize this fact, not because the ruin of the teeth gives rise to many more serious troubles, nor because the injury to the teeth means ruin to the power to digest and relish some of the most luscious foods, but because it has become the fashion to belaud the dietetic value of sugar and to look upon it as an important food, while in reality it should be sparingly used and regarded rather as a condiment. What does it matter whether we can turn sugar into so many units of energy if at the same time it ruins the teeth and irritates the stomach to such an extent that healthy and vigorous digestion is lost? The use of condiments is a practical recognition of the value of bitter and acrid principles and a study of them reveals a philosophy which ought to influence our precepts with regard to the feeding of children.

It is, perhaps, impossible to estimate how far the capabilities of digesting or transmitting cellulose might be improved if the natural potentialities were allowed or stimulated to develop, instead of being suppressed and perverted. However, whether I have exaggerated our capabilities of transmitting cellulose or not, it is sufficient to find Dr. Campbell so distinctly enforcing our belief that "if physicians could be got to realise the importance of providing the jaws, teeth, and the muscular coats of the digestive tract with adequate work an untold amount of disease and suffering would be averted."

I am, Sirs, yours faithfully,

Wimpole street, W., Dec. 24th, 1904. J. Sim Wallace.

"WHO'S WHO" YEAR BOOK AND THE MEDICAL PROFESSION.

To the Editors of The Lancet.

Sirs,—My attention has been called to a list of "leading London specialists" in the above publication for 1905 in which my name has been included. I hope it is unnecessary to say that this has been done without my knowledge or consent. My object in writing is to point out how harmful to the public as well as to the profession the information thus afforded, imperfect and generally misleading as it is, must be. Although I understand that the publication of names in this way is not legally preventable, notice of the matter in the columns of The Lancet should go far towards avoiding a repetition of such a regrettable proceeding.

I am, Sirs, yours faithfully,

William H. Bennett.

Chesterfield street, Mayfair, W., Dec. 30th, 1904.

THE CAUSATION OF SEX.

To the Editors of The Lancet.

Sirs,—In The Lancet of Sept. 26th, 1891, p. 713, appeared a paper by Dr. Andrew Wilson of Edinburgh advancing a provisional theory of sex determination, according to which the causation of sex was primarily a matter of nutrition affecting the ovum at the time of fertilisation; that is to say, an ovum fertilised premenstrually, being stronger and more vital, tends towards the male side, while an ovum fertilised post-menstrually, having lost much of its vitality, tends towards the female side. In 1893 a further article appeared in your columns[1] giving illustrative cases in support of the theory.

Now, without having any bias in favour of this or any other theory it appeared to me that it would be a matter of interest to put it to the test of practice under conditions which absolutely precluded any source of error. This has been done with the following results:—

X., aged 28 years, married in 1897; previous menstrual history normal; no conception permitted for one year, during which menstruation was perfectly regular. Child I.: In 1898 a girl was desired. The last menstrual period ended on Feb. 6th, 1898; impregnation took place between Feb. 8th and 16th—i.e., was post-menstrual; confinement expected Nov. 13th; actual date of birth Nov. 14th; result a girl; subsequent menstruation regular. Child II.: A boy desired; last menstrual period ended Oct. 3rd, 1900; impregnation took place between Sept. 24th and Oct. 2nd—i.e., premenstrually; confinement expected July 10th, 1901; actual date of birth June 28th, 1901; result a boy; subsequent menstruation regular. Child III.: A girl desired; last menstrual period ended Feb. 27th, 1904; impregnation post-menstrual, between March 1st and 11th, 1904; confinement expected Dec. 4th, 1904; actual date of birth Dec. 2nd; result a girl.

In these three instances the result occurred as desired; conception was impossible at any other times than those stated, and in each case the prediction was communicated beforehand to a medical friend. No other children were born and no miscarriages occurred. The theory in question involves the assumption of a relationship between ovulation and menstruation which has, so far as I am aware, not yet been proved. The facts, so far as they go, lend support to the theory though the cases are, of course, too few to be of much value. To obtain precise and definite data on this question is a matter of considerable difficulty, and a few cases in which the facts are certain are worth many in which there may be some element of uncertainty. Hence my reason for recording them. If the theory be correct that sex is already determined in the ovum before impregnation takes place these instances of pre-determination must be regarded as pure coincidences; coincidences, however, which under the conditions of the experiment can only be characterised as striking. For obvious reasons I withhold my name but inclose my card and shall be happy to communicate through you, Sirs, with anyone desiring further information.

I am, Sirs, yours faithfully,

Medicus.

THE L.S.A. QUALIFICATION AND MEDICAL APPOINTMENTS.

To the Editors of The Lancet.

Sirs,—I am a member of a board which frequently has the duty of appointing a house surgeon and among the applicants we often have men holding the double qualification of the L.S.A. Lond. Almost invariably either a lay or medical member of the board will raise some objection to the L.S.A., mentioning that he thinks it an inferior qualification to the Conjoint Board of England, Scotland, and Ireland. Having employed men holding all the above qualifications and also university degree men I am quite of different opinion. Personally, I consider them perfectly equal to any ordinarily qualified man and anyone who takes the trouble to look up the examiners of the Apothecaries' Society of London will see that they are equal to any other examining board in the kingdom. As far as I know the report of the inspectors of the General Medical Council has always been satisfactory. I believe that the examiners in surgery are appointed by the General Medical Council themselves.

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[1] The Lancet, Dec. 30th, 1893, p. 1615.

I am, Sirs, yours faithfully,

"NOT AN L.S.A."

Jan. 2nd, 1905.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Infirmary Poll.

IT may be remembered that the question of "beds or no beds" at the central receiving house to be built in connexion with the Manchester Infirmary was referred to a meeting of the trustees. At a meeting of that body held on Dec. 15th, 1904, a motion that accommodation should be provided near the Piccadilly site for the treatment of medical and surgical casualties and dispensary out-patients, for giving first aid, for the treatment of out-patients living at a distance from the new infirmary, and for the detention under observation for a few hours of cases of doubtful diagnosis was carried by a large majority. A poll, however, was demanded by those in favour of an amendment proposing that there should be "20 beds with all necessary equipment." The voting papers were issued on Dec. 17th and the returns were to be in by the 24th. The counting took place on the 28th. The number of voting papers issued was 1217. Of these 628 were returned. 335 were for the resolution (no beds) and 235 were for beds. Eight papers were spoiled. After all the agitation and excitement, the letters in the papers, and the strongly worded leading articles in newspapers in favour of the amendment, the number voting seems small. The opinion of the infirmary staff was, it is believed, unanimously in favour of the resolution and it was given expression to in some important letters from members of the staff which may have had more effect in guiding the opinion of the trustees than those from well-meaning laymen who were necessarily less conversant with the necessities of the case. Four or five years must elapse before the new hospital is ready and by that time it is believed that a greatly improved ambulance service will almost do away with the difficulties that some anticipate. After all, the distance from Piccadilly to Stanley-grove is not very great and the latter is conveniently situated for a very large population and time will most probably show that the fears now felt will prove to be groundless.

Reporting Cases of Anthrax.

A man employed by a firm of wool merchants at Bradford died on Christmas Day from anthrax and was buried on Dec. 27th. His employers reported the case to Mr. W. H. Seal, the chief inspector of factories for the district, and the medical attendant also did the same. The relatives submitted the medical man's certificate to the registrar of deaths who gave an order for burial and the body was buried. The registrar is reported to have said that there is [illegible] by-laws or in the general [illegible] communicate with the coroner [illegible] Bradford city coroner, it is reported, though he has the power, sees no reason why he should have the body exhumed. Mr. Seal is making his own inquiries. This occurrence is to be regretted. If the grave of a cow that has died from anthrax is a danger the same thing will be true of the grave of a man dead from the same cause and cremation is indicated rather than burial.

Vaccination Passive Resisters.

On Dec. 27th, 1904, a Mr. Smith returned to Great Harwood after serving 14 days in Preston Gaol for refusing to obey a vaccination order. He was welcomed by a brass band and a procession which went from the station to the British School where the pastor of the United Methodist Free Church presided over an indignation meeting. Mr. Smith was hailed, "not as a gaolbird, but as one who had the courage and manhood to suffer for conscience sake." In reply he said he believed "that the Vaccination Act, which was contrary to the spirit of equity and justice, would be removed from the statute book so soon as men showed that they preferred prison to compliance with its demands." A motion was carried pledging those present not to support those candidates for Parliament who would not advocate local option in vaccination. This wrong-headedness is becoming a serious and a very costly danger to the country.

"Schools or Nurseries?"

The medical officer of health of Burnley says that the infant schools there "are little more than nurseries," that teaching children three years old and under is a farce, and that their congregating together strongly disposes to the spread of measles and whooping-cough. He considers that the Board of Education cared little for infants of tender age or it would not pay for their attendance at school. "The school inspectors don't care and parents don't care; there is only the health committee of the corporation left to protect them." There is a good deal of truth in this indictment; the parents certainly regarding the infant school as a place where they can send their children for some hours a day and so be free for a while from the need of looking after them.

The Recent Fog.

Manchester shared in the visitation of fog which was recently so widely spread. The dangers of the streets, quite sufficient at ordinary times, were greatly increased. The discomfort to the eyes, the noses, and the lungs of healthy people was not merely annoying, it was often serious. And though it would be difficult to calculate the injury done to clothing and to all sorts of textile materials there is no doubt it is very great. In Manchester there was a sudden rise in the death-rate from 21·6 to 26·4 per 1000, an increase of over 22 per cent. Of these deaths 42·5 per cent. were due to diseases of the respiratory organs. Whatever may come of Sir Oliver Lodge's experiments in dealing electrically with fog all will agree with him that it is our primary duty to abolish smoke. As a leaderette in the *Manchester Guardian* of Dec. 29th, 1904, says, "the most fatal element in city fogs is that contributed by the smoke nuisance, which is preventable, and the deaths due to it must be regarded as deaths for which our apathetic and inadequate smoke policy is definitely to blame." Many of your readers may remember that at one of the Christmas shows of fat cattle in London some years ago several of these overfed but valuable beasts died as the direct effect of the fog and this object lesson produced some impression at the time. But it was soon forgotten. Of course, much of the extra mortality caused by the fog is not shown by the sudden rise in the death-rate but will be spread over some weeks. In this matter of prevention of smoke are we guilty of criminal negligence? For if we should sometimes have fog even without smoke it would have lost its sting and deaths directly due to it would be rare.

Jan. 3rd.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Exclusion of Young Children from School.

THERE appears to be a growing conviction among medical officers of health, medical officers of schools, and others who have given the subject consideration that the attendance of children under five years of age in public elementary schools is injurious to the mental and physical development of such children. In a paper read before the Childhood Society in March, 1902, and published in *Public Health*, vol. xiv., p. 570, Dr. Arthur Newsholme discussed the question very fully and maintained that such attendance "caused a heavy annual death-roll, and a large mass of sickness often leaving behind it permanent weakness and ill-health" and the Inter-[illegible] age and should be discouraged, if not absolutely prohibited, under five years. In October last the education committee of Newport (Mon.), on the recommendation of the medical officer of health (Dr. J. Howard-Jones), passed a resolution that, after the opening of the public elementary schools in Newport after the Christmas holidays no child under four years of age should be admitted or retained in the schools. In support of his recommendation Dr. Howard-Jones pointed out that the school attendance of infants as age periods when they are particularly liable to infection was undoubtedly responsible for the propagation of epidemic and consequently for a large proportion of preventable deaths and that it was of the greatest importance to postpone the period at which young children might be exposed to infection until they were of an age when certain diseases—e.g., measles—are not so fatal. The resolution of the education committee was brought to the notice of the Board of Education by His Majesty's inspector and the Board in a communication to the committee expressed the opinion that places should be provided in the public elementary schools for any children over three years of age whose parents desire to send them to school and, further, that it was undesirable for the committee to adopt a regulation excluding all children under four years of age from the schools. In support of its contention the Board reminds the committee that Section 1 (1) of the Elementary Education Act, 1891, provides for the payment of grants to local education authorities on account of the attendance at school of children over three years of age.

Death of Mr. Edward Treharne, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg.

The news of the sudden death from fatty degeneration of the heart of Mr. Edward Treharne of Barry on Dec. 29th, 1904, came as a great shock to the inhabitants of the district. Mr. Treharne was born in 1859 and shortly after taking the diplomas of the Royal Colleges of Physicians and Surgeons of Edinburgh and of the Faculty of Physicians and Surgeons of Glasgow he began to practise in Barry, a town at that time increasing with remarkable rapidity. He was on the commission of the peace for the county of Glamorgan, a Freemason, and a prominent politician, having for some time been chairman of the Barry Conservative Association. He was also chairman of the Barry local board of health and later of the urban district council. He had a fine presence, was a noted athlete, and had played for Wales in international football. A widow and three children are left to mourn their loss.

Plymouth Borough Asylum.

Great progress has been made recently with the enlargement of the Plymouth Borough Asylum at Blackadon. The new wing for male patients will be completed within a month and the new wing for female patients by the end of March. The contract also provides for the addition of a storey to the old block of buildings. The electric light is being installed in all the buildings and a system of heating by hot-water pipes is being introduced. There are at present 276 patients in the asylum and by the enlargement accommodation will be provided for 200 more.

Jan. 3rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Glasgow Parish Council: Annual Report on Certification of Lunatics.

Mr. J. Carswell, certifying physician in lunacy to the Glasgow parish council, in his annual report for the year ending May 15th, 1904, states that there were 886 applications made to the inspector of poor on behalf of persons supposed to be insane. This number is 46 more than last year and is the highest in the history of the parish. But the number of applications bears no definite relation to the amount of certifiable insanity occurring in the parish, as is shown by the fact that the number of persons certified insane is less than in either of the last two years. There were certified insane 544 cases, as against 549 the previous year and 565 the year before. Of the 544 cases certified 164 had suffered from previous attacks of insanity; the remaining 380 represent the actual number of persons who became insane for the first time during the year. The actual number of first attacks certified this year is seven less than last year and the proportion per 100,000 of the population is 63·3, compared with 65·5 last year. This is the lowest production rate for four years. It is right to add that the estimated population upon which the rate is calculated is probably slightly higher than the actual population, because the city assessor's survey this year has shown an increase of uninhabited houses and consequently the population must be less than that estimated on the usual basis. Tables given reveal several facts of great significance, the most important of which are (*a*) that at all ages under 45 years insanity affects males and females almost equally; (*b*) that at all ages over 45 years more men become insane than women and both sexes become insane in larger proportion to the numbers living at these ages as they advance in years; and (*c*) that there is a relatively larger number of persons sent to asylums at ages over 45 years than under. The figures given in connexion with the last point are worthy of careful attention. The number of persons living in Glasgow parish at ages of 15 to 45 years is roughly 300,000 and they yield an annual average of 238 insane persons, or 8 per 10,000 of population; the number of persons living at ages over 45 years is under 100,000 and they yield an annual average of 128 insane persons, or slightly over 12 per 10,000 of population. But the difference in ratio is not only in degree but also in character; while the rate of 8 per 10,000 at the earlier ages is almost uniformly the same from year to year, the rate for the latter ages varies from a minimum of 11 to a maximum of 16 per 10,000. Clearly the ages above 45 years are not only more productive of insanity but there is an important difference in the manner in which the causes of insanity operate above and below 45 years. In his last annual report Mr. Carswell indicated the grounds upon which he based his opinion that economic and social considerations, which have but little to do with the causation of insanity viewed as a disease, account for the relatively larger number of persons who become pauper lunatics at the later ages in life and for the fluctuations in the production rate at those ages. But the ages from 15 to 45 years are the most important in relation to the question whether lunacy statistics indicate a process of mental deterioration going on in the community. These are the ages of greatest stress and temptation and they embrace the period of child-bearing. It cannot be said that a production rate of 8 per 10,000 relating to a section of the population numbering 300,000 is alarming. If the experience of the last four years is normal, as it appears to be, then we are justified in interpreting the steady production rate as meaning that so far as the masses of the people are concerned there is no evidence of an increasing mental deterioration. It is shown that there is no definite relation between the amount of lunacy and the death-rates, general and infantile. No doubt both the lunacy-rate and the death-rates are dependent upon two main factors—viz., inherent vital capacity and conditions of environment; but insanity is much more dependent upon the former than upon those physical and social conditions that affect the general and infantile death-rate. Speaking generally, it may be said that the greater the drunkenness of a community the greater will be its production of insanity. The figures given confirm that general view but they give no support to the exaggerated views that have been expressed in various quarters that lunacy caused by alcohol is seriously increasing in Scotland. The want of definite relationship between the number of public-houses in a district and the amount of lunacy is the counterpart of what evidently applies also to the relationship between the lunacy-rates and the death-rates and is open to the same explanation—viz., that in the causation of insanity the inherent tendency is of more importance than the conditions of environment. The number of persons treated in the observation wards during the year was 261, of whom 24 were afterwards removed to the asylum, 13 died, and 219 were discharged recovered or relieved, leaving five under treatment. This is the largest number treated and the largest number of recoveries. With the opening of the new psychiatric department at the Eastern District Hospital there will be a decided increase in the number of patients treated without recourse to the asylum.

Small-pox.

From Dec. 16th to 31st, 1904, inclusive the following 11 cases of small-pox were notified to the Local Government Board: from the Mull district, one; from the burgh of Dundee, three; from the burghs of Coatbridge and Glasgow respectively, one; from the Eastern district of Stirling, two and from the burgh of Falkirk, three.

Jan. 3rd.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Irish Population Statistics.

THE Irish Registrar-General has issued decennial summaries of the returns of marriages, births, deaths, and causes of death in Ireland for the years 1891–1900. The estimated population of Ireland has diminished to the extent of 249,455, or at the rate of 5·29 per cent., between the middle of the year 1890 and the middle of the year 1900, a decrease uninterrupted from year to year. The total number of births registered during the decade was 1,055,020, as compared with 1,150,463 for the previous ten years, being 95,443, or 8·3 per cent., less. The deaths during this decennium were 836,035, as compared with 883,156 for the previous ten years, showing a decrease of 5·3 per cent. but an increase in the average annual death-rate from 17·9 in the earlier to 18·2 per 1000 living in the later period. During the decade 433,526 emigrants, or 9·5 per 1000 of the mean population, left Ireland. The number of emigrants would thus appear to have surpassed the excess of births over deaths by 214,541. The number of emigrants in the preceding ten years was 770,706. There were 221,608 marriages during the ten years and during the past 40 years there has been a well-marked decrease in early marriages in Ireland. Judging by those who "signed their names in writing" as compared with those who signed "by mark," elementary education has made great progress; and it is curious to note that while in Ulster, Munster, and Connaught, taking the figures for each year of the decade, the married women seem to be better educated than the men, in Ulster the reverse was the case until the year 1900, when 85·5 per cent. of the men and 86·3 per cent. of the women signed their names in writing. There were 1,055,020 births registered in Ireland during this decade, of which 1,027,126, or 97·4 per cent., [illegible], or 2·6 per cent., were [illegible] the illegitimate births to the [illegible] greatest in Ulster where it reached 3·7 per cent., and least in Connaught, where it reached a percentage of only 0·6. It is also observed that in the rural districts of Ulster and Leinster the percentage of illegitimate births is only slightly below that in the urban districts, while in the other two provinces, where the rural population is more largely in excess of the town population than in either Leinster or Ulster, the difference between the rates in the civic and rural districts is more marked. 836,035 deaths were registered during the decade, and of these 86,231 were due to "specific febrile or zymotic diseases"—that is, 10·3 per cent. of all the deaths recorded. There were 235 deaths from small-pox (five deaths per annum in every 1,000,000 of the population), 4422 from scarlet fever (not a quarter of the mortality in the ten years ending with the year 1880), 1904 from typhus fever (a very great relative diminution), while typhoid fever caused 8692 deaths, which shows a slight increase on the previous ten years. Of these deaths 4142 occurred in Ulster. There were 12,048 deaths from whooping-cough and 3440 from diphtheria. Influenza caused 20,805 deaths, an enormous increase over former decades. There were 1601 deaths from intemperance, an increase being shown in the number of deaths of females due to chronic alcoholism. 24,435 deaths occurred from cancer; the increase is such that in the ten years 1891–1900 the registered mortality from cancer of persons 25 years old and upwards was 52 per cent. in excess of that for the ten years 1871–80 and 26 per cent. in excess of that for the ten years 1881–90. The highest county-rate mortality for cancer was in Armagh. The tuberculosis death-rate has risen in Ireland since the decade 1871–80, a fact which seems to show that the sanitary and other measures which have been undertaken for the improvement of the public health have not here arrested the ravages of this formidable disease.

Queen's College, Belfast.

Dr. W. St. C. Symmers of Cairo has been appointed Musgrave Professor of Pathology at Queen's College, Belfast.

Small-pox in Belfast.

There is no sign of decrease in the small-pox epidemic and the [illegible] ll that it may be necessary to [illegible] the 172 cases treated in it five [illegible], three were said to have been vaccinated in infancy, but the marks were very poor and indistinct, and no case whatever has been admitted where the patient had been revaccinated. Eight deaths have occurred and in each of the fatal cases the marks of vaccination, if present at all, were inefficient and in every case the disease was of a bad type and the eruption was confluent. Of these 172 cases admitted to Purdysburn Hospital since the beginning of the outbreak 130 have been discharged convalescent, eight have died, and 34 remain in hospital. In the reception house during the same period 552 persons were admitted. Of these, 445 have been discharged, leaving 44 still therein. At present a virulent type of measles is prevailing in Belfast and scarlet fever of a mild type is epidemic, but typhoid fever is much less prevalent. Between Nov. 20th and Dec. 17th, 1904, there were only 32 cases.

Jan. 3rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Strabismus.

AT the meeting of the Academy of Medicine held on Dec. 20th, 1904, M. Landolt read a paper on the above subject. After having reminded his audience that alterations in the mobility of the eye were a very frequent cause of visual troubles he showed that the usual operation for strabismus very often simply transforms a convergent strabismus into a divergent one. He proposed therefore to substitute for the usual operation one to which he has given the name of "muscular elongation"—i.e., he proposed to strengthen the weak muscle instead of weakening the strong one. Even in those very rare cases where muscular section or tenotomy can be carried out for extreme shortness of the muscle M. Landolt suggested a new operative procedure by which he preserves the point of attachment of the muscle and elongates it instead of transplanting the attachment further forward. In this way the action of the muscle after operation conforms more strictly to the normal than by the old operative method.

The Advantages and Disadvantages of "Dechloridation" in Epileptics.

At the meeting of the Hospitals Medical Society held on Dec. 18th M. Jules Voisin, M. Roger Voisin, and M. Krantz communicated the results of some researches carried out by them in 50 cases of epileptic adults and 28 cases of epileptic children. The results showed that a chloride-free diet did not by itself produce any modifications as to the epileptic attacks but that to bring about a favourable result the administration of bromide must be combined with the elimination of chloride from the diet. This method of treatment reduced the fits by 69 per cent. A chloride-free diet is difficult to carry out in these patients especially in adults and in these latter a peculiar kind of delirium is wont to occur signalised by melancholia with mental confusion and hallucinations. It arises from insufficient nourishment and possibly directly from the absence of salt. No signs of bromide poisoning were noted. T[illegible] alternations of a chloride-free [illegible] with a two months' period of [illegible] sidered that the physical and chemical phenomena which this method determines facilitate both the urinary excretion and the fixation of the bromide. Moreover, this method of a varied diet gives rise to full excretion and the complications of a chloride-free diet, which are often serious, are thus avoided.

Peroxide of Hydrogen in the Treatment of Infantile Dyspepsia.

Milk treated with peroxide of hydrogen in the proportion of one or two grammes of a 12 volume solution to 100 or 200 parts of milk seems to acquire properties comparable to those of kephir. It checks vomiting and diarrhœa and is readily taken by children. Peroxide of hydrogen acts in the stomach as a eupeptic and since it is a very powerful antiseptic it doubtless acts as such both in the stomach and in the intestines. These interesting results were communicated to the Therapeutical Society at a recent meeting by M. Gallois, M. Flourens, and M. Walter. In a general way gastro-intestinal antiseptics exercise an inhibitory influence not only on microbial ferments but also on the normal ferments of the organism. Peroxide of hydrogen is, however, both antiseptic and eupeptic. It is thus particularly indicated in cases of atonic dyspepsia accompanied by abnormal fermentation.

The Treatment of Sea Sickness by Hypnotic Suggestion.

At the meeting of the Society of Hypnology and Psychology held on Nov. 29th there was a most interesting discussion on the above subject. The first speaker was Mr. Hamilton Osgood of Boston. He cited his own case and told the meeting that on four voyages from England to America he had by suggestion prevented sea sickness. Not only had he not vomited but he had a good appetite and this immunity lasted throughout the voyage. M. Berillon suggested that persons liable to suffer from sea sickness who were never sure of finding a medical man on board who could practise hypnotism, should undergo suggestion before embarking. For his own part he had many times successfully suggested to a person during sleep a view of the crossing and the idea that he would not be ill. M. Farez had treated by hypnotic suggestion not only sea sickness but also carriage sickness and train sickness. M. Le Menant des Chesnais went even further. He cited the case of a lady whom he had hypnotised against train sickness. During his last holiday he was with her in a small boat, and a simple statement on his part that she would not be ill had sufficed to prevent sea sickness.

The Workmen's Compensation Act.

One point in this law which greatly concerns medical men has just been the subject [illegible] Minister of Justice. The circular [illegible] is a provision of the law laying down that in every case in which expert medical evidence is necessary the expert shall not be a medical man who has treated the patient or a medical man in the service of the contractor or the assurance society to which the contractor is affiliated. The Minister then adds that he has been informed that despite this provision certain of the magistrates are in the habit of summoning as an expert witness the medical man attached to the factory where the accident has taken place or to the assurance company which guarantees the owner of such factory. The Minister therefore begs to call the attention of magistrates to the above-mentioned provision and at the same time to remind them that the provision has reference to those cases in which the magistrates sit as judges to decide on the amount of daily compensation payable, as well as to those in which they sit with a view to decide upon cases of permanent incapacity when they simply have to examine the injured man under paragraph 3 of Article V. of the same law. This circular of the Minister of Justice remedies an abuse against which every medical syndicate has protested without ceasing.

The Academy of Medicine.

At the meeting held on Dec. 27th, 1904, M. Chamberland was elected as "*associé libre*" of the Academy of Medicine on the third ballot by 53 votes in room of the late lamented M. Duclaux.

Jan. 2nd

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Use of Adrenalin by Immigrants to conceal Trachoma.

THE Surgeon-General of the Public Health Service publishes reports of certain officers of that service to the effect that they have noticed for some time past on everting the eyelids of some immigrants that they presented a peculiar blanched appearance. At first it was thought that this was due to the treatment which they might have received prior to embarkation. Recently, however, several hours after the first inspection was completed and all suspicious cases had been set aside, it was decided to make a re-examination of the entire number. While this work was going on a number of additional cases of trachoma was found. Upon following some immigrants behind a convenient inclosure they were found to be busily engaged in instilling a substance into their eyes which subsequent investigation showed to be adrenalin. Experiments with this drug proved that if instilled into the eyes of mild cases of trachoma practically all evidence of the disease could be obliterated for about half an hour. It was learned that on arrival at port and just before the [illegible] made immigrants had been in the pra[illegible]alin into their eyes for the purpose of deceiving the inspector.

A Testimonial to Professor Osler.

The retirement of Professor Osler from the Johns Hopkins Hospital and School will be marked by the creation of a testimonial, as a recognition of distinguished services, by the profession and citizens of Baltimore. The proposition is so popular as to attract the attention of [illegible] movement bids fair now to become na[illegible] The governor of Maryland is to be the national treasurer. Upwards of $10,000 have already been subscribed. The form which this memorial shall take has been the subject of much discussion, but, on consultation with Professor Osler, it has been decided to erect a building for the accommodation of the valuable medical library of the medical and chirurgical faculty of Maryland, so largely the result of his own interest and effort.

Medical Service in the Panama Commission.

The United States Civil Service Commission has formulated its rules governing the appointments to the service of the Panama Commission. So [illegible] office [illegible] n the [illegible] tion. [illegible] are the chiefs of the divisions [illegible] ment of tropical diseases, will receive special credit. Only those who have had extensive hospital [illegible] familiar with the treatment of tropica[illegible] selected for appointment to the highest salaried positions. Promotions may be made in the discretion of the Isthmian Canal Commission from the lower to the higher positions in this grade. These examinations are open to all citizens of the United States who comply with the requirements. The term of service will be during the construction of the canal, which will extend throughout a period of eight or more years. Pharmacists, hospital interns, and trained nurses will also be appointed under similar rules after proper examinations.

Health of the Navy.

The Surgeon-General of the Navy reports that the health of the men was not as good as during the preceding year. The average strength of the active list during the year 1903 was 37,248. The total number of admissions for all causes was 28,569, the ratio per 1000 strength being 782·24, as compared with a ratio of 767·63 for the previous year, and 797·10 for the eight preceding years. There were 24,545 admissions for disease and 4024 for injury, giving ratios of 671·82 and 110·04 respectively. The daily average of patients was 1289·03 and the ratio per 1000 strength 35·23. The average of sick days for every man in the navy and marine corps was 12·88 and the average duration of treatment for each case was 16·49 days. The ratio of persons invalided [illegible] the year for disease and injury wa[illegible] disease and 5·18 for injury. Th[illegible]ber than those of the previous year, owing to the large number of recruits. The ratio of deaths during the year was 6·01 per 1000, being a ratio of 4·40 for disease and 1·60 for injuries. It is stated that venereal diseases continue greatly to impair the fighting strength of the navy. Excepting general infectious diseases venereal diseases gave a greater number of sick days than any other class. It appears that while the admissions to the sick list per 1000 of strength were greater than in the previous year the mortality was not only less but it was lower than the average of the past eight years. The Surgeon-General urges the importance of having trained women nurses as a part of the medical department of the navy. They would supply better and more efficient nursing to the sick and in the event of war the men could be released from hospital duty and assigned to vessels of war. The recommendation of [illegible]oyment of dentists for ser[illegible] The result of the experiment of treating consumptives in tents at Pensacola, Florida, in spite of many drawbacks, was so favourable that Congress is urged to make special provision for an appropriate site for a camp for tuberculous sailors.

Hospitals for Panama.

By a recent agreement between the United States and the Republic of Panama it is provided that the United States will construct, maintain, and conduct a hospital or hospitals either in the canal zone or in the territory of the Republic, at its option, for the treatment of persons insane or afflicted with the disease of leprosy, and any indigent sick, and the United States will accept for treatment therein such persons of these classes as the Republic may request but the order shall not be operative unless, first, the Republic of Panama shall furnish without cost the requisite lands for these purposes if the United States shall [illegible] hospital or hospitals in the territory of the [illegible]; secondly, that the Republic shall contribute and pay to the United States a reasonable daily per capita charge in respect of each patient entering upon the request of the Republic, to be fixed by the Secretary of War of the United States.

Unification of Medical Statistics.

The Surgeon-General of the United States army has issued in separate form the complete series of the tables of international military medical statistics. These tables were adopted at the meeting of the International Commission for the Unification of the Medical Statistics of Armies held at Budapest in 1894. They were somewhat modified at the meeting held at Madrid in 1904. 12 countries were parties to the agreement but only one other has published all the ten tables.

Dec. 24th, 1904.

Obituary.

FRANCIS HENRY BLAXALL, M.D. ST. AND., M.R.C.S. ENG., L.S.A.

FLEET SURGEON, R.N. (RETIRED); LATE MEDICAL INSPECTOR OF THE LOCAL GOVERNMENT BOARD.

Dr Francis Henry Blaxall, who died at his residence, Clan Lodge, Bathwick, Bath, on Dec. 23rd, 1904, was a public official with an admirable record for work who was personally known to two or three generations of medical men. Having become qualified as M.R.C.S. Eng. and L.S.A. as far back as 1847, he was appointed assistant surgeon in the Royal Navy in 1849, becoming staff surgeon in 1856 and fleet surgeon in 1869. Having then graduated in medicine at the University of St. Andrews, he served as assistant surgeon on H.M.S. *Colossus* in the Baltic during the Russian war and received for his [illegible] 1860-63, [illegible] rom the [illegible] *Urgent*, commanded by his friend Captain S. H. Henderson, which for three years was engaged almost continuously in trooping duties on the West Coast of Africa and in the West Indies under conditions which entailed a large amount of serious sickness and cast a heavy responsibility on the surgeon in charge. Blaxall made a notable contribution to the study of the great epidemic, termed at the time "malarious fever," which devastated Mauritius in 1867-68, killing some 43,000 persons (Royal Navy Report, 1867). He retired from the Royal Navy as fleet surgeon and when in 1871 the medical department of the Privy Council became merged in the Local Government Board, Blaxall, who had already worked for the Council under Simon's direction, became a medical inspector of the new Board. Buchanan, Ballard, Thorne-Thorne, and W. H. Power in those early days were among his fellow workers. As an inspector in the "seventies" Blaxall took an active [illegible] the administrat [illegible] by the Vaccin [illegible] largely occupie [illegible] sanitary districts [illegible] the administrati [illegible] which the Local Govern- [illegible] to shape on lines which [illegible] The principal means by which [illegible] e institution of a "sanitary [illegible] es in anticipation of cholera in the early "eighties." On this survey the bulk of the work in connexion with ports and shipping was organised and directed by Blaxall, with excellent results. Valuable reports on this subject were published in the medical officer's annual reports for 1886 and 1887. Another important inquiry, made by [illegible] aspects of emigration [illegible] United Kingdom and [illegible] place between home ports. Various investigations into local outbreaks of [illegible] o be referred to, as in certain of [illegible] much useful information as to [illegible] d diphtheria in their relation to [illegible]

Soon after his retirement from the Royal Navy, Blaxall married, in 1871, a daughter of Admiral J. G. McHardy.

It was formerly the custom of medical inspectors to live in provincial centres and Blaxall, whose work was mainly in the south-western and western counties, had his house and headquarters at Bath. Many public vaccinators and medical officers of health in those counties, and, indeed, almost all with whom he came into official relation, will recall with pleasure Blaxall's cheery and kindly personality and his help- [illegible] personal friendship and with conspicuous loyalty. For several winters before he retired from office Blaxall suffered from severe attacks of bronchitis and at the time of his retirement in 1891 his ill- [illegible] Treasury whic [illegible] by his long pe [illegible] the deduction of the retired naval pay to which he had long ago become entitled by independent service. Blaxall felt the injustice of this decision keenly; he fought the question strenuously and ultimately with success. As a result a principle was established by which many retired members of both services (including policemen, prison warders, and others in the humbler walks of life) have since been able to obtain equitable treatment. Blaxall possessed to a marked degree the openness, sincerity, and devotion to duty which are so often associated with the sailor and which in his case were combined with a kindliness and an unselfishness which endeared him to all. He never forgot his sea service and in later life took great pride in watching and assisting the progress of his many younger relatives and friends in the Royal Navy. Clan Lodge, his house in Bath, was always open—to be near Bath was of necessity to go to see Blaxall—and his kindly welcome there was always ready and not soon to be forgotten.

GEOFFREY EDWARD HALE, M.B., B.C. CANTAB., M.R.C.S. ENG., L.R.C.P. LOND.

THE death is announced of Dr. Geoffrey Hale of Eton. Like many of his professional brethren before him his life has been sacrificed in the pursuit of his duty. In attending a case of scarlet fever he contracted the disease and as a complication septic pneumonia from which he died on Dec. 31st, 1904, at the early age of 38 years. Dr. Hale, who was the son of the late Rev. E. Hale, known to so many generations of Etonians as a "dame," a mathematical and a science master, was educated at Eton and Cambridge and at St. George's Hospital. There he won a scholarship and held various house appointments, while at Cambridge he acted for some time as assistant demonstrator in anatomy and physiology. He was also honorary secretary to the Medical Officers of Schools' Association. He married in 1894 the eldest daughter of Canon H. Kynaston of Durham who was, under his former name of Snow, well known as an Eton master and tutor from 1858 to 1874.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced: Dr. Curt Freidenberg, a Berlin gynæcologist.—Dr. J. C. van Aubel, formerly professor of pharmacodynamics and forensic medicine in the University of Liège.—Count Pietro Gradenigo, professor of clinical ophthalmology in the University of Padua.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At examinations for medical and surgical degrees held in Michaelmas term the following satisfied the examiners:—

FIRST EXAMINATION.

Part II., Elementary Biology.—P. B. M. Allan, and W. A. Anderson, Clare; [illegible] Bromley, Caius, J [illegible] Dellschaft, Jesus, [illegible] A. R. Hargreaves, [illegible] Christ's; G. Holm [illegible]

FOREIGN UNIVERSITY INTELLIGENCE.—*Breslau:* Dr. Bruno Heymann has been recognised as *privat-docent* of Hygiene.—*Innsbruck:* Dr. Karl Mayer, Extraordinary Professor of Psychiatry and Nervous Diseases, has been promoted to an Ordinary Professorship.—*Jena:* Dr. Heinrich Eggeling, *privat-docent* of Anatomy and Prosector to the Anatomical Institute, has been promoted to an Extraordinary Professorship.—*Kieff:* Dr. G. Malkoff of St. Petersburg has been appointed to the chair of Internal Pathology and Therapeutics.—*Königsberg:* Dr. Hans Strehl has been recognised as *privat-docent* of Surgery.—*Seville:* Dr. Augusto Pi y Suñer has been appointed to the chair of Physiology.—*St. Petersburg (Military Medico-Chirurgical Academy):* Dr. V. Chagovetz has been recognised as *privat-docent* of Physiology.—*Strasburg:* Dr. A. Schwenkenbecher of Tübingen has been recognised as *privat-docent* of Internal Medicine.—*Vienna:* Dr. Johann Fein has been recognised as *privat-docent* of Laryngology and Rhinology.—*Warsaw:* Dr. Tikhanoff of St. Petersburg has been appointed Extraordinary Professor of Anatomy.

THE MOTOR MANIAC.—To drive a 14 h.p. motor-car through the streets of Lambeth on a wet night at such a high speed that witnesses are unable to read its number seems an unusual proceeding; to jump an excavation in the roadway nine feet long by four feet deep and four feet six inches wide, crashing through the surrounding poles and protecting lamps, is more remarkable; and for the car to proceed afterwards on its wild career at the same speed minus part of one hind wheel would appear incredible. All these feats of fancy "chauffeurship" were, however, performed by William Thomas on Dec. 10th last. We congratulate the public on the fact that Mr. Thomas was sentenced on Dec. 30th at Westminster police-court to two months in prison and the manufacturers of the car on the fine quality of their wheelwrights' work. The identification plate of the offender was not decipherable and he was only traced through his own employer who had reported the injuries of the car to the police.

RUSSIA'S APPRECIATION OF THE NOBEL PRIZE.—The patron of the Russian Imperial Institute of Experimental Medicine, Prince Alexander Petrovitch Oldenburg, gave a dinner on Dec. 23rd, 1904, in honour of Professor I. P. Pawlow, the principal of the physiological section of the institute, on the occasion of his having been awarded the Nobel prize for his distinguished scientific works. In the course of the evening the giver of the dinner, who presided, turned to Professor Pawlow and said: "I congratulate you on your having been awarded the Nobel prize. That great scientific victory gladdens not only the institute but all enlightened and thoughtful Russia." The guests numbered 40 and included many leading Russian scientific men.

SOUTH DEVON AND EAST CORNWALL HOSPITAL.—The sum of £825 was collected in Plymouth on Hospital Sunday, Oct. 30th, 1904, and this amount has been handed over to the South Devon and East Cornwall Hospital in that city.

BOOKS, ETC., RECEIVED.

ARNOLD, EDWARD, 41 and 43, Maddox-street, Bond-street, W.

Human Embryology and Morphology. By Arthur Keith, M.D., F.R.C.S., Lecturer on Anatomy, London Hospital Medical College. Second edition, revised and enlarged. Price 12*s.* 6*d.* net.

BAILLIÈRE, J. B., ET FILS, 19, Rue Hautefeuille, Paris.

Les Médications Préventives: Sérothérapie et Bactériothérapie. Par le Dr. L. Nattan-Larrier, Chef de Clinique de la Faculté de Médecine à l'Hôtel-Dieu. Préface par le Dr. Netter, Professeur agrégé à la Faculté de Médecine de Paris. ("Les Actualités Médicales" Series.) Price Fr.1.50.

CHATTO AND WINDUS, 111, St. Martin's-lane, W.C.

Herbert Fry's Royal Guide to the London Charities, 1905. Edited by John Lane. Price 1*s.* 6*d.*

ENGLEHARD, G. P., AND COMPANY, 358–362, Dearborn-street, Chicago.

The Anatomy of the Brain. A Manual for Students and Practitioners of Medicine. By J. F. Burkholder, M.D., Professor of Anatomy in the Illinois Medical College and the Illinois Eye, Ear, Nose, and Throat College. With an Introduction by Prof. Henry H. Donaldson, of the Neurological Laboratory of the University of Chicago. Price $2.00.

FISCHER, GUSTAV, Jena.

Beitrage zur pathologischen Anatomie der Pest. Von Professor Dr. Hermann Durck, Assistent am pathologischen Institut in München. Sechstes Supplementheft der Beiträge zur pathologischen Anatomie und zur [illegible] von Professor Dr. E. Zieg [illegible] gischen Institut in Munchen.) Price M.20.

[illegible] Augenklinik des Carolinischen Medico- [illegible] zu Stockholm. Herausgegeben von Dr. [illegible] der Augenheilkunde am Carolinischen Medico-Chirurgischen Institut zu Stockholm. Heft VI., price M.3; Heft VII., price M.4.00.

KARGER, S., Karlstrasse, 15, Berlin.

Die angeborene Pylorusstenose im Säuglingsalter. Von Dr. Jussuf Ibrahim, Privatdozent für Kinderheilkunde. (Aus der Kinderklinik zu *Heidelberg: Direktor Hofrat Prof. O. Vierordt.) Price* M.3.50.

Die Färbetechnik für das Nervensystem. Von Dr. Bernhard Pollack, Augenarzt in Berlin. Dritte, wesentlich erweiterte Auflage. Price M.3.50.

LEHMANN, J. F., Heustrasse, 20, München.

Lehmann's Medizinische Handatlanten. Band XXXII. Atlas and Grundriss der Kinderheilkunde. Von Dr. R. Hecker und Dr. J. Trumpp, Privatdozenten an der Universität München. Price M.16.

REBMAN, LIMITED, 129, Shaftesbury-avenue, W.C.

Mental Defectives: Their History, Treatment, and Training. By Martin W. Barr, M.D., Chief Physician, Pennsylvania Training School for Feeble-minded Children, Elwyn, Pa. Price 17*s.* 6*d.* net.

A Text-book of Human Physiology. By Albert P. Brubaker, A.M., M.D., Professor of Physiology and Hygiene in the Jefferson Medical College. Price 17*s.* 6*d.* net.

A Treatise on Bright's Disease and Diabetes, with Especial Reference to Pathology and Therapeutics. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania. Second edition, illustrated. Including a section on the Ocular Changes in Bright's Disease and in Diabetes by George E. de Schweinitz, M.D., Professor of Ophthalmology in the University of Pennsylvania. Price 17*s.* 6*d.* net.

SAUNDERS, W. B. AND COMPANY, 9, Henrietta-street, Covent Garden, W.C.

Diseases of the Liver, Gall-bladder, and Bile-ducts. By H. D. Rolleston, M.A., M.D. Cantab., F.R.C.P., Physician to St. George's Hospital, London. Price 25*s.* net.

STUBER, A. (C. KABITZSCH), Würzburg.

Röntgenologisches Hilfsbuch. E[illegible] über die Grundlagen und die [illegible] Röntgenverfahrens. Mit einem [illegible] Gesammelte Aufsätze von Ingenieur Friedrich Dessauer. Band I. Preis, brosch., M.3.50; gebd., M.4.20.

Beiträge zur Klinik der Tuberkulose. Herausgegeben von Dr. Ludolph Brauer, a.o. Professor an der Universität Marburg. Band III. Heft 2. Einzelpreis, M.4.50.

UNIVERSITY PRESS, Cambridge (C. J. CLAY AND SONS, and H. K. LEWIS, London).

The Study of Chemical Composition. An Account of its Method and Historical Development, with Illustrative Quotations. By Ida Freund, Staff Lecturer of Newnham College, Cambridge. Price 18*s.* net. (Cambridge Physical Series.)

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BARRETT, WILLIAM AMHERST HENRY, L.R.C.P. Lond., L.R.C.S. Edin., has been appointed Officer of Health to the borough of Newtown and Chilwell, Victoria, Australia, and to the shire of Meredith.

FISHER, WALTER, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Government Medical Officer and Vaccinator at Weston, New South Wales, Australia.

GAMBLE, MORRIS FREDERICK HORSLEY, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Deputy Medical Superintendent of the Metropolitan Lunatic Asylum, Kew, Victoria, Australia, during the absence on leave of Dr. Mullen.

GILL, J. MACDONALD, M.D. Lond., has been appointed Honorary Physician to the Royal Alexandra Hospital for Sick Children, Sydney, Australia.

HAY, A. G., M.D. Glasg., has been appointed Certifying Surgeon under the Factory Act for the Maryhill (Glasgow) District of the county of Lanark.

JAMIESON, J. W. M., M.B., Ch.B. St. And., has been appointed Physician to the Dundee Royal Infirmary.

JONES, P. SYDNEY, jun., M.B., Ch.B. Syd., has been appointed Honorary Surgeon to the New South Wales Deaf, Dumb and Blind Institute, Sydney, Australia.

SADLER, E. A., M.D. Lond., has been appointed Certifying Surgeon under the Factory Act for the Ashbourne and Mayfield District of the counties of Derby and Stafford.

STOKES, E. S., M.B., Ch.M., has been appointed Medical Officer and Bacteriologist to the Sydney Metropolitan Board of Water Supply and Sewerage.

TODD, J. N., M.B., Ch.B. Glasg., has been appointed Medical Officer to the Imperial Government Remount Depôt, Mooi River, Natal.

YOUNG, T. B., M.D. Brux., has been appointed Certifying Surgeon under the Factory Act for the Halesowen District of the county of Worcester.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARMY MEDICAL SERVICE, 68, Victoria street, London, S.W.—Examina- [illegible] ss than 25 commissions in the Royal [illegible]

[illegible] INFIRMARY AND CHILDREN'S HOS- [illegible] rgeon. Salary £120 per annum, with board, washing, and lodging.

[illegible] y Ophthalmic Surgeon. [illegible] SPITAL, Gray's Inn road, [illegible] Honorarium at rate of 40 [illegible]

[illegible] —Resident Medical Officer. [illegible]

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Anæsthetist. [illegible] Salary £100 per [illegible]

[illegible] SPENSARY.—Junior [illegible] nnum, with board, lodging, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Assistant House Surgeon Salary £60 per annum, with rooms, board, washing, and attendance.

DERBYSHIRE ROYAL INFIRMARY.—House Surgeon No. 2 and House Physician for 12 months. Salary in each case £100 per annum, with apartments, board, &c. Also Assistant House Surgeon for six months. Salary at rate of £60 per annum, with apartments, board, &c.

GROCERS' [illegible] for Sanitary Scienc [illegible] two years. [illegible] tant Medical [illegible] rd, lodging, [illegible]

[illegible] nd street, London, W.C.— [illegible] ualty Medical Officer, un- [illegible] h board and residence. [illegible] D WEST OF DISPENSARY.— [illegible] r annum, with residence, [illegible]

[illegible] Superintendent Salary [illegible] oard, lodging, and attendance.

NEW ZEALAND, UNIVERSITY OF OTAGO.—Professor of Physiology Salary £600, with half of class fees

NORFOLK AND NORWICH [illegible]

[illegible]

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory Act at Abingdon, in the county of Berks; at Alresford, in the county of Hants; at Kidwelly, in the county of Carmarthen; and at Peterborough, in the county of Northampton.

Births, Marriages, and Deaths.

BIRTH.

NORTON.—On Jan 1st, at Kennington Park-road, S.E., the wife of H Harvey Norton, L R C.P., M.R.C S, of a son.

MARRIAGE.

CARLING—COLEBROOK.—On Dec. 29th, 1904, at St. John Baptist Church, Kidmore End, Oxon, by the Rev. J. E. Smith Masters, assisted by the Rev. Canon W. W. Fowler, Henry Frank Carling, second son of William Rock Carling of Guildford, to Esther Lillie Colebrook, M.D., younger daughter of the late George William Colebrook of Reading.

DEATHS.

COPLEY.—On [illegible] mbs, William [illegible]

EDMONDS—C [illegible] Sanatorium, N. [illegible] the Rev. Her [illegible] late [illegible] R.P. Manchester Royal [illegible]

[illegible] Eton, Geoffrey, Edward [illegible]

[illegible] haw-street, St. Helens, [illegible] years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"CURE IN AN HOUR" BY RAZES.

Abou Bikr Mohammed Ibn Zakarya ar Razy, *usually known as Razes*, was one of the most illustrious physicians of the Arabian school and flourished in the tenth century, his death having taken place about A.D. 930 He is said to have been the author of some 200 works but it must be remembered that many treatises of Arabic medical writers are short ones, more of the nature of tracts than lengthy books. One of his most important works was upon Variola. Of his minor productions there is one entitled "Cure in an Hour" which has not hitherto been translated into a European language, though the Indian Mussulmans from time to time bring out very imperfect Arabic editions. Manuscripts of the work of more or less value are in the libraries of Paris, Berlin, Munich, Oxford, and Gotha, and there is an excellent one at Cairo. Dr. P. Guigues, professor at the Faculty of Medicine and Pharmacy at Beirut, possesses a valuable one also and there is a faulty copy in the library of the St. Joseph University at Beirut, useful, however, for collation with the Cairo text, because it is a member of the same family of codices Professor Guigues, who recently published a much larger Arabic medical work, "The Book of the Art of Treatment," by Najm Ad Dyn Mahmoud, with a valuable essay upon Arab pharmacy, has now translated into elegant French the little book of Razes, adding many valuable notes and giving a complete version of the Arabic as well (La Guérison en Une Heure par Razes, par le Dr. P. Guigues. Paris: Paul Geuthner, 10, Rue de Buci. 1904). In a kind of preface Razes presented an account of the reason which induced him to produce the work, which was that on one occasion the Vizir Abi-l Qassam Abdallah was discussing the question of disease and some of the disputants asserted that some illnesses, which resulted from the accumulation in the body of deleterious matter which before becoming manifestly injurious had been going on for days or even months, required in many cases days or months for their cure. But Razes added to the conversation that, on the other hand, there were some maladies which, if sufficient medical skill was attainable, could be cured in an hour. Thereupon the Vizir commanded him to produce a book stating what they were and the means for effecting their rapid cure Razes added in his prefatory note that it was his practice in his books to commence with the head and to discuss the various maladies until arriving at the feet and he would take the same course upon this occasion but as the diseases of some members, or parts of *the body, could not* be cured in an hour these would be passed over. The value of his treatise, it is better to state at the outset, is not so much, if at all, in the remedies which he proposes, as in the light that it throws upon the Arabic pharmacopœia, which is immensely enhanced by Professor Guigues's copious notes. It commences with headaches in the frontal region, for which Razes advises inhalation of Egyptian opium, that is, the juice extract of the papaver somniferum L. var. nigrum, obtained by incision of the capsules. He was, of course, recommending a comparatively pure [illegible] modern Egyptian variety. Another [illegible] seed. *He also advises a little* [illegible] it as he does not define their ingredients and as the varieties of them among the Arabs were very great it is useless to discuss these. The cause of headache in th central part of the cranium Razes attributes to excessive heat, [illegible] vinegar, and wine, [illegible] a concoction of [illegible] inegar. [illegible] the delphinium staphysagria of Linnæus, and also the sugar of another plant, the asclepias procera, *which was a discovery of Arabic herbalists.* The remedies for migraine are two first, fumigation with cyclamen or the bones of a dog If it is caused by facial paralysis barley-water, soaked barley mixed with gum ammoniac (dorema ammoniacum), and opopanax were to be prescribed. For epilepsy three plants, the cuscuta epithymum, the polypodium, and the lavandula stœchas, mixed with raisins, are promised to postpone any attack for a week. For epistaxis the insertion of alum in the nostrils is recommended and for hæmorrholds fumigation with arum and the internal administration of the same herb is stated to be most efficacious. Wounds are best healed by an *ointment consisting of lithocolle,* which was a [illegible]

[illegible] bases myrobolans, pepper, ginger, and so on A dose of the size of an almond might be taken at any time and by some persons daily, hence it was also called *the "Annual Electuary."* Razes, however, thinks a superior recipe is as follows. Citrullus colocynthis from which the skin is removed made into a suppository and so used will cure instantly unless the pain is very violent, in which case a handful of coriander, a little cumin and carum carui, and pomegranate seeds

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A Clinical Lecture

ON

EMERGENCIES IN OPHTHALMIC PRACTICE.

Delivered at the Glasgow Ophthalmic Institution on Nov. 29th, 1904,

By A. MAITLAND RAMSAY, M.D. Glasg.,
F.F.P.S. Glasg.,

SURGEON TO THE OPHTHALMIC INSTITUTION, GLASGOW
ROYAL INFIRMARY.

Gentlemen,—The necessity for acting with promptness and decision in a case of emergency affords the best opportunity to test the power and resourcefulness of any man, and what is true of all is specially true of a medical man. At any hour of the night or day he may be summoned unexpectedly to attend an urgent case. Everyone in practice must remember with what trepidation he used to respond to such calls and how anxiously he wondered what the illness might be and what he would be able to do for the patient. After a time the exigencies of general practice make the medical man accustomed to such sudden demands upon his powers. He learns to wait and to see and in all circumstances he trusts to his experience for guidance; but even an experienced practitioner may feel anxious when he is called in haste to attend to some critical condition in connexion with the eye. When he arrives at the house the patient may be in great agony and both he and his relatives all much excited lest blindness or impaired vision is to be the result of the accident. Unless the medical man keep cool and collected, know well what he is about, and is possessed of a fair measure of common sense, he is prone to become infected by the atmosphere of nervousness around and to err in being either too optimistic or too pessimistic. In the former case, knowing nothing of the conditions, he may assure the patient that all will be right in a day or two and may thereby arouse hopes that can never be fulfilled. On the other hand, by being too pessimistic, he may, with equal ignorance of the case but perhaps more regard for his own reputation, occasion much needless suffering by giving a grave prognosis wh[illegible] might have been able to do m[illegible]ufferings and to quiet the alarm [illegible].

Unguarded expressions of medical opinion are always to be deprecated and can be avoided only when a case is approached with full professional knowledge and with the care that comes of deliberate consideration, for it must be admitted that want of care is just as common a cause of mistakes in practice as is want of knowledge. If a general practitioner does not feel confident in his own ability to make a thorough diagnosis he ought to have no hesitation in expressing a wish for aid by consultation; and when he is in doubt he ought never to accept the responsibility of advising the patient to wait for a few days on the chance that the difficulty will pass over. An opinion begotten of hope rather than based on experience is always baneful, for it lulls a patient into a false sense of security and does irremediable harm by allowing time to be wasted which fuller knowledge and larger experience might have used to effect a cure.

As it is to the family medical adviser that patients as a rule appeal in the first instance for aid, and as the fate of a damaged eye depends in most instances on the treatment first adopted, I propose in this lecture to try to offer some guidance as to the best methods of dealing with the commoner emergencies in ophthalmic practice. It is, of course, impossible to refer to every form of accident that may occur, for to do so would require a complete course of lectures on diseases and injuries of the eye. Personal experience, however, even though it be limited, is always of value and so I shall try to present in a connected form notes of some cases of emergency that have occurred in my own practice Before I do so, however, let me urge one important point. In the country emergencies are much more difficult to cope with than in towns because it is often impossible immediately to obtain many things that are absolutely necessary. Every country practitioner should, therefore, for the instant demands of ophthalmic cases, always carry with him an emergency supply and for this purpose a pocket set of ophthalmic discs will be found convenient.

When a wound implicates the margin of the eyelid the surgeon must be very careful to bring the edges accurately together with a suture, for if he neglects to do so it is likely that one or more cilia may become inverted and, scratching the cornea with every movement of the lids, prove a constant source of discomfort. If the injury be situated at the inner canthus there is a grave risk that the tear passages will be wounded and unless the condition be at once recognised and a road for the escape of the tears opened up complete obstruction will take place in the process of cicatrisation and the patient will suffer from persistent watery eye. These precautions appear obvious but they are often neglected, and what might have been a very trivial injury becomes through inefficient treatment at the outset a cause of great trouble and annoyance. Some time ago, for instance, I was consulted by a gentleman whose carriage had come into collision with an electric car and who had in consequence received from a piece of broken glass a slight wound at the inner canthus of the right eye. He was at once attended to by a medical man who applied a dressing to the injured part and in a couple of days healing was complete. The patient then, however, began to complain of watery eye, and more careful examination showed that the cut, tiny though it was, had severed the lower canaliculus and that the cicatrix had blocked the duct. There was a complete stricture and only after much difficulty was this overcome and the patency of the tear passages restored. Had the true nature of the condition been recognised at the time of the accident and the canaliculus slit up to the lacrymal sac the damage might have been repaired with the greatest ease.

It is a very common thing for the eyelids to be extensively lacerated by the fragments of a burst bottle or by the violence used in the course of an assault, and in all such injuries the surgeon ought to make it his first care to be sure that the globe itself is not implicated, for unless this be done the really serious part of the accident may be overlooked. That actually happened in the case of a man whom I saw in consultation some time ago. He was about to pull the cork from a bottle of soda-water when the bottle burst and the broken glass cut the left upper and lower eyelids very severely. He was at once attended by the family medical adviser and by another medical man who was called in the emergency. The wounds in the lids were carefully sutured and it was not discovered until a week later that there was a cut in the globe at its outer aspect behind the ciliary region. As the eyeball had by this time become infected all attempts to save it were unsuccessful; but had a thorough diagnosis been made at the time of the accident and had the medical men treated the ocular wound as skilfully as they did those of the lids the probability is that the eye would have been saved. In such circumstances it is often very difficult, on account of the extensive laceration, the swelling, the hæmorrhage, and the pain, to make a satisfactory and sufficient examination, and consequently if the surgeon has any doubt regarding the state of the eyeball he ought to administer an anæsthetic and not rest satisfied until he has obtained a complete view of the globe.

It often happens that, owing to the extreme sensitiveness of the structures implicated, an accident to the eye seems much more serious than it really is. Indeed, the pain and symptoms of distress are often in inverse proportion to the gravity of the injury. Here, again, it is very difficult to make a satisfactory examination, for the pain and intolerance of light set up blepharospasm so intense that it is almost impossible to separate the lids. The accident often occurs in the simplest manner possible. A lady while dressing her hair strikes the cornea with the brush or the curling tongs, a gentleman is lighting a cigar when a spark flies from the head of the match and enters the conjunctival sac, or a nurse is playing with an infant and receives a scratch on the eye from the baby's finger nail. These are only a few examples from many that might be cited. In nearly every case the patient believes that serious damage has been done. He speaks of the pain as agony and is quite unable to open the eyelids. As a rule, however, a few applications of a 2 per cent. solution of cocaine overcome the surface irritability and permit the surgeon to separate the lids and to examine the cornea. A small abrasion is usually detected and if this be treated by an antiseptic lotion, an ointment containing cocaine, and a compress and bandage healing takes place rapidly. If, however, the breach of surface becomes infected by micro-organisms from the conjunctival sac, the edges of the lids, or the larcrymal passages, suppuration ensues, and what was, to begin with, a very insignificant injury becomes serious and a grave menace to sight. It must never be forgotten that no injury to the eye is so trivial that it can with safety be neglected or so insignificant as not to require the most skilful treatment.

Of all injuries to the conjunctiva none is more disastrous in its results than a burn, especially one due to the action of any chemical irritant, such as quicklime or sulphuric acid. In all cases of this kind the prognosis must be very guarded as the action of the chemical extends far beyond its point of application, and what seems at first sight only to have caused a greyish haze over a part of the surface of the cornea will probably by the end of a fortnight have brought about the total destruction of that membrane. It may be noted, however, that very severe causes do not always produce proportionately severe results. When molten metal, for instance, gets into the eye it might be expected to cause, and very often does cause, serious structural damage; and yet, on the other hand, there are cases in which the injury is remarkably slight. The explanation is that on the first entrance of the metal the great heat makes the moisture in the eye pass into what physicists call its "spheroidal state" and the spheroids of water, acting as a non-conductor, protect the eye from injury. In all severe burns both ocular and palpebral mucous membranes are destroyed and as the raw surfaces adhere to each other in the process of healing the eyelid becomes firmly fixed to the eyeball. This condition, which is known as symblepharon, will, no matter how much care is taken to prevent it, certainly occur in every case where the retro-tarsal fold of conjunctiva has been destroyed. If it be extensive, it not only interferes with vision but also causes intolerable discomfort from the sense of dragging which it produces. After an eye has been burned the conjunctival sac ought thoroughly to be irrigated with any bland fluid, and afterwards a few drops of cocaine dissolved in castor oil instilled, or preferably a 5 per cent. solution of chloretone in olive oil. An iced compress should be laid over the closed eyelids and the patient put to bed. In order to combat the inflammatory reaction which is sure to follow, the ice-cold compress should be continued for at least 12 hours and saline purgatives administered, while the pain must be subdued by the application of leeches and by the hypodermic injection of morphine in the temple. The use of anodynes has the additional advantage of inducing sleep and soothing the nervous system generally.

After a blow from a cork suddenly expelled from an aerated-water or champagne bottle there are always subconjunctival hæmorrhage and, if the contusion has been severe, more or less dimness of vision. The pupil is, at first, somewhat contracted and does not readily yield to the action of atropine, which may have to be instilled several times before full dilatation is produced. The pupil often expands irregularly, assuming an oval shape before becoming round. Unless the eyeball has received some structural damage the dimness of sight, which is supposed to be due to shock sustained by the retina at the time of the accident, is always transitory and often of very short duration. Intra-ocular hæmorrhage is of frequent occurrence after contusions of the eyeball, even in cases where there is no evidence of rupture of any portion of the uveal tract. The effused blood may appear in either the aqueous or the vitreous chamber; it always interferes with sight and produces a peculiar discolouration of the iris and sometimes patients complain that when they look at a light it seems to be red in colour. The delicate and sensitive tissues of the eye are very intolerant of sharp sudden blows and many eyes have been lost after such an apparently simple injury as that caused by the rebound of a twig of a tree, the flapping of a sail, or a stroke from a whip-lash. Such injuries may be followed by rapid loss of sight and by inflammation so severe and persistent as to terminate in atrophy of the eyeball. It is wise, therefore, always to adopt antiphlogistic treatment from the outset and after instilling atropine to apply leeches to the outer canthus and iced cloths to the closed eyelids, to administer a sharp purge, and to confine the patient to bed. An ophthalmoscopic examination should be made as soon as possible, because structural damage—hæmorrhage from the retinal and choroidal vessels, detachment of the retina, rupture of the iris or choroid, or dislocation of the lens—is not infrequent, and in view of possible legal proceedings in connexion with claims for compensation it is well to know of its existence without unnecessary delay.

Subconjunctival hæmorrhage may sometimes take place spontaneously and as the effused blood is readily seen the state of matters appears much worse than it actually is and always excites much alarm. In children it is not infrequent during an attack of whooping-cough and in adults it occasionally follows coughing, vomiting, or any violent exertion. As a rule, it is of very little significance and disappears completely in about a fortnight. It is always wise, however, before offering any definite opinion, to make an ophthalmoscopic examination, and, in the elderly especially, to take the additional precaution of examining the urine. It occasionally happens that after an accident a patient discovers, for the first time, that the sight of one eye is defective. He naturally attributes this to the injury, although it may be the result of congenital deficiency and may have been present all his life; consequently, the medical attendant must always be fully alive, not only to this possibility, but also to the fact that for the purpose of pecuniary gain the patient may be either exaggerating his symptoms or actually malingering.

When the injury has been so severe as to produce fracture of the bones at the inner side of the orbit, communication is opened up with the frontal and ethmoidal sinuses and air is thereby allowed to escape into the surrounding cellular tissue. This is known as emphysema of the eyelids. It is usually accompanied by epistaxis and the soft swelling is readily distinguished by crackling to the touch and increasing rapidly in size when the patient blows his nose. Here a firmly applied bandage is an essential part of the treatment. Again the bones of the orbit may be fractured without implication of the air sinuses and although externally there may be nothing visible except what is usually called a "black eye," yet the patient may not be able to distinguish light from darkness. In these circumstances it is likely that the optic nerve has been injured and although ophthalmoscopic examination shows at first little abnormal, yet sooner or later it will reveal all the signs of complete atrophy of the optic disc. After such an accident, therefore, the prognosis must always be guarded until sufficient time has elapsed to permit the case to declare itself fully.

The practitioner may, however, be called to attend a case of sudden blindness in which there is no history of injury. Here is an example. A girl, 17 years of age, came home from work apparently in her usual health and without pain or forewarning of any kind, while she was cutting bread for supper, she experienced a sensation as if a cloud had passed before her right eye and on looking up and closing the left she found that the eye affected was so blind that she was quite unable to distinguish light. A condition like this is in all probability permanent and the result of embolism of the central artery of the retina, so that the medical man must be on his guard not to misinterpret its significance and to confuse it with the transitory blindness which occasionally precedes sick headache or the dim vision which may be premonitory of glaucoma. He ought always to investigate the history of the case carefully, and roughly with his hand to map out the field of vision so as to determine whether the retina is wholly or only partially involved. In that way he may be able to arrive at some notion as to the probable cause of the defective sight—intra-ocular hæmorrhage, retrobulbar neuritis, detachment of the retina, &c.—but before committing himself to any definite opinion he should make a careful study of the results of ophthalmoscopic examination and if he be unable to use the ophthalmoscope himself he ought never to delay in obtaining the assistance of an expert.

In all those cases of sudden blindness to which I have just referred the patient, as a rule, never complains of pain, nor is there any sign of inflammation in the eyes themselves. It is, however, quite otherwise with the condition which I am now about to describe. Here also the onset of the failure of sight is sudden—often alarmingly so—but it is accompanied by agonising pain and intense inflammation. The onset of the symptoms frequently occurs during the night and is accompanied by bilious vomiting and perhaps purging. The danger is that the pronounced symptoms so common as accompaniments of an ordinary bilious attack may deceive the practitioner and draw away his attention from the real seat of trouble—the eyes. The patient himself may add to the misapprehension, for he naturally connects the pain in the head with the vomiting and attributes the failure of sight to the biliousness. In such a case one point is worthy of special notice, as it is always most helpful in the diagnosis. If the patient be questioned and should describe the eyeballs as feeling swollen almost to bursting and too large for the sockets, it is well to consider at once whether or not the case is one of acute [illegible] man should therefore take imme- [illegible] the globes to ascertain the state [illegible] Almost invariably the eyes will be found of stony hardness. There will be extreme congestion and œdema of the ocular conjunctiva, the pupil will be dilated, and the anterior chamber shallow. Let him be on his guard also not to misinterpret the significance of this form of ocular inflammation, for to do so is fatal. The dilated pupil and shallow anterior chamber, associated with the stony hardness of the eyeballs, are unmistakeably characteristic and ought to prevent glaucoma from ever being mistaken for iritis. Unfortunately, however, while that is so, such a mistake is far too common, and as the treatment for the one is exactly the opposite of that for the other the error is a very serious one. Atropine is instilled with the result that the symptoms are aggravated and the patient's chances of recovering sight are materially lessened. Whenever the practitioner satisfies himself that the case is one of glaucoma he ought at once to instil eserine, to put leeches to the temples, and to apply fomentations to the eyes. If in a few hours the pain has not subsided means must be taken to reduce intra-ocular tension by opening the eyeball so as to relieve the strangulation at the corneo-iritic angle. If the practitioner cannot obtain assistance he ought not to wait but should at once puncture the sclerotic with a narrow knife and allow some of the vitreous to escape. If he observes strict antiseptic precautions this can be done without danger and will give relief till the services of a specialist can be obtained. If the increased tension be not lowered impaired sight or even blindness will almost inevitably result but the hopelessness of the condition is at once removed by the performance of iridectomy. The all-important thing is that the case be taken in time.

In every instance that I have cited the ability to make an early and accurate diagnosis is a matter of the first importance. Delay is always dangerous and the patient's chances of a favourable result depend upon prompt and skilful treatment. It is true that an error in diagnosis may sometimes be rectified in time to prevent the patient suffering any serious damage but in acute glaucoma, if sight is to be preserved, surgical interference must take place as soon as possible after the disease has declared itself. Here the damage done by delay is irretrievable and all regrets are vain.

THE X RAY TREATMENT OF LEUKÆMIA.

REPORT OF A CASE, WITH AN ABSTRACT OF THE LITERATURE.

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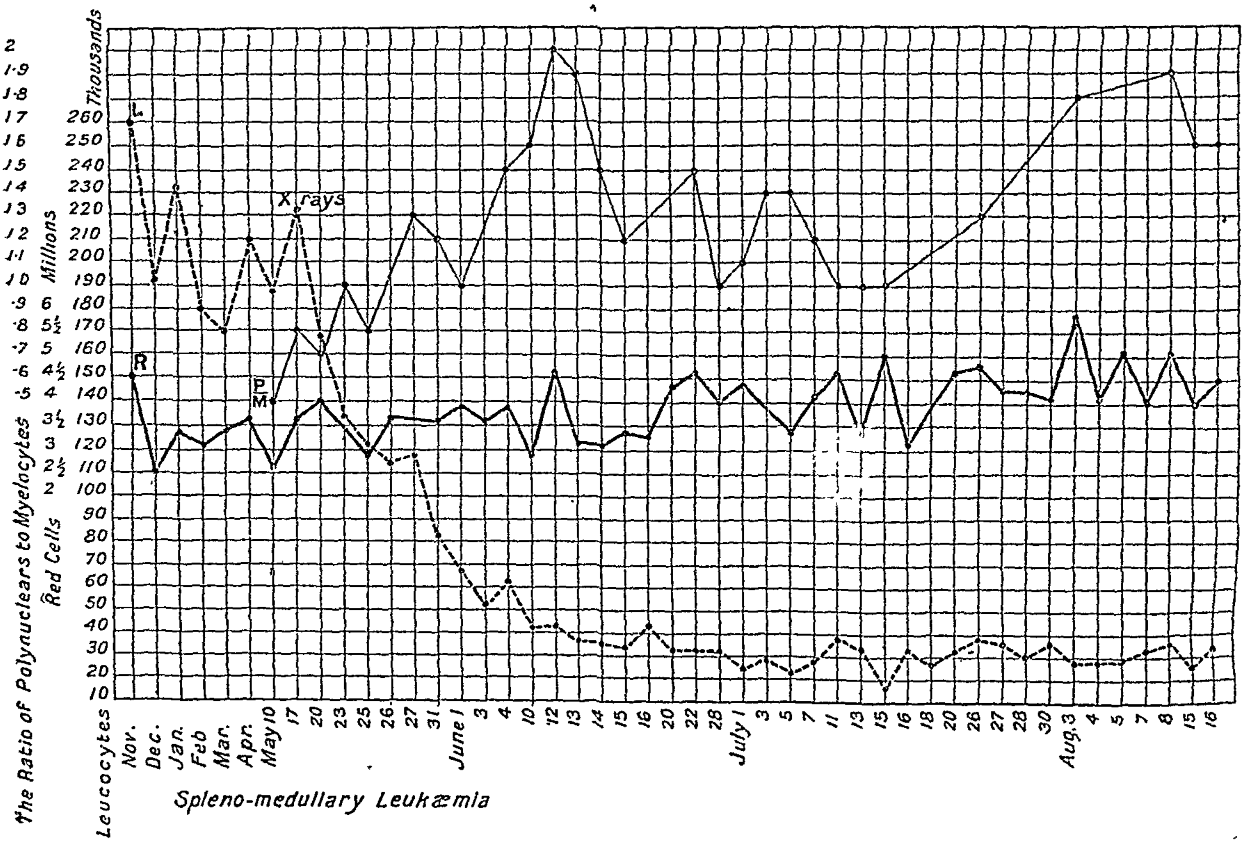
IN the *Medical Record* of August 22nd, 1903, there appeared an article by Nicholas Senn entitled "A Case of Splenomedullary Leukæmia successfully treated by the Use of the Röntgen Ray." The notes of this case were briefly as follows. The patient was a married female, aged 29 years, who for a year previous to admission to hospital had experienced sharp pains at varying intervals in the left hypochondriac region. Her abdomen had noticeably increased in size and over the epiphyseal extremities of the long bones and sternum dull aching pains were frequently felt. On admission in January, 1903, the spleen extended nearly to the pubes and two inches beyond the median line on a level with the umbilicus. It was tender on deep pressure. The liver was palpable below the costal arch. The urine amounted to 1200 cubic centimetres; it had a specific gravity 1015 and contained a trace of albumin. Slight cough was present. There were no tubercle bacilli in the sputum. The temperature varied from normal to 100° F., with a slight rise noticeable towards evening. The slightest exertion caused shortness of breath and rapid pulse. Blaud's pills and Fowler's solution were prescribed and continued for three weeks without making any impression. Three weeks after admission the x rays were applied over the spleen, sternum, and epiphyseal extremities of the long bones daily for from ten to 20 minutes. At the commencement of this treatment a blood examination showed: red cells, 3,500,000 per cubic millimetre; white cells (chiefly myelocytes and eosinophiles), 648,000 per cubic millimetre (no differential count recorded). Pronounced poikilocytosis was present. During the course of treatment the use of the x rays had to be suspended for a day or two on several occasions owing to the occurrence of high temperature and other symptoms of intoxication. Three weeks after the commencement of the treatment indications of progressive decrease in size of the splenic tumour were noted. The blood was examined at intervals of a few days and it was noticed that improvements in the condition of the blood kept pace with reduction in the splenic volume. The first decided changes were the gradual disappearance of the myelocytes and eosinophiles and the return of the erythrocytes to their normal shape. On April 12th the blood showed no myelocytes, only a very few eosinophiles, and very little poikilocytosis. The patient left the hospital but returned daily to the out-patient department for x ray treatment. Menstruation returned at regular intervals and the last blood examination showed no abnormalities in structure or in the relative numbers of red corpuscles and leucocytes. Senn attributes the result to prolonged use of the Roentgen rays.

In the *Medical Record* of April 9th, 1904, appeared an article by Bryant and Crane, entitled "Two Cases of Splenomedullary Leukæmia; Treatment and Recovery." The first case was that of a woman, aged 33 years, who was admitted to hospital on Sept. 29th, 1903. On admission the spleen extended two inches to the right of the umbilicus and three inches below it; it filled two-thirds of the abdomen. Examination of the blood gave the following result: red cells, 3,500,000 per cubic millimetre; hæmoglobin, 50 per cent.; and white cells, 176,000 per cubic millimetre. Myelocytes predominated and eosinophiles were increased; [illegible] present. [illegible] and the [illegible] ends of the long bones for ten minutes on every second day. On Oct. 12th the blood count gave the following result: red cells, 4,000,000 per cubic millimetre; hæmoglobin, 60 per cent.; and white cells, 55,700 per cubic millimetre. Myelocytes were diminished and polynuclear cells predominated. The x ray treatment was suspended from Oct. 12th to 25th owing to its causing nausea, headache, and nervousness, with cardiac palpitation. On Nov. 1st the blood was again examined with the following result: red cells, 5,000,000 per cubic millimetre; white cells, 4500 per cubic millimetre; and hæmoglobin, 60 per cent. The white cells were in normal proportions. Nucleated red cells were absent and the spleen was of normal size. The pain in the long bones had disappeared. On the 16th the blood was normal and the spleen extended a little below the twelfth rib. On the 27th the patient felt quite well. Her appetite was excellent and she felt better than she had done for years.

The second case was that of a male, aged 31 years, who was admitted to hospital on Feb. 16th, 1903. Enlargement of the abdomen had been noticed since 1899. The spleen extended into the pelvis. Examination of the blood gave the followin [illegible] metre; and [illegible] myelocytes. [illegible] doses, with bone marrow and iron. On August 1st the splenic tumour was noticed to be disappearing. On Oct. 12th the hæmoglobin was 80 per cent.; the red cells were 5,300,000 per cubic millimetre; and the white cells were 6400 per cubic millimetre. A differential count showed normal proportions. The splenic tumour had entirely disappeared.

Bryant and Crane state that the x ray treatment hastened matters in the first case. The woman had been under treatment but a very few days when there was noticeable diminution in the size of the spleen, followed by a severe constitutional reaction. The second case (with no x ray treatment) improved slowly with no marked disturbance, but the tumour did not begin to disappear till three or four months after the beginning of the treatment.

A remarkable article by H. Heinecke on the effect of the x rays on the internal organs appeared in the *Münchener Medicinische Wochenschrift* of May 3rd, 1904. He found that small animals exposed to the rays for a number of hours died in from seven to 14 days. The spleen showed an excessive increase in the pigment, disappearance of follicles, and destruction of the splenic pulp. A large number of animals of about the same size were then exposed to the x rays and it was found possible to separate entirely the processes in the follicles from those taking place in other parts of the spleen. The former started a few hours after beginning the radiations and were completed in 24 hours. The nuclei of the lymphocytes in the follicles disintegrated within a few hours and the remnants were taken up by the phagocytes which shortly disappeared from the spleen. This resulted in an almost complete destruction of the follicle. Analogous processes took place in all other lymphoid structures of the body and in the marrow. It was determined that the minimum length of time required to bring about these changes was 15 minutes in rabbits or a moderate-sized dog. Heinecke believes that similar effects take place in man and that the lymphoid structures are affected without there being any marked reaction in the skin. He therefore claims that a therapeutic application may be made of this principle in treating certain diseases of the lymphatic system, leukæmia, pseudo-leukæmia, and lympho-sarcomata. He also refers to cases treated in this way by American surgeons. The results obtained by the authors above quoted in the treatment of leukæmia and by Heinecke in his experiments on animals led us to believe that at any rate x ray treatment was worth a fair trial where other therapeutic measures had failed to make any impression.



Blood chart before and after the commencement of radio-therapy on May 17th, 1904.

In the medical wards of the Royal Hospital for Sick Children, Aberdeen, there happened to be a boy suffering from spleno-medullary leukæmia, with enormous enlargement of the spleen and a characteristic blood picture but whose general condition was otherwise so satisfactory as to render him an eminently suitable subject for treatment by the x rays. The following are brief notes of the case up to the point when x ray treatment was determined upon.

The patient, aged 11 years, was admitted on Nov. 19th, 1902. He was emaciated and weak but did not present any obvious signs of anæmia. There was marked distension of the abdomen, due to an enormous enlargement of the spleen, the lower border of which reached to within a finger's breadth of the pubes, while the anterior border extended two inches beyond the middle line. Examination of the blood showed the characteristic changes of leucocythæmia of the spleno-medullary type—red cells, 3,570,000 per cubic millimetre; white cells, 234,000 per cubic millimetre; and hæmoglobin, 80 per cent. Myelocytes were numerous but no differential count was recorded at this date. For a few days after admission the temperature rose in the evening to from 100° to 101° F. It then became normal, probably as the result of complete rest in bed, and continued so for several weeks. The boy was allowed up; this was at once followed by a return of the pyrexia, the evening temperature reaching from 102° to 103°, and on every subsequent occasion on which he was permitted to get up a similar rise of temperature with deterioration of the general condition was observed. Apart from these elevations of temperature, there were intermittent attacks of pyrexia for which no explanation could be found. The treatment consisted chiefly in rest and dieting. Arsenic in small doses was prescribed but was so badly borne that it had to be discontinued. For the one and a half years in which he was in the wards previously to the commencement of the x ray treatment there was little change in the boy's general condition. The spleen perceptibly increased in size but the blood, though the counts varied considerably, did not show any progressive deterioration.

Treatment with the x rays was begun on May 17th, 1904. During the preceding six months examinations of the blood were made at frequent intervals and it was found that the white cells oscillated round a mean of 200,000 per cubic millimetre, with variations of 40,000 on either side, while the red cells averaged 3,300,000 per cubic millimetre, the ratio of white to red remaining at the fairly constant figure of 1 to 15. As has been frequently noted in leukæmia the daily variations of the white cells were considerable, amounting in this case to 50,000 on several occasions. But a point to which sufficient attention has not been drawn is the remarkable and unaccountable variation in the number of red cells from day to day; a drop of 500,000 or even 1,000,000 within such a short interval as two days was quite a marked feature, and it is to be noted that treatment of a therapeutic nature could have played no part in bringing about such changes, for no therapeutic treatment of any kind was employed. The hæmoglobin percentage, as ascertained by Haldane's instrument, remained fairly constant, about 55 per cent. A few differential counts are appended showing the condition of the blood in the six months previous to the x ray treatment. On Nov. 7th, 1903, examination of the blood gave the following result: red cells, 4,056,000 per cubic millimetre; white cells, 260,800 per cubic millimetre; myelocytes, 48 per cent.; polymorphonuclears, 39 per cent.; small and large lymphocytes, 8 per cent.; mast cells, 6 per cent.; and nucleated red cells, 4 per 100 white cells. On March 24th, 1904, the blood count was as follows: white cells, 236,800 per cubic millimetre; myelocytes, 56 per cent.; small lymphocytes, 5 per cent.; large lymphocytes, 12 per cent.; polymorphonuclears, 18 per cent.; ordinary eosinophiles, 8·9 per cent.; and normoblasts, 3 per 100 white cells. On May 10th, exactly a week before the commencement of the x ray treatment, a blood examination showed: red cells, 2,560,000 per cubic millimetre; white cells, 188,000 per cubic millimetre; io of white to red cells the leucocytes gave th es, 9 per cent.; large lymphocytes, 12 per cent.; large hyaline leucocytes, *nil;* neutrophile myelocytes, 44 per cent.; coarsely granular eosinophile myelocytes, 1 per cent.; finely granular eosinophile myelocytes, 1 per cent.; polymorphonuclears, 22 per cent.; ordinary eosinophiles, *nil;* mast cells, 8 per cent.; and nucleated red cells, 8 per 100 white cells. The ratio of polynuclears to myelocytes was 0·5, the myelocytes predominating largely, as was the case in all the counts made during the previous six months.

Following Senn's method, the x rays were applied over the splenic tumour and the lower epiphyses of the femora. Occasionally also they were applied over the sternum and vertebræ. The exposures lasted from ten to 15 minutes every alternate day, but for a period an exposure was given every day with no bad effects. In fact, throughout the three months of x ray treatment no constitutional effects were noted at all apart from slight prickling sensations lasting for a short time after the applications. There was never any nausea, headache, or rise of temperature traceable to the x ray treatment. In this respect this case differed considerably from Senn's and Bryant and Crane's cases. It must be noted, however, that during the week June 12th to 18th a marked erythema appeared over the splenic area which had been exposed to the rays. (N.B.—The vacuum tube was always fixed at a distance of somewhat over five inches from the area exposed.) The part did not itch, nor did it cause the patient any inconvenience, but it was considered advisable to discontinue the exposure over the splenic area until the erythema had disappeared and the epiphyses only were exposed. In a few days some small dry blisters appeared in the erythematous area and the patch rapidly desquamated, leaving a clean white healthy epidermis. This was the only untoward effect of the x ray treatment and in itself was quite insignificant. It cannot be too strongly insisted, however, that great caution is necessary in exposing to the rays an enlarged spleen in such close proximity to the exterior. Were a burn to intervene the consequences might be disastrous.

During the treatment, careful blood examinations were made either daily or on alternate days and generally immediately after the exposure to the x rays. The accompanying three curves (see chart), indicating the course taken by the white cells, the red cells, and the "polymorphonuclear-myelocyte" ratio, require some explanation. Along the abscissa line are noted the dates on which blood examinations were made. The curves from November to April are composite

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and the influence exerted on this ratio by the x ray applications have led us to represent this quotient graphically:—

Leucocyte curve (commencing L.) ....
Erythrocyte ,, (,, R.) ▬▬▬
Polynuclear : myelocyte } ,, (,, P/M) ———

In making the differential counts of the leucocytes the following classification was adopted:—

S.L. = Small lymphocytes (percentage).
L.L. = Large ,, ,,
L.H. = ,, hyaline leucocytes (percentage).
N.M. = Neutrophile myelocytes ,,
C.E.M. = Coarsely granular eosinophile myelocytes (percentage).
F.E.M. = Finely ,, ,, ,, ,,
P. = Polymorphonuclears (percentage).
O.E. = Ordinary eosinophiles ,,
Masts = Mast cells
N.R. = Nucleated red cells per 100 white cells.
T. = Transitional forms. These cells were mononuclear and contained large irregular burnt-sienna coloured

As so many observers have noted, a classification of the leucocytes in leukæmia depends largely on the personal equation. Probably no two observers, however conversant with the extraordinary variety of leucocytes in leukæmia, will adopt exactly the same system of classification. The classification adopted above suited extremely well and the same stains were, as a rule, employed on every occasion. These were eosin and methylene-blue, employed separately after heat fixation. Jenner's and Leishman's stains were also employed on several occasions. The following are the results of the different blood counts:—

May 17th (date of commencement of x ray treatment).

Red cells,	3,696,000 per c.mm.
White cells,	222,000 ,,
S. L.,	14 per cent.
L. L.,	15 ,,
L. H.,	2 ,,
N. M.,	26 ,,
C. E. M.,	3 ,,
F. E. M.,	1 ,,
P.,	24 ,,
O. E.,	1 ,,
Masts,	10 ,,
N. R.,	2
P. : M.,	0·8

The ratio of white to red cells was 1 to 16.

June 1st.

Red cells,	3,928,000 per c.mm.
White cells,	66,800 ,,
Hæmoglobin,	44 per cent.
S. L.,	10 per cent.
L. L.,	12 ,,
L. H.,	2 ,,
N. M.,	26 ,,
C. E. M.,	2 ,,
F. E. M.,	2 ,,
P.,	31 ,,
O. E.,	0 ,,
Masts,	14 ,,
N. R.,	9
P. : M.,	1·0

The ratio of white to red cells was 1 to 57.

June 22nd.

Red cells,	4,576,000 per c.mm
White cells,	32,400 ,,
S. L.,	8 per cent.
L. L.,	4 ,,
L. H.,	5 ,,
N. M.,	26 ,,
C. E. M.,	3 ,,
F. E. M.,	0 ,,
P.,	42 ,,
O. E.,	0 ,,
Masts,	12 ,,
N. R.,	1
P. : M.,	1·5

The ratio of white to red cells was 1 to 141.

July 15th.

Red cells,	5,008,000 per c.mm.
White cells,	17,800 ,,
S. L.,	8 per cent.
L. L.,	4 ,,
L. H.,	1 ,,
N. M.,	33 ,,
C. E. M.,	7 ,,
F. E. M.,	0 ,,
P.,	42 ,,
O. E.,	0 ,,
N. R.,	3
T.,	4 per cent.
P. : M.,	1·0

The ratio of white to red cells was 1 to 281.

August 3rd.

Red cells,	5,936,000 per c.mm.
White cells,	26,200 ,,
S. L.,	6 per cent.
L. L.,	3 ,,
L. H.,	0 ,,
N. M.,	28 ,,
C. E. M.,	4 ,,
F. E. M.,	0 ,,
P.,	57 ,,
O. E.,	0 ,,
N. R.,	1
T.,	1 per cent.
P. : M.,	1·8

The ratio of white to red cells was 1 to 226.

August 10th.

Red cells,	4,560,000 per c.mm.
White cells,	34,600 ,,
S. L.,	5 per cent.
L. L.,	7 ,,
L. H.,	2 ,,
N. M.,	27 ,,
C. E. M.,	4 ,,
F. E. M.,	0 ,,
P.,	51 ,,
O. E.,	0 ,,
Masts,	,,
N. R.,	3
T.,	2 per cent.
P. : M.,	1·6

The ratio of white to red cells was 1 to 131.

A consideration of the curves will show that the leucocyte count came gradually down from 222,000 per cubic millimetre on the first day of treatment to 23,000 on July 5th—i.e., in the space of six weeks. After this date till the middle of August, when the x ray treatment was discontinued to permit of the patient's going to the convalescent home, the leucocyte count oscillated round a mean of 30,000. On one occasion it dropped to 17,800 but never lower. Thus the reaction to the x rays in our case differed somewhat from that in Bryant and Crane's first case and in Senn's case, in which the leucocytes dropped to normal. From August 17th onwards the leucocytes showed a slight tendency to increase and it was determined to renew the x ray treatment on the boy's return to hospital. The red blood cells during the period of treatment showed the same extraordinary variations which were noted before the commencement of treatment, but the average was much higher. During June, July, and August the mean was about 4,500,000 per cubic millimetre and on several occasions counts of over 5,000,000 were recorded. The hæmoglobin appeared to remain fairly stationary at from 55 to 60 per cent. Regarding the differential counts it will be seen from the curves and the detailed records that as the total of leucocytes diminished the myelocytes, which had previously been the predominating cells, now began to take the second place, the polymorphonuclears taking first place, and the ratio of polynuclears to myelocytes rose from 0·5 before the x ray treatment to 2. The myelocytes, however, showed no tendency to disappear altogether and the blood did not return to normal proportions, as was noted in Senn's and Bryant and Crane's cases.

The effect of the x rays on the blood in leukæmia is, however, exceedingly interesting. In fact, the x rays appear to act exactly as an intercurrent affection does on the leukæmic blood picture. A very systematic description is given of the influence of complicating diseases on leukæmia by Dock.[1] Thus in a case of leukæmia in which influenza intervened the white cells came down from 367,070 to 7500 per cubic millimetre, the myelocytes from 48 to 11 per cent., while the polynuclears rose from 41 to 60 per cent. Dock also notes in several cases a rise in the red cells simultaneously with a fall in the white. In our case this fact was specially noticeable. Further, the counts of nucleated red cells deserve mention. Dock observed that during the low leucocyte stage following an intercurrent affection the nucleated red cells rose to a high level. Our tables for the month of June show that these cells likewise increased largely as the leucocytes fell. During July and August, however, the percentage dropped to a lower level, while the leucocytes remained more or less stationary. During the rapid fall of leucocytes from the middle of May to the middle of June the percentage of mast cells rose to the high level of 16. After this they slowly declined to an average percentage of 3. The lymphocytes did not show any great variation in the total percentage of the three varieties, remaining about an average of 18.

In regard to these interesting blood changes, however, it must never be lost sight of that arsenical treatment may produce similar changes. Thus an extraordinary case was recorded by Simon and Campbell.[2] The patient was a woman, aged 35 years, with enlarged spleen and typical leukæmic blood picture. With large doses of Fowler's solution the leucocytes dropped from 350,000 to 4000 per cubic millimetre in May, 1903. Since that time they have remained within normal limits. The spleen has also diminished, so as now to be barely palpable. Simon and Campbell say that it is the only case on record in which both the splenomegaly and the myelæmia have disappeared and improvement persisted uninterruptedly for a year. In discussing this case Osler remarked that he had three cases in which the leucocytes disappeared entirely in leukæmia. In two of his cases the splenic tumour did not disappear but remained large, while the leucocytes fell to normal. He attributes these effects to long-continued treatment with arsenic in full doses.

We have noted the changes in the myelæmic blood picture produced by the x rays. It remains for us to describe the most remarkable effects the treatment has had on the general condition of the patient and on the splenic tumour. Previously to this treatment the patient was more or less bedridden, owing to the invariable rises of temperature that the mere getting out of bed and lying on a couch produced. Further, walking was always difficult and breathlessness with face-flushings exceedingly troublesome. However, within a month after the commencement of treatment the patient felt distinctly better and was able to walk down to the Roentgen ray room and after exposure to climb the stairs leading to the ward. In fact, the boy walked with the greatest ease and without any bad effect or even rise of temperature.

The following were the abdominal measurements at the commencement of the x ray treatment. Maximum girth (at a level four inches above the umbilicus) was 32⅛ inches, the girth at the level of the great notch (two inches above the umbilicus) was 32 inches, and the girth at the umbilicus was 29½ inches. At the level of the umbilicus the spleen extended two and three-quarter inches to the right of the middle line. At the level of the lower pole of the spleen in the right iliac fossa it extended four and three-quarter inches to the right of the middle line. On May 24th the girths at the same levels were respectively 32, 31, and 28 inches. On August 1st they were respectively 29¾, 29, and 27½ inches. On Sept. 24th they were respectively 30, 26½, and 26 inches. From the middle of August to Nov. 1st the patient remained in the convalescent home and no x ray applications were made. During this period several blood examinations were recorded, for which we are indebted to Mr. James Adams. These showed a slight tendency to increase on the part of the leucocytes, the average being about 45,000 per cubic millimetre, the red cells, also sensibly diminished, averaging 3,600,000 per cubic millimetre. The ratio of polynuclears to myelocytes, however, remained high, with an average of 1·3. During his stay in the convalescent home the patient enjoyed excellent health and on his return to hospital on Nov. 1st his general condition was exceedingly satisfactory. Regarding the patient's weight at different periods it may be noted that on May 9th the weight recorded was 4 stones 6 pounds; on June 6th it was 4 stones 6 pounds 12 ounces; on July 18th 4 stones six pounds six ounces; on August 15th 4 stones 6 pounds; on Nov. 2nd 4 stones 13 pounds 5 ounces; and on Nov. 21st 5 stones 1 pound 8 ounces. The abdominal girths taken at the above levels on Nov. 23rd were respectively 31¼, 30, and 29 inches. It will thus be seen that the effect of the x rays on the splenic volume has been on the whole slight. Very shortly after the commencement of the x ray treatment, however, it was noted that the splenic tumour was markedly softer on palpation and at the present moment it is undoubtedly smaller than it was when the patient left hospital, in spite of the fact that the abdominal girths show only a slight reduction. Possibly the fibrosis which we know to occur in the late stages of the leukæmic spleen will not permit of any great diminution in the splenic volume in our case.

The results of the x ray treatment in the case of our patient have been indeed surprising and it is interesting to compare them with those recorded during the past few months by German, French, and American observers. We have already referred to Senn's and Bryant and Crane's papers on the subject at the commencement of this article, as it was the results gained by these workers which instigated the adoption of x ray treatment in our case. It appears that Pusey[3] was the first to adopt the treatment of leukæmia by the x rays. In one case of the splenomyelogenous type he observed no effect, but in one of lymphatic leukæmia there was a very marked diminution in the glandular and splenic tumour with no noticeable fall in the leucocytes. Recurrence unfortunately took place and finally death ensued. Grad[4] reports improvements in a case diagnosed as leukæmia by x ray treatment. This case, however, loses much of its value from the fact that no results of blood examinations are given. Brown[5] gives notes of a case of myelogenous leukæmia symptomatically cured by the x rays. At the commencement of treatment the red cells numbered 2,600,000 per cubic millimetre, white 800,000 per cubic millimetre, polynuclears 40 per cent., myelocytes 40 per cent., eosinophiles 8 per cent., and hæmoglobin 65 per cent. During the first two months iron and arsenic were also administered. These were then discontinued and the x rays alone were employed. After seven and a half months' treatment the leucocytes had fallen to 7894 per cubic millimetre and the red cells had risen to 4 690 000 per cubic millimetre while the hæmoglobin was 95 per cent The polynuclears were now at a percentage of 74 *and the myelocytes had fallen to 20 per cent* A slight dermatitis appeared once or twice over the exposed splenic area but no bad results ensued Grosh and Stone[6] report a case of leukæmia on which the x rays were tried after a nine months course of arsenic and mercury *The patient a male aged 44 years was admitted in June,* 1903 The blood count gave the following result red cells 2,100 000 per cubic millimetre white cells 960 000 per cubic millimetre, myelocytes numerous Very detailed accounts are given of the blood picture during these nine months It appeared that the myelocytes increased as the disease became more chronic Treatment by the x rays was begun on Feb 24th, but a mixture containing iron arsenic and mercury was continued After 20 sittings the leucocytes had fallen from 252 000 to 10 600 per cubic millimetre and the myelocytes from 52 per cent to 2 per cent The spleen was smaller and the general condition was fair Owing to the development of some superficial burns on the abdomen and the elbow the x ray treatment was discontinued on March 20th Unfortunately however although as Grosh and Stone remark, the burns were healing nicely the patient began suddenly to fail in strength and died from general asthenia At the necropsy the spleen was found to be in a condition of chronic hyperplasia with fibrosis and in the authors opinion x ray treatment could have had little effect on a spleen in this late stage

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[1] American Journal of the Medical Sciences, April, 1904.
[2] Johns Hopkins Hospital Bulletin, May, 1[illegible]
[3] Journal of [illegible] pril 12th, 1902.
[4] Jo[illegible] p. 30.
[5] Journal of t[illegible] rch 26th, 1904.

Krone[7] records a case of splenic leukæmia which he treated with the x rays The patient was an adult male At the commencement of treatment the ratio of white cells to red cells was 1 to 8 This fell after a short time to 1 to 20 and the spleen became softer and smaller The girth also diminished though the body weight rose slightly There was great improvement in the general condition but naturally the patient could not be regarded as cured

Ahrens[8] records a very interesting case in which the ratio of white to red cells was 1 to 1 and the splenic tumour was twice the size of a man s head The patient was a male aged 27 years After 20 sittings there resulted a great improvement in the general condition of the patient who was now able to take long walks After 35 sittings the spleen was just felt below the left rib margin and after the fiftieth sitting it was scarcely palpable The ratio of white to red cells had also fallen to 1 to 525 The case was thus apparently cured and the patient was advised to lead a quiet life and to report himself at intervals A count made at the end of one month showed no notable changes but a few weeks afterwards a remarkable relapse occurred the patient having indiscreetly over exerted himself and thereby caught a chill The spleen was now found to extend again to the ileo cæcal region and the leucocytes had *increased* 20 fold The x rays were again applied and the spleen became a little smaller but the blood was not markedly influenced High fever and sweating intervened ending in death A necropsy revealed a splenic tumour weighing six and a half pounds (German weight) with numerous infarcts In discussing the case Ahrens believes that during the treatment the x rays had rendered innocuous the exciting pathological factor and that on the cessation of the treatment it had once more gained entrance from the exterior or revived in the interior of the body organism producing similar anatomical and functional changes

Aubertin and Beaujard[9] record in one case of myelogenous leukæmia in a male patient 60 years of age with enlargement of the spleen and the liver a considerable rise in the leucocyte count after each application of the x rays It remained high for 24 hours and then fell below the original level The red cells showed no diminution and occasionally there was an increase immediately after the sitting The diminution in the size of the spleen and the liver was trifling but the general condition of the patient was much improved

Gulloz and Spillmann[10] record a case of splenic leukæmia in a woman aged 27 years The splenic area alone was exposed Examination of the blood on Dec 1st before the application of the x rays gave the following result red cells 2 724 000 per cubic millimetre, and white cells 11 200 per cubic millimetre (no differential count was recorded) After four sittings on Dec 1st 4th 8th and 14th the red cells numbered 1 074 000 and the white 8400 per cubic millimetre Further counts made at irregular intervals after each series of x ray *séances* showed invariably a fall in the leucocytes with a slight reduction also of the red cells Once however, the red cells were observed to rise, while the white cells sank On May 10th the red cells were 1 560 000 and the white 4400 per cubic millimetre Gulloz and Spillmann *remark that the leucocytic formulæ were also modified* but unfortunately they do not record any differential counts At the same time the splenic tumour diminished in size and the general condition of the patient was much improved, in fact there was a ' veritable transformation '

Capps and Smith[11] contribute a preliminary report on x ray therapy in leukæmia In ten collected cases of the spleno myelogenous type the splenic tumour decreased in size and in three of these it became barely palpable In four the leucocyte count fell under 10 000 per cubic millimetre with entire disappearance of myelocytes In six lymphatic cases death resulted in four but three of these fatal cases ran an acute or subacute course The fourth showed a great shrinkage of the gland tumours and an improvement in the blood before death took place The remaining two cases show steady continuous improvement in the blood the glands and the spleen Capps and Smith also cite cases by Weber[12] Dunn[13] and Chester[14] but we have been unable to refer to the original articles

Rothe[15] employed the x rays in a case of myelogenous leukæmia in a woman 34 years of age The originally enormous splenic tumour rapidly diminished and the leukæmic blood picture disappeared

Friedl[16] reports two cases of leukæmia in which improvement resulted but is unable to say whether the improvement will be permanent The first case was that of a male aged 59 years Examination of the blood showed red cells 2 525 000 per cubic millimetre white cells 89 335 per cubic millimetre ratio of white to red cells 1 to 28 (myelocytes 38 214 polynuclears 52 143 lymphocytes, 8214) and hæmoglobin 60 per cent After 26 days the spleen was much reduced in size and a blood examination showed hæmoglobin 74 per cent red cells 3 925 000 per cubic millimetre, and white cells 6785 per cubic millimetre (myelocytes 2500 and polynuclears 4285) Great improvement resulted in the general condition The second case was that of a female aged 46 years Examination of the blood showed hæmoglobin 60 per cent , red cells 3 075 000 per cubic millimetre, and white cells 185 000 per cubic millimetre In two days the leucocytes fell to 132 000 (myelocytes 27 857 polynuclears 72 857 and lymphocytes 32 142) In 22 days the leucocytes fell to 50 500 and in 27 days to 31 400 per cubic millimetre The red cells during the x ray treatment rose to 3 375 000 per cubic millimetre The abdominal girth diminished from 92 to 88 centimetres The patient is to be treated further

Schweinburg[17] recorded at the Versammlung Deutscher Naturforscher und Aerzte zu Breslau a case of splenic leukæmia in which treatment by the x rays produced diminution in the size of the spleen and in the number of the leucocytes In the discussion Soetbeer likewise mentioned a case successfully treated by the x rays Krause at the same meeting recorded two cases of pseudo leukæmia *and three cases of leukæmia treated by the x rays* The two cases of pseudo leukæmia showed improvement in the general condition and the gland tumour diminished slightly in one and the splenic tumour in the other Of the leukæmias one was much improved The leucocytes sank from 320 000 to 75 000 per cubic millimetre while the splenic tumour diminished by one third In the second case the leucocytes fell from 156 000 to 24 000 per cubic millimetre, the general condition was improved but diminution of the splenic tumour was not made out In the third case the leucocytes fell from 220 000 to 80 000 per cubic millimetre but the splenic tumour had not as yet sensibly decreased

A very interesting and detailed account is given by Schenck[18] of the results of x ray treatment of a case of lymphatic leukæmia The case was treated in the German Hospital in London Briefly the notes are these The patient a female aged 53 years was admitted on

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[11] [illegible] Sept 24th 1904

[15] [illegible] 9th 1904

[16] [illegible] 4th 1904

August 10th. The splenic tumour was fairly hard, reaching to the middle line of the abdomen, two fingers' breadth below the umbilicus. The red cells numbered 1,500,000 and the white cells 45,000 per cubic millimetre. The small lymphocytes formed the great majority of the leucocytes. The hæmoglobin was 30 per cent. The ratio of white to red cells was 1 to 33. From August 25th to Oct. 15th 35 x ray applications were made over the region of the spleen and the sternum. A few days before the commencement of this treatment the general condition of the patient showed a marked improvement which continued for some time during the x ray applications. Then a relapse occurred, accompanied by vomiting, diarrhœa, and albuminuria, which the continued applications of the x rays failed to check, and death occurred on Oct. 19th. The effects on the splenic tumour and the blood picture deserve mention. The spleen became at first somewhat softer but after the thirty-fifth sitting its volume had diminished so considerably that its anterior border was now removed a hand's-breadth from the middle line. Under the x ray treatment the red corpuscles rapidly and progressively diminished while the white cells, which had risen rapidly from 45,000 to 140,000 per cubic millimetre before commencement of the treatment, fell thereafter more slowly to 32,000. There was no apparent change in the differential count. Before the x ray treatment the lymphocytes formed 90 per cent. while the polynuclears formed 10 per cent. of the leucocytes. After 20 sittings these proportions remained the same.

In the same number of the *Münchener Medicinische Wochenschrift* a case of leukæmia treated with the x rays is reported by Cahen. After a few applications the splenic tumour became markedly softer and smaller. Ultimately after 22 sittings the spleen had diminished in volume so much as to be no longer palpable. Further, the white cells fell from 98,560 to 4375 per cubic millimetre, while the red cells rose from 3,925,000 to 4,625,000. The improvement in the general condition of the patient was also remarkable and Cahen hopes to avoid the unfortunate experience of Ahrens[19] by keeping the patient under close observation and applying the x rays periodically from the prophylactic point of view. After the twenty-fifth sitting a slight erythema was observed on the left side, but with ordinary treatment it disappeared.

Joachim and Kurpjuweit[20] report two cases of leukæmia treated by the x rays. The first was a typical case of myelæmia. The patient, a female, aged 39 years, was admitted on May 31st, 1904. She had an enormous splenic tumour. A blood examination on June 15th, two days before the commencement of the x ray treatment, showed hæmoglobin, 40 per cent.; red cells, 2,500,000 per cubic millimetre; and white cells, 693,000 per cubic millimetre; polynuclear cells, 32·8 per cent.; large and small lymphocytes, 2·6 per cent.; mononuclears, 1·2 per cent.; mast cells, 4·2 per cent.; eosinophiles, 1·8 per cent.; eosinophile myelocytes, 1·8 per cent.; and neutrophile ditto, 55·6 per cent. On Sept. 21st the white cells had fallen to 6300 and the red cells had risen to 3,400,000 per cubic millimetre, while the myelocyte percentage fell to 3·5 and the polynuclear percentage rose to 71·5. The last recorded count on Oct. 26th showed that the white cells had risen slightly to 26,000. It is noted that while the leucocytes were diminishing rapidly the mast cells also fell from a percentage of 4·6 to one of 1·4. The lymphocytes also fell at first parallel to the fall in the total leucocytes but later much more slowly. Before treatment the percentage was 6·1; in the first period of x ray treatment it fell to 5, then gradually rose to 13·5. The red cells almost doubled their number during the treatment and nucleated red cells fell considerably. The diminution in the size of the splenic tumour was very marked and the patient's general health had greatly improved. She appeared, in fact, perfectly healthy. The second case was one of chronic lymphæmia. The patient, a male, aged 50 years, was admitted on June 3rd. There was great enlargement of the spleen, the liver, and the lymph glands. Examination of the blood gave the following result: hæmoglobin, 55 per cent.; red cells, 3,200,000 per cubic millimetre; white cells, 385,000 per cubic millimetre; small lymphocytes, 80 per cent.; large ditto, 19 per cent.; and polynuclears, 1 per cent. Soon after admission the patient left the clinic but returned on August 1st, when it was found that the white cells numbered 500,000 and the red cells 2,500,000 per cubic millimetre. Four weeks after the commencement of the x ray treatment the white cells had fallen to 30,000 per cubic millimetre but there was no appreciable change in the differential count. The gland swellings diminished rapidly within the first 14 days and the splenic tumour was also very noticeably reduced in size. An improvement in the general condition was, however, not realised and the red cells sank still lower. The patient left the clinic again on Sept. 5th on domestic business, promising to return in a few days, but he remained away for two months. His condition on return was as follows. He appeared somewhat more reduced than before; the lymph glands showed no change and the spleen had not become larger. Examination of the blood showed: hæmoglobin, 35 per cent.; red cells, 1,600,000 per cubic millimetre; white cells, 8800 per cubic millimetre; small lymphocytes, 45·5 per cent.; large ditto, 30·5 per cent.; mononuclears, 2·5 per cent.; polynuclears, 20·5 per cent.; and eosinophiles, 1·0 per cent. There was thus a considerable rise in the percentage of polynuclear elements. In other respects the blood condition was not satisfactory as the red cells remained at a low level and exhibited the changes associated with severe anæmias.

At a sitting of the Berlin Medical Society on Nov. 23rd, 1904, Grawitz[21] reported shortly on a case of leukæmia treated by him. The patient was a male, aged 54 years. The red cells were 1,000,000 per cubic millimetre and there were 1,250,000 "lymphoidzellen" per cubic millimetre. The spleen, the liver, and the glands were much enlarged. After 23 sittings there was marked improvement. The spleen, the liver, and the glands had been reduced in size and the "lymphoidzellen" had almost completely disappeared. At the same meeting Levy-Dorn showed a case of pseudo-leukæmia successfully treated by radiotherapy. He found that only those gland swellings exposed to the rays disappeared while the others either remained unaltered or increased in size.

It will be seen from a careful analysis of the recorded cases that with one or two exceptions (the cases of Ahrens and Stone) all the patients suffering from myelogenous leukæmia have experienced under x ray treatment remarkable improvement both in the objective and subjective symptoms. At this stage, however, it would be quite premature to presume that the improvement will be a permanent one. Nearly all the observers have been so surprised at the almost immediate effect of x ray treatment on the blood, splenic tumour, and general condition of the patient that they have published their results forthwith. When these so-called "cured" cases and those in which marked improvement has resulted have been under observation for some considerable time, with or without renewal of the treatment, we shall be in a better position to judge of the true value of this novel therapeutic method. Thus Senn, in a letter (March 20th, 1904) to Grosch and Stone,[22] reported that his two cases of pseudo-leukæmia were well and the case of myelogenous leukæmia which made such an excellent recovery had returned with a moderate relapse and was again under x ray treatment. At present, however, we can have no doubts regarding the more or less rapid effects of x ray treatment on the blood picture, the splenic tumour, and the general condition. In some cases (notably Senn's and Bryant and Crane's first case) the leukæmic blood picture is said to have entirely disappeared, while most of the observers, including ourselves, have been enabled to record only a rapid fall of the white cells to a normal, or approximately normal, level, this fall being invariably accompanied by a great diminution in the myelocyte percentage and a corresponding rise in the polynuclear percentage. In other words, the essentially leukæmic character of the blood has shown a tendency to disappear but not entirely. Detailed blood counts have, however, been recorded in only a few cases. A very satisfactory feature has been the almost invariable rise of the red cells to a higher level, while the leucocytes fell. This feature was notably absent in the cases of lymphatic leukæmia where, it must be confessed, the general results of the x ray treatment have been only fairly satisfactory. Undoubtedly in this disease also the lymphocytes are very markedly reduced under the influence of the x rays, though there does not invariably occur that modification in the leucocytic formula which is so marked a feature in the myelogenous cases. The splenic and glandular swellings of lymphatic leukæmia and of pseudo-leukæmia

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[19] *Loc. cit.*

[20] Deutsche Medicinische Wochenschrift, No. 49, Dec. 1st, 1904.

[21] Deutsche Medicinische Wochenschrift, No. 50, Dec. 8th, 1904.

[22] Loc. cit.

(Hodgkin's disease) are also susceptible to x ray treatment. It is curious that the general condition does not appear to improve so noticeably in lymphæmia as in myelæmia. Possibly, as Capps and Smith[23] also remark, many of the cases of lymphæmia treated with the x rays have been running an acute or subacute course and are therefore not so readily influenced by radiotherapy. Capps and Smith also state that the chronic form of lymphatic leukæmia responds to the x rays even more promptly than the spleno-myelogenous type. The effects produced by radiotherapy on the splenic tumour in myelæmia have been variable. Senn, Bryant and Crane, and Ahrens reported an almost complete disappearance of the splenic tumour, while others have been content to record only a moderate reduction in volume. In a few cases the only change was one of consistence, the tumour becoming much softer and more easily palpated. It must be remembered, however, that a slight reduction of volume in such an enormous splenic tumour as that found in leucocythæmia is rather difficult to certify clinically and there is little doubt that the ultimate result of x ray treatment on the splenic tumour will depend largely on its histological features initially.

When fibrosis has occurred in the later stages of the leukæmic spleen it is doubtful in the light of Heinecke's results whether much reduction in volume can be expected. However, we shall have to await the results of further work before we can express any dogmatic opinions on this point. In nearly all the cases, except those of lymphatic leukæmia, there was a very marked improvement in the general condition and wellbeing of the patient and this is perhaps the most satisfactory element in the treatment by radiotherapy, for leukæmia has almost invariably progressed towards a fatal conclusion.

It behoves us finally to discuss as briefly as possible the *theories which have been put forward to explain the mode* of action of radiotherapy in leukæmia. Naturally this subject is as yet in the early experimental stage, but already one or two important contributions have been made towards the elucidation of x ray influence on the blood-forming organs. Senn believed that his results in leukæmia were due to an antiparasitic action on the part of the x rays and to those who sympathise with Löwit's views on the etiology of leukæmia this explanation of Senn may appear fairly plausible. To Heinecke's work[24] we have already referred. His results appear at least to afford a physiological foundation for radiotherapy in leukæmia, in so far as the excess of white cells in the circulating blood and the presence of abnormal cell elements are concerned. But this is, after all, only a symptom. Whether the x rays directly influence the exciting factor in leukæmia is another question. Further, the bone marrow is probably the tissue whose function is primarily at fault and Heinecke's remarks on the effect of the x rays on the bone marrow have been called in question lately by Mosse and Milchner[25] as being too vague. These latter observers working with rabbits have found alterations in the lymphoid and myeloid elements of the marrow under the influence of the x rays. These changes consisted in a partial destruction of the white cells of the marrow, while the protoplasm of the neutrophile cells especially showed a great deficiency of granules. Curiously enough, the red cells, nucleated and non-nucleated, were not affected. The authors argue from these facts that there is a field for radiotherapy in leukæmia but not in pernicious anæmia. These facts are interesting in the light of the results of x ray therapy on the red cells in the cases of spleno-myelogenous leukæmia. It was found that the red cells invariably rose to a higher level as the leucocytes fell. We must remember, however, that remarkable variations may occur in the red counts from day to day in cases of leukæmia which are not under any special treatment. We were particularly struck with this fact in our case during the months preceding the adoption of x ray treatment.

[illegible][26] and Mosse and Milchner[27] [illegible] leukæmic blood and normal blood corpuscles *in salt solution to the direct action of the* x rays but no changes of any kind were noted either in the leukæmia blood elements or in the normal red blood corpuscles. These experimental results would seem to point to the necessity of subjecting all the bone marrow in the body to the influence of the x rays—i.e., on the supposition that leukæmia is primarily a bone marrow disease. Failure to do so may have been the cause of the generally *incomplete response of the myelæmia* to the x rays, for, as noted above, the leucocytes sank under the influence of the x rays to a very low level, while the myelæmic picture, though much modified, still remained; and further, on the cessation of x ray treatment after this low leucocytic level had been reached, there was a tendency on the part of the leucocytes to rise slightly. This was noticeable in our case. After the leucocytes came down to a level of 20,000 per cubic millimetre in our patient no amount of exposures of spleen and epiphyses to the x rays would produce a further reduction.

It has been shown by Lépine and Boulad[28] that enzymes can be influenced by the Roentgen rays and in the light of Ehrlich's view that in myelæmia there exists a chemiotactic enzyme in the blood it is possible that the destruction of this enzyme prevents the further inroad of leucocytes into the circulating stream. However, as Joachim and Kurpjuweit maintain, the x rays in leukæmia do not act directly on the blood but on the diseased leukæmic tissue. These observers in a fresh case of leukæmia exposed only the liver area to the rays but there was no result after 14 successive daily séances. It was also shown that exposure of the spleen only produced a great fall in the leucocytes in the first case described by them, while later exposure of the bones only was also successful. The authors intend in their next case of leukæmia to begin by exposing the bones only to the x rays. In fact, it is possible that the comparative effects of radiotherapy on the bone marrow and the spleen may add much to our knowledge of the pathology of leukæmia.

We may refer to one other possible explanation of the action of the x rays. It has been shown by Schwarz[29] that radium rays have a destructive action on the lecithin of the hen's egg and as lecithin is an invariable constituent of cells *undergoing rapid development as leucocytes, spermatozoa,* and tumour elements, the reduction in leucocytes in leukæmia by the x rays may be due to a similar cause. The presence of lecithin bears so important a relationship to the developmental capacity of the cell (Hoppe-Seyler) that its disintegration would be fatal to further cell-development.

Wohlgemuth[30] does not find that radium has a selective action on lecithin. He thinks rather that the breaking-up of the lecithin in egg albumin is due solely to the influence of autolytic ferments contained in the egg. The action of these rays on living tissues and cells opens up a very wide field for research, for as yet the science of experimental cytology is in its infancy.

In conclusion, we may note that on Dec. 1st x ray séances were resumed in our case. Any further developments which may arise in our patient we hope to communicate at a later date.

THE INFLUENCE OF RAINY WINDS ON PHTHISIS.

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(Concluded from p. 15.)

PART II.—WIND AND RAIN IN THE MOST SUCCESSFUL PHTHISIS HEALTH RESORTS.

IT is impossible to make any general statement with regard to the effects of strong rainy winds on phthisical patients in foreign countries because sufficient material does not exist; I will only refer to a statement sent me by Dr. A. A. Rodriguez who has been so good as to make a collective inquiry amongst the medical men in the Azores. It will serve as an example of existing difference of opinion. (*a*) Some have discovered no effect of any wind on phthisis patients. (*b*) Some *have noticed an injurious effect of the* warm damp winds from the south. (*c*) Some have noticed an injurious effect of these winds from the south and a beneficial effect of the winds from the north which are dry. But there remains the indirect evidence of the relations of health resorts to strong rainy winds. At present it would be scarcely justifiable to impugn the resorts which are exposed to such winds, but it will be useful to inquire whether any admittedly very successful health resorts are exposed to them. Davos in winter is singularly calm. Nordrach is exceptionally well sheltered. Görbersdorf is well sheltered from rainy wind. Weissenburg lies in a deep gorge almost windless. Eaux Bonnes and Cauterets are in deep sheltered valleys. Jauja and the other resorts of the Peruvian Andes lie in deep well-sheltered valleys. The health resorts of Argentina are sheltered from rainy winds. The Khirghiz Steppes are very free from rain. Colorado and New Mexico have much wind but it is usually dry. The Darling Downs of Queensland have little rainy wind. The Karoo, Orange Free State, and Transvaal have no frequent rainy winds. One common characteristic, therefore, of these climates, otherwise so dissimilar, is their freedom from prevalent strong rainy winds.

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[23] Loc. cit.
[24] Loc. cit.
[25] Berliner Klinische Wochenschrift, No. 49, Dec. 5th, 1904.
[26] Loc. cit.
[27] Loc. cit.
[28] *Académie des Sciences*, cxxxviii., 2, p. 65.
[29] Pflüger's Archiv, vol. c., p. 532.
[30] Berliner Klinische Wochenschrift, No. 26, p. 704, ref. Biochemisches Centralblatt, December, 1904.

It may be objected that most of the resorts mentioned are at so-called high altitudes and, indeed, the efficacy of the majority of them is generally attributed to their height above sea-level. So a few words must be said on this point. Apart from other considerations, to be presently mentioned, it seems to me that in view of the failure of the existing Indian hill stations as phthisis health resorts the effect of altitude on phthisis patients must be at least subordinate to the effect of the rainy winds to which Indian hill stations are mostly exposed. Their unsuitability for phthisis has scarcely received the attention which the great experience and ability of those who have condemned them should have insured. Sir Joseph Fayrer refers to them as follows.[1] Simla, 6953 feet high, "should be avoided by the phthisical." Ranikhet, 6068 feet high, is not of much real service. Darjeeling, 6912 feet high, more useful in pulmonary organic disease than the foregoing, enjoys considerable immunity from wind and storms. Pachmari, 3564 feet high, is ineligible as a resort for phthisis. Mount Aboo, 3945 feet high: phthisis is not benefited there. Mahabaleshwar, from 4500 to 4700 feet high, after the mists set in in May is prejudicial to phthisis. Nilgherries, average elevation of stations about 6500 feet, are not advantageous in phthisis. Newera Eliya (Ceylon), 6150 feet high, "has an evil reputation for cases of phthisis." At Dalhousie, 6800 feet high, in 1897, Surgeon-General Keogh informs me, there were six admissions for phthisis in the first stage of the disease. These were "returned to the plains, as the climate was too severe for them."[2] I shall refer again to high altitudes in considering their influence on phthisis prevalence.

The freedom from strong rainy winds, therefore, which characterises the very successful resorts, fits in with the observation made in Devonshire, that such winds are injurious to phthisis patients.

PART III.—OTHER INFLUENCES.

Lastly, it is necessary, in order to establish the validity of conclusions based on the facts so far enumerated, to consider the relative strength of the other influences known or supposed to affect phthisis. These other influences may be thus enumerated:—

Climatic influences.—(1) Soil; (2) altitude; (3) temperature; (4) dry wind, especially when dusty; and (5) rainfall.

Social influences.—(6) Density of population; (7) insanitation; (8) poverty; (9) occupation; (10) race; and (11) preventive measures.

Pathological influences.—(12) Prevalence of other forms of tubercle; (13) prevalence of other "respiratory diseases"; and (14) prevalence of malaria.

Soil.—Current opinion on the relation of soil to phthisis rests on Sir George Buchanan's work in 1851 to 1860.[3] If his figures be examined, it will be found that *rainy wind had a greater influence than soil*, although the area used was well adapted to show the effect of soil and ill adapted to show the influence of rainy wind. The south-west in that area is the prevalent wind,[4] and as elsewhere in the south of England it is a rainy wind. If Buchanan's districts are arranged in his own order of ascending phthisis death-rate (see Table XV.) it will be found that the districts obviously sheltered from south-west wind come at the beginning of the table and those obviously exposed at the

TABLE XV.—"*Registration Districts in the Order of their Proper Mortality from Consumption.*"

Name of district.	Mean phthisis death-rate of two sexes, 15–55.	Shelter and exposure as regards S.W. wind.*
Dartford	261	S
Epsom	277	—
Milton	276	S
Godstone	282	—
North Aylesford	289	S
Dover	296	S
Bromley	294	—
Steyning	295	s
Chertsey	296	S
Croydon	303	—
Cranbrook	311	—
Richmond	313	—
Kingston	315	—
Elham (*a*)	277	—
Blean	315	S
Bridge (*b*)	331	—
Gravesend (*c*)	405	S
East Grinstead...	333	—
Reigate	337	—
Eastbourne (*d*)...	336	S
Farnham (*e*)	292	—
Hambledon	343	—
Battle (*f*)	294	—
Canterbury (*g*)...	384	—
Hollingbourne	352	—
Malling	356	—
East Ashford	359	x
Sevenoaks	361	—
Guildford	369	—
Farnborough (*h*)	291	—
Eastry...	371	S
Faversham	370	S
Rye	371	—
Maidstone (*i*)	434	—
Cuckfield	387	x
Dorking	399	—
Uckfield	398	—
Hailsham	392	x
Ticehurst	401	—
Worthing (*j*)	419	X
West Ashford	421	x
Lewes (*k*)	502	x
Tenterden	435	—
Horsham	440	X
Westhampnett (*l*)	441	X
Midhurst	455	—
Thakeham	454	x
Petworth	462	—
Westbourne	498	X
Chichester (*m*)	566	X
Eight Districts whose Order is Uncertain amongst the Others:—		
Sheppey	202	S
Hastings	498	X
Thanet...	392	s
Hoo	301	S
Tunbridge	399	—
Medway	480	—
Romney Marsh	348	? s
Brighton	435	X

* S = well sheltered; s = fairly sheltered; X = fully exposed; x = fairly exposed. Doubtful districts are unmarked.

Sir George Buchanan's notes.—(*a*) Of Elham, the male rate being of no value, ten has been subtracted from the female rate for the approximate true mean 313 (*b*) The rates of Bridge become 342 mean and 425 female if corrected for Canterbury Hospital. (*c*) Gravesend has been classed by its female rate as being more trustworthy than

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[1] Health in India, Book of Health, pp 935–941.

[2] Private report kindly prepared at the request of Sir Joseph Fayrer.

[3] Tenth Report of the Medical Officer of the Privy Council, 1867, pp. 57–110.

[4] Climates and Baths of Great Britain, vol. i., pp. 241 and 259. Dr. W. Ewart on the Climate of the South-Eastern Counties.

due ten has been
to true mean 371
asylum patients
to 379 and true
perhaps be taken
visitors (b) In
true rate to 426
nett become 449
hospital (c) At
from other dis

end Maps constructed from his figures show well this general correspondence of low death rate with shelter and high death rate with exposure Again if Buchanan's two tables of "fairly comparable districts" be taken, only excluding doubtful districts and districts obviously exposed to south west winds (see Tables XVI and XVII) and if, in each

TABLE XVI —"*Districts the majority of whose Population live on the Weald Country* (*omitting Hastings and Tunbridge which were doubtful and Horsham, Hailsham, and Cuckfield, which are exposed to south-west wind*)

Name of district	Percentage of population on wetter soils	Phthisis death rate per 100 000
Cranbrook	18	311
East Grinstead	18	333
Uckfield	17	303
Battle	20	344
Rye	21	371
Maidstone	24	379
—	Average 19 6 per cent	356
Hambledon	41	343
Ticehurst	33	401
Tenterden	58	435
Petworth	70	462
—	Average 50·0 per cent	410

Here an increase of 155 per cent in the proportion of the population living on the wetter soils only entails an increase of 15 per cent in the phthisis death rate

TABLE XVII —"*Districts where Half or More of the People Live on Lower Greensand*" (*omitting West Ashford and Thakeham, which are exposed to south-west wind*)

Name of district	Percentage of population on wetter soils	Phthisis death rate per 100 000
Godstone	13	282
Eltham	24	313
Reigate	27	337
Malling	20	356
—	Average 21 per cent	322
Hambledon	41	343
Sevenoaks	40	361
Dorking	32	399
Midhurst	58	455
—	Average 42 per cent	389

Here an increase of 100 per cent in the proportion of the population living on the wetter soils only entails an increase of 20 per cent in the phthisis death rate

table, a comparison be made between the average phthisis death rate of the districts in which less than 30 per cent of the people are on wetter soil, and the death rate of the

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ully Exposed Districts as regards South-west Wind

Fully sheltered districts		Fully exposed districts	
Name of district	Phthisis death rate	Name of district	Phthisis death rate
Milton	276	Chichester	536
Dover	296	Worthing	419
Eastbourne	336	Westhampnett	449
Dartford	261	Horsham	440
Faversham	370	Westbourne	493
Gravesend	331		
North Aylesford	289		
Chertsey	296		
Eastry	371		
Average	314	Average	468

Here the differences in the death rate are much more obvious and uniform and the average of the exposed districts is 49 per cent of itself higher than that of the sheltered

two chief exceptions on which he lays such stress,[5] —viz, Sheppey and Thanet—the low death rate of Sheppey can be fully explained by its shelter from south west wind, an

rate of Romney Marsh can be
at least
For the south-
west win
lined by several
ridges of
inches whilst

Romney Marsh flat and largely below high tide level, walled round with sand dunes and dykes and with a low rainfall about 16 inches at Dungeness, cannot be said to be exposed to rainy winds It is curious that Buchanan s other doubtful districts should have death rates corresponding in the main with their south westerly shelter or exposure where these can be fairly stated

Altitude —The idea that phthisis death rate lessens as altitude increases originated in the observation of its rarity at certain places in the Andes at heights of from 5000 to 13 000 feet Attempts have been made to prove this effect of altitude, but the results have been disappointing Merbach s table for Saxony (see Table XIX),[6] if the towns under 200 metres high be excluded as probably the largest and most industrial, merely tends to show that altitude has no effect Corval s table for Baden (see Tables XX and XXI),[7] which includes all forms of tuberculosis as well as

TABLE XIX —*Merbach s Table for Saxony 1873–75, dealing with Towns of over 5000 Inhabitants only and Deaths from Phthisis between the Ages of 16 and 60 years*

	Elevation in metres	Phthisis death rate per 1000
Elevation in metres	100 to 200	4·9
	200 , 300	3 3
	300 400	3 2
	400 , 500	3 5
	550 , 650	3 2

TABLE XX —*Corval s Table for Baden 1869–72, including all Tuberculous Deaths and Deaths from "Chronic Pneumonia"*

Altitude in feet	Number of towns or villages	Population, average of four years	Death rate per 1000
330 to 1000	750	933 773	3 36
1000 1500	337	224 210	2·75
1500 2000	160	81 066	2 60
2000 , 2500	190	104 237	2·75
2500 , 3000	97	59 155	2 33
Over 3000	47	20 367	2 17

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[5] Op cit p 103

[6] Hirsch Op cit vol iii p. 207

[7] Ibid ii 208-09

TABLE XXI.—*Corval's Table modified by Schlochow.*

Altitude in feet.	Death-rate in towns of over 3000 inhabitants.	Death-rate in towns of under 3000 inhabitants.
330 to 1000	4·05	3·11
1000 „ 1500	3·08	2·73
1500 „ 2000	4·99	2·49
2000 „ 2500	4·72	2·71
2500 „ 3000	3·06	2·29
Over 3000	—	2·17

so-called "chronic pneumonia," does seem to show a decrease in the death-rates with increasing height, but this increase is a very irregular one. Müller's table for Switzerland (see Table XXII.)[8] shows a still less regular decrease and when his table for the agricultural cantons with imported cases excluded is examined (see Table XXIII.)[9] no influence whatever of phthisis can be traced between 700 and 1800 metres of altitude. The latest table prepared to show the influence of altitude with which I am acquainted was published in 1895 by the Government of the Grisons. This canton affords an excellent field for comparing death-rates both at different altitudes and under different conditions of wind shelter and exposure.

TABLE XXII.—*Müller s Table for Switzerland published in 1876. The Periods of Observation in Various Cantons vary from 1 to 5 Years.*

Altitude in metres.	Industrial cantons.	Mixed cantons.	Agricultural cantons.	Average.
100 to 500	2·7	1·85	1·4	2·15
500 „ 700	3·0	1·55	1·2	1·9
700 „ 900	1·35	1·7	0·7	1·0
900 „ 1100	1·5	1·9	1 9	1·2
1100 „ 1300	2·3	2·3	0·7	1·9
1300 „ 1500	—	1·4	0·6	0·8
1500 „ 1800	—	1·3	0·7	1·1

TABLE XXIII.—*Müller, Agricultural Cantons, excluding Imported Cases.*

Altitude in metres.	Population.	Phthisis death-rate per 1000.
200 to 499	85,684	1·2
500 „ 699	51,157	1·1
700 „ 899	82,560	0·6
900 „ 1099	31,082	0·5
1100 „ 1299	3,056	0·7
1300 „ 1499	5,648	0·6
1500 „ 1800	548	0·7

The rainy winds of Central Europe are the south-west, west, and north-west, together with, to a less extent, the south-east and south. The west wind can only reach the Grisons much broken and dried; the south-west as a rainy wind only affects considerably the Upper Engadine. The south-east has probably some effect as a rainy wind on the highest villages of the valleys which run down into Italy. Only the north-west, north-north-west, and west-north-west, entering at the gap of the Rhine valley, can widely affect the canton. These north-westerly winds are especially prevalent in the summer months, the time of the principal rainfall of this region.[10] The table for the Grisons was arranged in unequal divisions of altitude and it was first necessary to re-arrange it in divisions of 200 metres-intervals. (See Table XXIV.) So arranged, a definite effect of altitude was by no means clear, and at each height there were pronounced exceptions suggesting some more powerful influence. It seemed possible that this was rainy wind. Accordingly, a table was constructed (see Table XXV.) showing the phthisis death-rates in localities exposed to various winds and it was at once obvious that a higher death-rate accompanied exposure to winds from any westerly quarter. Next, a table was drawn up of localities with death-rates under 5 per 1000, and of localities with death-rates over 10 per 1000. (See Table XXVI.) The places with lower death-rates were

TABLE XXIV.—*Tuberculosis in the Grisons: Being a Summary of Tables published by the Cantonal Government in 1895, rearranged for Equal Intervals of Height.*

		Death-rate per 1000.
a.	Places up to 600 metres high	12·08
b.	Places from 601 to 800 metres high	8·8
c.	„ „ 801 „ 1000 „ „	12·5
d.	„ „ 1001 „ 1200 „ „	7·1
e.	„ „ 1201 „ 1400 „ „	7·5
f.	„ „ 1401 „ 1600 „ „	4·2
g.	„ „ 1601 „ 1880 „ „	8·6

TABLE XXV.—*Tuberculosis in the Grisons. Summary as regards Shelter and Exposure.*

Shelter and exposure.	Population.	Tuberculosis death-rate per 1000.
Sheltered from all	18,734	5·3
Exposed only to W.N.W., N.W., or N.N.W.	9,256	13·2
„ „ N. or N.E.	6,043	6·9
„ „ E.N.E., E., or S.E.	6,173	5·8
„ „ W.	280	14·2
„ „ S.W. or W.S.W.	118	19·7

It should be observed that the populations exposed to W., S.W., and W.S.W. are very much smaller than the others.

TABLE XXVI.—*Low Mortalities (under 5·0 per 1000).*

San Vittore	3·87	Sheltered.
Roveredo...	1·87	„
Lostallo	2·81	„
Mastrils	2·64	S.E., E.
Maladers	4·17	Sheltered.
Brusio...	0·87	„
Scharans	4·07	N.W.
Tomils	3·58	Sheltered.
Stampa	1·86	„
Lervis	3·70	Broken W.S.W. and E.N.E.
Somvix	1·71	E.N.E.
Filisur	3·66	Sheltered.
Flums	3·79	„
Disentis	0·75	„
Cumbels	3·02	N.E.
Praz	4·31	N.E.
Klosters	1·31	Sheltered.
Churwalden	4·41	N.
Remus...	1·88	Sheltered.
Villa	3·75	N.E.
Schuls...	3·17	Sheltered.
Vals	2·82	N., N.N.E.
Brigels...	1·18	Sheltered.
Lumbrein	3·74	N.E.
Tarasp...	3·11	Sheltered.
Lavin	4·08	„
Schleins	4·78	„
Safien	1·90	N.N.E.
Davos	2·06	S.W., N.E.
Ponte	4·74	Sheltered.
Zuoz	4·66	„
Celerina	3·38	„
Pontresina...	3·92	„

Of these Scharans may be regarded as perhaps a fairly exposed place to N.W. Its population is 492. Davos seems to have a dry S.W. wind.

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[8] Ibid., p. 210.

[9] Müller: Die Verbreitung der Lungenschwindsucht in der Schweiz, Table xvii.

[10] Hann: Op. cit., vol. iii., pp. 158, 159, 167.

High Mortalities (over 10 0 per 1000)

Maienfeld	12 22	W N W
Haldenstein	19 14	N E
Igis	17·03	N W
Zizers	13 16	N W
Chur	15 44	W S W N
Rothenbrunnen	37 50	?
Jenins	11·99	W N W
Bonaduz	13 27	?
Fürstenau	12 66	N W ?
Scheid	11·04	Sheltered ?
Tamins	11 97	W S W E N E
Sils	15 87	N W
Ilanz	10 17	W E
Thusis	11 23	N N W deflected
Küblis	19 53	Sheltered ?
Vallendas	19 44	W S W E N E
Tiefenkastel	25 13	N W
Arvigo	12·90	Sheltered
Trins	18·06	W S W
Surava	14 60	W
Furth	18·02	N E
Versam	10 26	W & E
Fanas	10·79	? W S W
Andeer	10 43	N
Saas	10 65	? sheltered
Alvaschein	13 69	N W
S Domenica	10 64	Sheltered
Pitasch	25 86	N W
Valzeina	23 26	N ? N W
Brienz	26 32	W
Andest.	17·94	?
Portein	21 28	Sheltered ?
Duvin	17 70	N N W
Conters	44 87	N W
Obervatz	13·02	S W
Sarn	16 76	N E
Landarenca	17 24	Sheltered
Salux	12 90	N W
Roffna	25·00	
Tinzen	16 06	
Lenz	31 43	S W
Bergün	11 71	N W
Langwies	13 11	Sheltered ?
Stürvis	11·24	N W
Wiesen	12 05	? S W
Feldis	20 13	N W
Innerferrara	13 87	N N W
Parpan	14 71	N W
Sur	21·90	Sheltered ?
Fetan	13 82	
Guarda	11 45	Sheltered
Sils	30·93	S W N E
Arosa	22·73	S W S E

Of these Haldenstein may get deflected westerly winds Its inhabitants and those of Sur can scarcely go any distance out of doors without encountering north west wind Fetan lies so high it probably gets some S W down the valley

then with few exceptions seen to be sheltered from all westerly winds whilst the places with the higher death rates were with two exceptions exposed to W, S W or N W winds The winds causing higher death rates were usually north westerly So another table was constructed comparing at each altitude the death rates in the populations sheltered from north west north north west and west north west winds with the death rates in the populations exposed to these winds (See Table XXVII) The result was very striking At each level the exposed population suffered far more (twice to seven times as much) from phthisis than the sheltered population But two other facts became also obvious—namely that as altitude increased a greater proportion of the people tended to live in sheltered places, and that in neither exposed nor sheltered places was there any indication that altitude lessened the mortality Finally, to investigate fairly the question of the effect of altitude a table was made out showing the death rate at successive heights in places sheltered from all rainy winds (Table XXVIII) From this table the conclusion seems inevitable that altitude alone has extremely little if any influence on the death rate from phthisis The supposed influence of altitude would appear in fact to be an indirect influence of rainy wind and of the consequent increasing bleakness at increasing heights which drives the inhabitants to live in sheltered places

TABLE XXVII—*The N W, N N W, and W N W Winds Effects of Exposure to, and Shelter from them at Various Heights (Summary) It should be observed that the exposed populations at 801–1000 at 1001–1200 and at 1401 1600 metres are very small*

Altitude in metres	Fully exposed to N W		Fully sheltered from N W	
	Population	Death rate per 1000	Population	Death rate per 1000
Up to 600	14 039	14 4	4874	5 3
601 800	1 937	12 4	4004	5 2
801 1000	199	25 1	2369	6 3
1001 1200	260	19 2	7212	5·6
1201 1400	2,093	15 3	5237	2 4
1401 1600	270	18 5	8273	3 8
1601 1880	0	—	4966	8·6

TABLE XXVIII—*Sheltered from all Westerly Winds and from Sirocco (Summary)*

		Population
Up to 600 metres	3 9 per 1000	2898
601 800	4 7	3173
801 1000	4 1	971
1001 , 1200	2 8 ,	4254
1201 1400	2 3 ,	5059
1401 , 1600	4·9	3693
1601 1880	6·7 ,	3538

Now how can this conclusion be reconciled with the claims of absolute or comparative phthisis immunity at certain other high altitudes? If the places in the Andes which have a well grounded reputation are examined it will be found they are protected from the prevalent rainy winds In North America the city of Mexico is very free from strong winds and in the region of the Rockies the winds are usually dry The highlands of Persia and of South Africa are extremely dry the plateau of Abyssinia is ringed in by high mountains The northern spurs of the Carpathians are sheltered from the rainy westerly winds Briançon is shut in from westerly winds Hirsch is wrong about India for in Coorg phthisis is common[11] and amongst native Indian troops it appears to be most frequent at the hill stations[12] The three places in the Himalayan system of mountains where phthisis appears to be rare—viz Kashmir[13] the valley of Nepaul[14] and Manipur[15]—have no strong rainy winds There is in fact no evidence whatever that altitude *per se* has any influence on the prevalence of phthisis

[illegible] seems to have little if [illegible] an [illegible] phthisis may be rare as in [illegible] Greenland[16] and in hot climates rare as in Upper Egypt or prevalent as in Tahiti[17] In climates of small mean annual range of temperature it may be rare as at Lagos or common as at Georgetown in British Guiana, and where the mean annual range is great, rare or absent as in the Khirghiz Steppes or frequent as in Mid Russia Even mean daily range seems to make no marked difference, phthisis is rare at Luxor and common at Moscow, both of which have a great daily range

Dry winds—Dry winds seem to have little effect as compared with rainy winds The plains of Colorado South

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[11] Report on the Congress of Tuberculosis at Berlin by Dr Alexander Crombie delegate for India p 10

[12] Ibid p 11

[13] Private letter from Dr A Neve

[14] F N Macnamara Himalayan India, its Climate and Diseases p 258

[15] Ibid p. 205 Phthisis does not seem to have any existence in the valley

[16] Clemow Op. cit p 461

[17] Davidson Op cit vol ii p 77

SOME CLINICAL OBSERVATIONS WITH NEW REMEDIES.[1]

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WHEN I last had the honour of reading a paper before this society on Some Dangers of Hypnotics certain members were kind enough to express a hope that my next contribution would deal with clinical observations concerning some of the new remedies which had been used in my wards or in my private work. The kindly reception of my last paper has encouraged me to attempt to-day to meet this desire and to place before you some observations which, though perhaps fragmentary and inconclusive, may yet, I hope, prove of interest and at least afford material for discussion and for an interchange of records of experience.

The term "new remedies" I employ to include some preparations which are not to be found in the British Pharmacopœia, some which have been introduced since the issue of the current Pharmacopœia in 1898, some which, for aught I know, may never be admitted or may not appear under their present familiar names if they are protected by patent rights. This is not a question which concerns me greatly, the important point being the investigation of their claim to any consideration. It is impossible to wait for this question to be settled by official authority. Our patients look to us for guidance when perplexed with persistent advertisements and we must be in a position to answer their inquiries without delusive evasions. In dealing with new remedies the rule I have followed, and I believe it is the only safe rule, is not to be led into trying the last new remedy without being in possession of full information of its nature and composition. Details of the method of preparation are not so important, but we must know something about a new drug besides the name and the purposes for which the manufacturer deems it may be of service.

The drugs I propose speaking of to-day are the following: uricedin, urotropin, aspirin, mesotan, and ovoferrin or iron vitellin. You will find that my remarks are not necessarily in praise of any of these preparations; while indicating what I take to be the limits of utility I wish also to point out certain dangers or inconveniences which may arise. I hold no brief on behalf of these drugs but wish to tell a plain unvarnished tale of the results I have had with them and at the same time to give some words of warning against their indiscriminate employment. Each and all of these may give rise to trouble. They might almost be compared to dynamite or gunpowder; they are useful if properly employed, hazardous if used unskilfully and recklessly. When the possibility of danger is realised there is comparative safety, but if used without due knowledge great risks may be incurred. We frequently hear that every man is "a fool or a physician by the time he is forty." This is a hard saying, since we know that all men of forty are not legally qualified to practise. Perhaps there is a fallacy in the major premiss, but, however that may be, you will soon see that I should not recommend the employment of any of these drugs by the unqualified public.

Uricedin.—The first drug on my list is uricedin. According to Martindale's Extra Pharmacopœia this is a German speciality which occurs in brownish-yellow granules which are soluble in water. It is said to be prepared from concentrated lemon-juice by treating it with sulphuric and hydrochloric acids, neutralising with soda, adding lithium citrate, and evaporating to dryness. It has, according to the same authority, been recommended for gout, gravel, urinary calculi, articular rheumatism, and uric acid diathesis, and the dose is given as from one to two drachms. The statements that have been made respecting this drug are rather conflicting. It has been said that it imparts to the urine the property of dissolving uric acid; that it exercises no injurious effect upon the stomach; that large doses have only been known to cause a slight relaxation of the bowels; and that it converts insoluble uric acid into the more soluble acid urate of sodium. My clinical observations agree generally with these statements but I should be disposed to lay greater stress upon the laxative action. Several of my patients with chronic gout have volunteered the remark that in the moderate doses which I have employed they have found that an easy satisfactory action of the bowels has been produced. One patient, who had suffered long from gout, expressed more gratitude for the pleasant laxative action than for any relief of pain. In acute gout, both in hospital practice and in private work, it has not given me the same degree of satisfaction, nor have I been able to confirm the statements relative to its value in cases of renal calculus. I have tried it in some cases of migraine but the results have not been encouraging. To judge from some of the recent literature which has been circulated to the medical profession I fear that, despite its pleasant laxative action in chronic gout, uricedin is likely to suffer in general estimation on account of exaggerated claims for its employment. It does not inspire confidence to find that it is recommended that its use should be "persevered with for a long time—perhaps even for years."

Urotropin is almost too familiar to need formal introduction but for the sake of consistency it may be well to remind you that it rejoices in the somewhat ponderous chemical name of hexamethylenetetramine and that it is prepared by combining ammonia and formaldehyde. Martindale states that it consists of colourless crystals with an alkaline reaction; it is easily soluble in water, less so in alcohol, and almost insoluble in ether. It is further stated to be a valuable diuretic and solvent of uric acid concretions, to relieve cystitis associated with incontinence of urine, and to destroy typhoid bacilli in the urine. There is, however, one word of warning—viz., that it may cause hæmaturia unless well diluted. The dose is given as from five to 15 grains. On looking into the literature connected with urotropin I have been sorry to find that the list of its misdeeds has been considerably increased. It has been held to be responsible [illegible] symptoms: irritation of the [illegible] al pain, a measles-like rash, [illegible] strangury, and irritant action on raw surfaces in the urinary passages and hæmoglobinuria. These actions have been said to be due to special susceptibility to formaldehyde, to interference with the usual disposition of formaldehyde in the body, or to the liberation of an unusually large quantity of it. Some two years before these suggestions were made Cammidge maintained that the liberation of formaldehyde did not occur within the body, that the urine of persons taking 30 grains of urotropin a day did not contain formaldehyde, and he suggested that the antiseptic properties might be due to the formation of new urotropin compounds.

My experience with urotropin in private work has been far greater than in the wards, since many patients for whom the drug might be employed are scarcely sufficiently ill to require ward treatment. At the outset let me say that the long catalogue of ill-effects has not come within my experience; in only one case has there been complaint of slight lumbar pain, and although at the time I did not feel satisfied that it was due to the urotropin it certainly ceased when the drug was discontinued. I am inclined to attribute this freedom from unpleasant symptoms to the fact that I have invariably given instructions that the powder should be taken in at least five ounces of water and have generally employed Contrexéville water for this purpose. The cases in which I have given urotropin have been of varied nature; the general indication has been the presence of pus in the urine, whether resulting from irritation of the renal pelvis by calculi or by crystals of uric acid, or when associated with offensive conditions from the presence of micro-organisms. I would not venture to say that this treatment has sufficed to dissolve uric acid concretions—indeed, in some of my cases subsequent surgical operations were required; but, on the other hand, I would affirm that in every case I have found that the urine speedily lost its offensive character and that there was generally a rapid decrease in the amount of deposit. Further, I can say that those who had hitherto been passing quantities of sand lost this trouble during the treatment; this improvement may, however, have been due to the increased quantity of liquid consumed rather than to a specific action of urotropin. In leaving this drug I would venture to suggest [illegible] arise during its administ[illegible] ain whether it has been [illegible] tions before too hastily [illegible] line of treatment.

[illegible] garded as acetyl salicylic

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[1] A paper read before the Therapeutical Society on Dec. 20th, 1904.

useful vision. Of course, in considering this subject such simple cases as those in which the metal is small and is lying in the anterior part of the eye (the anterior chamber, the iris, and the lens) must be excluded. It is probable that of those cases in which the metal has penetrated into the vitreous body and has been extracted by the electro-magnet, the proportion in which the eye thereafter recovers or retains useful vision is very small, probably not 5 per cent. In a paper which I communicated to the Congress of Ophthalmology at Lucerne in 1904 I showed that of 1000 eyes excised in the Glasgow Eye Infirmary 244 were lost in consequence of an injury by a chip of metal. This number is small compared to the total of cases in which the eye was injured to a serious extent but not excised, however, but it is difficult to say at all accurately in what proportion of the latter metal had been extracted by the electro-magnet.

In the great majority of cases in which eyes are excised after injury it is found that inflammation of the ciliary body is the cause of the destruction; in the remainder the eye is lost in consequence of intra-ocular hæmorrhage. Now we may take it as an accepted fact that cyclitis in such cases is due to either infection by micro-organisms conveyed into the eye by the metal or some other means or to the formation of an irritant in the eye as the result of chemical action on the metal. If, then, the irritant is the result of such chemical action, even in a small proportion of the cases, manifestly the sooner the metal is removed the better. It is perfectly true that in certain cases metal has remained in the eye for many years and has done but little damage. This is so, of course, because the foreign body has become encapsuled and the products of chemical action pass not into the vitreous body but into the general circulation. In a vastly larger proportion of cases the presence of a chip of metal does irreparable damage to the eye in which it is lodged. There is, then, a good argument for attempting the extraction of chips of metal if it can be shown that even in a few cases out of every hundred eyes from which metal is extracted the organ preserves useful vision. Three cases in which this has been the result have come under notice and a short account of each is given here.

CASE 1.—A girl, aged 19 years, was seen on Dec. 25th, 1903, as she had received a blow on the right eye from something whilst "pulling a Christmas cracker" the previous evening. There was a large wound at the upper part of the ciliary region of the right eye. It was radially situated, was very ragged, and allowed of prolapse of both iris and ciliary body. As it was suspected from the appearance of the wound that there was a foreign body in the eye the point of a large electro-magnet was brought close to it and at once a large shining body came to the surface and was easily seen through both the pupil and the wound. A small magnet was then used but though the metal rose to it well it could not be induced to come out through the wound owing to its large size. Ultimately, after considerable enlargement of the wound and with the aid of the large magnet again a piece of tin-plate measuring a quarter of an inch square, much curved, and with very ragged edges was removed from the eye. The appearances were so bad that no hopes were entertained of saving the eye, but nevertheless the edges of the wound were carefully trimmed. The eye was dressed "cold" and atropine was used freely. The subsequent history of the case was that of a very successful cataract extraction. The wound healed wonderfully quietly and well, especially considering its situation and the amount of disturbance to which it had to be subjected. There was no iritis, the iris remaining mobile though its torn edge was still adherent to the wound. The lens had been injured and dissolved quietly away, its solution being aided on two occasions by a gentle discission. Now, after nearly a year, the girl can see with suitable glasses absolutely perfectly up to the normal standard, $\frac{6}{6}$, and the very finest print.

There are several points of special interest in connexion with this case, the first being the cause of the injury. When the electro-magnet was tried it was only with faint hope of success as, so far as was known, there should be no metal in the composition of a "cracker." The fact that in some of these objects for the entertainment of children there is metal shows that they are not such safe things to put into the hands of a child as was formerly thought. The position of the metal in a "cracker" is interesting and instructive. The explosive part consists of two strips of paper coated probably with chlorate of potassium and a little sand and it is by drawing the strips quickly past one another that the explosion is caused. Formerly the strips were held in apposition by a binding strip of paper but in the "cracker" which was used in this case the strips were held together by a piece of tin-plate lapped round them in such a manner that the explosion took place in the fold of the tin. In one of the "crackers" fired as an experiment the tin was burst open so violently that a portion of it passed out through the paper wrappings and went eight feet across a room. It may be said here that the name of the maker of the cracker could not be discovered. In another way, however, the case was particularly interesting and important. As the case was regarded as practically hopeless from the first a very grave prognosis was given to the family medical attendant and parents, indeed it was considered probable that the eye would have to be sacrificed in order to save the other. Nothing was left undone, however, to save it and the manner in which the wound healed in spite of adverse circumstances was little short of miraculous. There is now no fear for the eye, which preserves almost the natural appearance as the coloboma is upwards, a fact specially fortunate in the case of a woman.

CASE 2.—The next case is that of a man, aged 40 years, who in August, 1891, got a chip of metal into his right eye whilst working at a vice. He came to the Eye Infirmary at once where it was found that there was a large wound of the eye at the upper part of the cornea with laceration and prolapse of the iris and lens. As it was suspected that there was metal in the eye the point of an electro-magnet was introduced through the wound and pushed down and backwards for three-quarters of an inch. At this distance it was moved about a little and a sharp "click" was heard denoting the presence of a chip of metal of considerable size. When the magnet point was withdrawn the metal was adhering to it. The metal measured a quarter of an inch in its longest and one-eighth of an inch in its shortest diameter. The remains of the lens were drawn off and the edges of the iris were trimmed and replaced with great care. Atropine was freely used and the eye was dressed "cold." After a small operation, with the object of breaking up the capsule of the lens and an iridectomy to make a pupil free from the corneal scar, the eye could see with a suitable glass in January, 1901, nine years after the accident, $\frac{6}{60}$ and "time on a watch."

CASE 3.—A man came to the Eye Infirmary in June, 1904, having received a blow in the right eye whilst at work 24 hours before. There was a small wound in the ciliary region at the nasal side of the cornea but no prolapse of contents. As the wound penetrated the sclera it was thought probable that there would be metal in it and the point of the large magnet was brought close to the eye but no pain was experienced. The point of a small magnet was then introduced through the wound and at a distance from the surface of half an inch a chip of metal was found and extracted. Considerable reaction followed and there was much effusion of both inflammatory material and blood into the eye. After a month, however, the eye became quiet and the tension, which had been below the normal, rose again. Three months after the accident the man could see with this eye nearly $\frac{6}{60}$ and as the blood clot in the eye was absorbing well it is confidently expected that still further improvement will take place.

These three cases, then, show that what may be called useful vision may remain after the extraction of a chip of metal of considerable size from the eye. It is, of course, a matter of the greatest importance that the patient should be seen at as early a date after the injury as possible. The use of the magnet is not difficult to learn, but it requires a little confidence to push the investigation far enough in some cases. The greatest care must be taken that the point of the magnet is sterile, of course, and all other precautions usual in surgery must be carried out with care; and, lastly, every form of treatment which ophthalmic medicine indicates should be used to prevent the occurrence of iritis and cyclitis.

Glasgow.

GLOUCESTER COUNTY ASYLUM.—At a recent meeting of the Gloucester county council it was decided to extend the county asylum at Barnwood by the erection of two blocks for epileptic patients at an estimated cost of £4000. It is proposed to erect one block for female patients shortly; the remaining one, for male cases, is to be built later.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

TWO CASES OF CONGENITAL MORBUS CORDIS WITH ATRESIA OF THE PULMONARY ARTERY AND OTHER DEFECTS

By Sydney W Curl, M A, M B Cantab,
M R C P Lond,
PATHOLOGIST AND BACTERIOLOGIST TO THE NORTH EASTERN HOSPITAL FOR CHILDREN, BETHNAL GREEN N E.

THE following two cases are examples of congenital morbus cordis with atresia of the pulmonary artery and other defects

CASE 1 —The patient, who was a female child, aged three months, suffering from hare lip and cleft palate, was admitted into the North Eastern Hospital for Children for operation The mother had several other children, all of whom were quite well, and there was no history or sign leading to the suspicion of a syphilitic taint The patient, usually of a natural colour, was however, subject to attacks of dyspnœa with cyanosis Clubbing of the fingers or toes was absent and no heart murmur could be detected The child died suddenly before any operation could be undertaken

A post mortem examination r [illegible] the heart The lumen of the [illegible] from the right ventricle and fo [illegible] was completely obliterated, the artery being represented by a firm fibrous cord, beyond this point the lumen became evident and expanded into a rather narrow but otherwise normal pulmonary artery The cavity of the right ventricle was dilated and its walls were hypertrophied The aorta, which was enlarged arose from both ventricles but chiefly from the right The interventricular septum was deficient at its upper part and the auricular septum was also incomplete This specimen was exhibited at a meeting of the Society for the Study of Disease in Children in November, 1904

CASE 2 —The patient was a child, six months old, who had been cyanotic since birth There were three other children in the family, all of whom were healthy and no history of syphilis could be obtained The only abnormal physical sign connected with the heart was a systolic murmur heard all over the præcordium but most distinctly in the position of the apex beat Death took place from bronchitis and œdema of the lungs

The condition of the heart found at the necropsy was as follows There was no direct communication between the cavity of the right ventricle and the lumen of the pulmonary artery, this vessel commenced blindly at the upper part of the anterior wall of the right ventricle, there was no trace of the pulmonic semilunar valves The cavity of the right ventricle was abnormally small and its lowermost part was rounded, the walls were enormously thick (considerably thicker than those of the left ventricle), especially towards the apex of the heart where they measured nearly three quarters of an inch through The right auricle was very much dilated and its walls were somewhat hypertrophied, the foramen ovale was patent, admitting the tip of the index finger The aorta which was larger than usual communicated with the pulmonary artery by means of the patent ductus arteriosus

In the English and continental literature of the last ten years to which I have had access I have found only three cases of complete closure of the pulmonary artery recorded, one of these was reported by Dr R J Probyn Williams[1] and the other two are described by Dr G Carpenter[2] Code[3] reports a case in which the pulmonary artery was absent, its place being taken by a vessel which arose from the concavity of the arch of the aorta and divided into two branches which passed to the lungs

For the clinical abstracts I am indebted to Dr R M Im Thurn and Dr Powell of the North Eastern Hospital for Children and my thanks are due to Dr W A Wills and Mr E C Stabb for permission to publish these cases

Devonshire street W

A CASE OF SUDDEN AND FATAL ILLNESS WITH UNUSUAL SYMPTOMS

By Harold Ward Evans, M R C S Eng, L R C P Lond

THE following case will probably be of interest on account of its sudden onset and extreme severity At about 10 P M on Dec 18th, 1904, I was asked to see a girl, aged 13 years, who was supposed to be in a fit On arriving at the house I found the patient suffering from a most severe attack of chorea She was surrounded by a group consisting of her mother and some neighbours who were endeavouring to hold her still, being afraid that in the violence of her movements she might break one of her limbs The mother stated that on the previous day the girl was perfectly well until the evening She had been in bed and asleep for over an hour when her mother, hearing her call out, went into the room and found her in what she thought was a fit, throwing herself about the bed and wildly jerking her limbs She also complained of pain in her right leg but this soon passed off I was not able to gather exactly how long this attack lasted but I should judge that it continued for about half an hour, the girl then went off to sleep for the rest of the night In the morning she seemed much better and got up She ate well, played about and even helped to wash up the tea things On questioning the mother closely, however, I found that all day she had noticed occasional twitchings of the girl s face accompanied by jerky movements of the arms and the legs At about 8 P M on that day—namely, Dec 18th—she was again seized with the violent choreic movements and on my arrival at 10 30 P M was in the state which I have described above With great difficulty I listened to her heart but could hear nothing abnormal This condition of most violent choreic movements, during which the girl did not keep still for a moment, lasted until about 1 P M, on the 21st when she suddenly became absolutely quiet, gradually sinking and dying at 5 P M So violent were the movements that the skin over the legs, the elbows and the backs of the arms was rubbed quite raw The child managed to take nourishment well up to the morning of the day of her death but she had had practically no sleep since the night of the 18th The treatment consisted of abundant fluid nourishment with four minim doses of Fowler s solution and five grains of bromide of potassium

I have no reason to doubt the mother s statement as to the suddenness of the attack, though I find that the father had noticed a slight twitching of one shoulder for two or three days previously On Dec 15th I was at the house seeing a younger brother who was suffering from a slight attack of bronchitis and I then saw the little girl playing about apparently quite well Could fright have been the cause of this attack? I find that the child had had two definite attacks of fear The first occurred one night in the previous week when her younger brother with whom she was sleeping had a violent fit of coughing both she and her mother fearing that he was choking with the phlegm The second occurred on Dec 16th in the following circumstances She had gone to the house of a neighbour, who was bringing back the medicine for her brother This woman has an epileptic girl who is a gibbering idiot and apparently the two children sat and stared at each other until the mother of the epileptic appeared with the medicine When asked by her father on the night of Dec 18th whether she had been frightened she mentioned this epileptic s name

Littleport, Cambridgeshire

A CASE OF PERNICIOUS ANÆMIA SHOWING MARKED IMPROVEMENT UNDER ARSENIC AND BONE MARROW

By John Brunton, M B Glasg, M R C S Eng

THE treatment of pernicious anæmia affords so many depressing experiences that it may be of interest to record a case of more hopeful significance The patient a woman, aged 55 years, first came under observation in October 1903

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[1] Transactions of the Obstetrical Society of London vol xxxvi 1894 p 3.

[2] Congenital Affections of the Heart 1894 pp 23–28

[3] Lyon Médicale vol lxxxvi, 1897 p 155

She was then confined to bed with extreme weakness and according to her statement had been gradually losing strength for about two years. The diagnosis presented no difficulty. The lemon-yellow tint of the skin, the extreme pallor of the mucous membranes, the œdema of the legs, the retinal hæmorrhages, and a temperature ranging irregularly from 97° to 102° F. left no room for uncertainty and the examination of the blood supported the diagnosis. After treatment for a week with small doses of Fowler's solution the case was seen in consultation with Dr. C. O. Hawthorne. A very grave prognosis was unavoidable as the patient was in a most feeble condition and it was suggested that bone marrow should be tried. This was given at first in the fresh state and afterwards as tablets of bone-marrow extract. The effect was very striking. In the course of a month the severe character of the symptoms had been very favourably modified and after three months' treatment there was little to show that the patient had been seriously ill. Unfortunately, in May, 1904, there was an attack of pleurisy with congestion at the base of each lung and from this time the patient was quite unable to retain arsenic in whatever form presented. Gradually the former symptoms returned and she died somewhat suddenly near the end of July.

The interest of the case centres in the fact that even after the patient seemed quite beyond hope she improved under treatment to such an extent that she enjoyed some six months of comfortable and relatively active life.

Endsleigh-street, W.C.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—Morgagni *De Sed. et Caus. Morb.*, lib. iv., Procemium.

LONDON TEMPERANCE HOSPITAL.

TRAUMATIC HYDRONEPHROSIS AND TRAUMATIC PLEURAL EFFUSION; ASPIRATION OF BOTH EFFUSIONS; RESECTION OF RIB; RECOVERY.

(Under the care of Sir William J. Collins.)

For the notes of the case we are indebted to Mr. J. S. Hosford, surgical registrar.

A boy, aged 13 years, was admitted into the London Temperance Hospital on May 23rd, 1903. He had been riding behind a cart and slipped off, when a passing omnibus ran over his abdomen. On admission, though suffering from shock, he was conscious and complained of great pain and tenderness on the left side of the abdomen in the ilio-costal space. He was well nourished, the skin was swarthy, and there was ecchymosis of the skin forming a broad band stretching from the left ilio-costal region to the right hypochondriac region. On palpation there was great tenderness over the left renal region but no swelling or abnormal dulness was detected. He easily passed urine, which was free from blood but contained a little albumin. There was no evidence of fracture of the ribs.

For the first three days after admission the temperature was above 100° F. and the amount of urine was less than a pint a day. On May 27th the temperature rose to 102°, the pulse was 120, and he had pain over the left side of the chest and there were marked tenderness and some resistance in the left hypochondriac and lumbar regions. On the 31st the temperature was over 103°. There were dulness and tubular breathing over the lower half of the left chest. The amount of urine had been 50 ounces a day. There was more defined swelling in the left renal region and the stomach note was loud between this and the dull thoracic area. (The question of traumatic hydronephrosis or ruptured spleen, complicated with pleural effusion, was discussed by Sir William Collins.)

On June 11th the exploring syringe drew sanious serum (sweet) from the seventh left space in the mid-axillary line. On the 12th, under chloroform, Sir William Collins inserted an aspirator in the left ilio-costal space and drew off eight and a half ounces of sweet mauve-coloured acid fluid of specific gravity 1012. On the 19th the amount of urine had been about 30 ounces a day. The temperature was rather hectic in type. The left chest was aspirated in the sixth space and 30 ounces of sanious fluid were withdrawn which spontaneously coagulated. On the 26th, under chloroform, Sir William Collins resected two inches of the left sixth rib, evacuated several ounces of pus from the left pleura, and inserted a tube. No return of the lumbar swelling appeared and the amount of daily urine increased to from 35 to 50 ounces. On July 12th a small collection of pus was found and opened at the left base posteriorly.

The boy had undergone considerable emaciation since admission but from this time forward he began to put on flesh and the chest symptoms gradually resolved. He gained a stone in weight during August. The tube was left out on Sept. 15th and he was discharged to a convalescent home on Oct. 7th. He has since presented himself for examination and is fat and well, the chest shows no abnormal signs, and there is no abdominal swelling to be felt. The urine and the temperature were normal.

Remarks by Sir William Collins.—In this case trauma of the left hypochondrium, without fracture of the ribs, led to the effusion of two distinct and different collections of fluid, one above the diaphragm pleural in situation and becoming purulent, the other below the diaphragm, acid, of renal origin and disappearing after one aspiration. This latter collection I regarded (after dismissing the possibility of ruptured spleen) as one variety of "traumatic hydronephrosis," such as I described fully in 1892.[1] Probably the case was not merely one of hydro-renal distension from ureteral blockade, but the collection might have been in part external to the renal capsule and circumscribed by the perirenal fat.

BRADFORD ROYAL INFIRMARY.

TWO CASES OF HERNIA OF THE CÆCUM.

(Under the care of Mr. W. H. Horrocks.)

For the notes of the cases we are indebted to Dr. F. W. Schofield, house surgeon.

Case 1.—The patient, a man of medium build, aged 42 years, a mechanic, was admitted to the Royal Infirmary, Bradford, as an emergent case, on May 30th, 1904. He complained of a rupture on the right side which was giving him severe pain. It came down in the early morning and he had not been able to reduce it. He had had the rupture for five or six years. The cause of it was not known. It had come down every morning when he got up and had gone back at night when he lay down. He had not worn a truss. During the six weeks previous to admission he had pain from the rupture which prevented him doing his work. He had not had any trouble from it before this. His previous health had been good. He had never been troubled with a cough and there was no history of any injury. The hernia was a complete scrotal hernia on the right side of about the size of the closed fist. There was an impulse on coughing, manipulation was painful, and the rupture was not reduced at once. It went back soon after an icebag had been applied when he was in bed. The inguinal ring was very patent. Radical cure was performed. The sac wall was found to be very thick. The sac was continuous with the tunica vaginalis. On opening the sac the upper part was found to contain the last part of the ileum and the commencement of the cæcum. This part of the gut was adherent to the back of the sac. The sac was cut across and the upper part was reduced with the attached gut.

Case 2.—The patient, a man, aged 52 years, was admitted to the infirmary on May 5th, 1904, complaining of rupture on the right side, giving him pain when he lifted things and when he walked long distances. He said it had been down for three months without going back. He had been ruptured for 14 years. During the last 12 months he had a cough and this caused pain in the rupture. He had had a fractured thigh 16 years ago. The hernia was large right-sided scrotal with a distinct impulse on coughing. There was a tympanitic note on percussion. The external ring was of large size. The hernia was easily reduced but very readily came down when the patient coughed. He had a long prepuce. Operation was performed on May 10th, 1904. On opening the sac, the wall of which was very thick, it was found to contain the cæcum, appendix, and lowest piece of the ileum. The cæcum was covered in front and at the sides by the thickened hernial sac. The cæcum had no mesentery but was attached by a thick fleshy pedicle to the back of the canal. From the lower part of the cæcum a fleshy band covered by tunica vaginalis descended to the upper part of the testicle. The upper part of the sac after being sutured was reduced with the gut. The testis was removed. The inguinal canal was closed by buried sutures. Both patients made uninterrupted progress and were discharged cured.

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[1] Brit. Med. Jour., April 30th, 1892.

Remarks by Mr. HORROCKS.—The reports of these two cases well illustrate the two kinds of cæcal hernia described by Scarpa. In the first the presence of the cæcum is accidental. It has no special vascular connexion with the hernial sac and beyond the facts that the sac is usually thicker and the cæcum and appendix more liable to form peritoneal adhesions it does not differ from an ordinary enterocele. In the second case the vessels to the cæcum run in behind the cæcum and any attempt to separate them is liable to cause gangrene of the gut. The broad fold connected with the testis suggests the descent of the testicle as a cause of the low position of the cæcum. In both cases there was a well-marked hernial sac but in the second case this was deficient behind and below, the cæcum being sessile. The treatment of these varieties of cæcal hernia differs. In the first case, "accidental cæcal hernia," the ordinary methods of radical cure are effectual. In the second case the treatment is castration and separation of the fleshy tissues at the back of the sac and reduction of the cæcum. The inguinal canal may then be obliterated by several stitches through the fibres of the transversalis and oblique muscles. In a case recorded by Sir F. Treves[1] this method was adopted. The object of these remarks is to draw a clear distinction between these two kinds of cæcal hernia and to emphasise the necessity of different treatment.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Some Changes which take place in the Lungs and the Pleura, chiefly in Pulmonary Tuberculosis, as shown by Skiagraphy.

A MEETING of this society was held on Jan. 10th, Sir RICHARD DOUGLAS POWELL, Bart., the President, being in the chair.

Dr. DAVID LAWSON demonstrated Some Changes which take place in the Lungs and the Pleura, chiefly in Pulmonary Tuberculosis, as shown by Skiagraphy. He introduced his subject by showing the difference in the behaviour of serous fluid and serous fluid plus air in a rubber bag as exhibited by skiagrams. The upper border of the fluid in the bag from which air had been exhausted appeared ill-defined and concave on account of its capillarity, while that of the fluid in the air-containing bag was sharply defined and horizontal. The same difference was demonstrated between ordinary serous pleural effusions on the one hand and cases of hydro- or pyo-pneumothorax on the other. The x ray appearances of a pyo-pneumothorax four hours before operation and again three months and nine months later when the lung had fully expanded were exhibited by means of skiagrams thrown on the lantern screen. In the same way it was shown that in certain cases of pleural effusion the lung above the level of the fluid had undergone some compensatory emphysema, while in others there was the common association with an intrapulmonary apical lesion. The comparative appearances of collapsed lung, of thickened pleura, and of dry pleurisy were also demonstrated and the points of skiagraphic diagnosis between the foregoing conditions and that of pulmonary consolidation and cavitation were discussed. Dr. Lawson referred, too, to four instances of primary infiltration of the middle third of a lower lobe, the upper lobe on the same side remaining either apparently unaffected or, if not so, then only affected at a later date and to a minor extent, and pointed out the unfavourable prognosis presented by these cases. A striking instance of post-mortem corroboration of skiagraphic appearances was afforded by the comparison of a radiograph taken during life with a photograph of a lung after death in which four [illegible]

Dr [illegible] pres[illegible] in a case of pyo-pneumothorax and recounted a case of pulmonary disease in which skiagraphy had been of service. He considered that the failure of a certain part of the lung to light up on deep inspiration was probably of importance in the early diagnosis of pulmonary tuberculosis. In his opinion pus produced a denser shadow than serous fluid.

Dr. J. E. SQUIRE emphasised the importance of skiagraphy as a means of making a permanent record of thoracic conditions at one time for comparison with those which obtained at another. He doubted whether skiagraphy enabled an earlier diagnosis to be made than was afforded by physical examination.

Dr. T D. LISTER did not believe that skiagraphy was of importance in the diagnosis of pulmonary conditions.

Dr. J. KINGSTON FOWLER expressed his belief that in the majority of cases of early pulmonary tubercle physical signs were of greater value than the x rays. In cases of aneurysm he had found the latter of advantage.

Dr. F. RUFENACHT WALTERS referred to certain cases of pulmonary disease in which skiagraphy had not been utilised but in which he believed its use might have been interesting if not instructive.

Dr. LAWSON replied.

MEDICAL SOCIETY OF LONDON.

Functional Insanity and Allied Neuroses.—Encephalitis and its Relation to Acute Anterior Poliomyelitis.

A MEETING of this society was held on Jan. 9th, Mr. JOHN LANGTON, the President, being in the chair.

Dr. ROBERT JONES read a paper on Functional Insanity and Allied Neuroses. He defined function and included in his consideration the functions of the neuron. He referred to the fact that the function of many organs changed without leaving evidence of alteration in structure. Tumultuous cardiac disturbance followed upon a shock of surprise, albuminuria occurred without disease of the kidneys, and, similarly, mental perversion occurred with bodily disorders without any structural brain disease. The mental irritability and the impulsiveness of cardiac disease, the hopefulness accompanying pulmonary tuberculosis, and the different mental states accompanying digestive disorders, gout, and so on were instanced. In his definition of insanity Dr. Jones [illegible] negation of sanity, which definition included every variety of mental abnormality. There was no standard of health, which was a variable state, and therefore no standard of insanity, as the age of *the individual, his position in society, and* the period in which he lived were all qualifying conditions. The presence of illusions, hallucinations, and delusions was not necessary i[illegible] many men [illegible] capable of [illegible] themselves [illegible] criterion of [illegible] temporary delirium of febrile states resulting from disordered nutrition and mentioned cases of scarlet fever, typhoid fever, and pneumonia which had been admitted under his care into the asylum as cases of insanity, in which the patients [illegible] whom [illegible]. He [illegible] sanity, [illegible] forms of dementia, certain neuronic changes occurring in acute delirium, and the deficiency of the development of pain observed in cases of idiocy and imbecility, there was no means of [illegible] logical findings, and it mig[illegible] was at the present time no [illegible] many mental abnormalities were described as "disease manifestations" rather than actual disease. Dr. Jones referred to the physiology of the neuron and acknowledged the great work of Ferrier, Horsley, and others who endeavoured to investigate the actual material and quantity of nervous energy; but, in spite of so much progress, little more was known at present than its rate of transmission or conduction along a nerve.

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[1] Brit. Med. Jour., 1887.

He also referred to the pathology of the neuron and indicated that poisons circulating in the blood attacked the fluid nutritive protoplasmic substance of the nerve cell and, with the possible exception of the tetanus toxin, no other poison attacked the fibrillar substance or the stereoplasm of nerve cells, demonstrating, pathologically, the possibility of functional rather than organic or structural disease. Dr. Jones referred to the evolution of insane ideas, remarking that the most highly evolved but less organised of the senses, such as sight and hearing, contributed more to insane delusions than did the more stable but less informing senses of smell and taste. He showed how tactile sensations were associated with hysteria, whereas auditory and visual sensations were more often associated with insanity, and that hysteria was a "lower-grade" insanity. In hysteria sensory disturbances resulted in motor activities; in insanity action followed delusions—a disturbance of the highest intellectual processes. He considered that much of insanity was functional, which appeared to be supported by the fact that 53 per cent. of all women admitted during 1903 into the asylums of London under the age of 25 years were discharged recovered within the year and in most cases thus discharged recovery took place under six months. Dr. Jones considered that the majority of cases of insanity among women were related to the emotions and were also of a transitory type. He referred to the loss of memory in normal persons, in cases of hysteria, and in insanity and claimed that the same paths and the same mechanism were at work in health and in functional abnormalities. He referred to cases of "double consciousness" and their sudden recovery, also to cases of post-epileptic automatism, both being probably functional, and he related cases of loss of memory under his care in which the condition completely and suddenly passed off. Dr. Jones next dealt with hypochondriasis, neurasthenia, epilepsy, paramyoclonus, and chorea and pointed to an absence of structural lesions in these cases. He also referred to astasia abasia as functional modifications in systematised areas of action. The mental condition accompanying pregnancy was another example of functional mental disturbance. He placed great stress upon the heredity of nervous diseases and urged that it was not diseases or ideas that were transmitted but a proclivity or a tendency to disease in adverse circumstances. He pointed out how necessary early treatment was in all functional mental states and that long-continued functional abnormality might become organic, as was exemplified when long-continued electrical stimulation of a cranial nerve caused nuclear changes; also that environmental states were important, as minute variations acting for long periods upon the most slowly growing of all the organs of the body might cause distressing disturbances, making it possible for functional mental abnormalities to end in incurable organic insanity.—Dr. C. A. Mercier said that the question which this paper raised was not so much whether such a condition as functional insanity existed as whether there was any form of insanity which was not functional. He said that normally at regular intervals of the 24 hours the mind was wiped out by the occurrence of sleep. So in insanity portions of the nervous system became functionless but these periods occurred at irregular and not at regular intervals. A functional insanity was one in which no structural alteration in the brain could be found and he was inclined to regard all insanity as functional. Cells might be found to be damaged but these could not be connected with the hallucination and illusion which occurred. It was the remaining portion of undamaged cell which produced the symptoms and in this sense he regarded all insanity as functional.—Dr. T. B. Hyslop dealt with the difficulty of distinguishing certain cases of neurasthenia from cases of general paralysis of the insane. He considered that it was important to endeavour to find out the lesion giving rise to the symptoms in any case, as this alone formed a basis for progress.—Dr. W. L. Andriezen considered there was no evidence of functional insanity. He stated that he had found areas of cortical sclerosis in cases of epilepsy. He did not regard the post-epileptic alteration of personality as functional in nature. He referred to the periodic attacks which occurred in dipsomania and to periodic attacks of melancholia which might persist for many years. These he considered as due to some maldevelopment or malnutrition which allowed the cerebral mechanism to become faulty.—Dr. Jones replied.

Dr. F. E. Batten read a paper on Encephalitis and its Relation to Acute Anterior Poliomyelitis. He said it was generally recognised that some cases of acute hemiplegia occurring in children were due to the same causes and had the same pathology as cases of acute anterior poliomyelitis. It was not, however, generally recognised that portions of the brain other than the motor path might be affected in a similar manner and give rise to a variety of symptoms. He said that cases presenting symptoms of acute intracranial disease frequently occurred during the summer months of the year. These cases were like anterior poliomyelitis, acute in onset, often in the early stage of the disease giving rise to extensive paralysis which in part rapidly cleared up, leaving more or less permanent paralysis. Convulsions were present in some cases. He said that these cases of encephalitis corresponded not only clinically and pathologically to acute anterior poliomyelitis but also in their seasonal relationship. He divided the cases according to the portion of the brain affected into three groups: (1) those cases in which the cerebral hemispheres were affected; (2) those cases in which the cerebellum was affected; and (3) those cases in which the cranial nuclei were affected. The symptoms varied according to the situation of the lesion. In affections of the cerebral hemisphere the lesion might affect the whole of one hemisphere or might limit itself to the frontal region, the Rolandic region, or the occipital region. The affection of the cerebellum might be unilateral or bilateral. In the affection of the cranial nuclei one or more of the cranial nuclei might be affected. The affections of the cerebrum and the cerebellum were described under the title polio-encephalitis superior, whilst affections of the cranial nuclei were described under the title polio-encephalitis inferior. He then proceeded to give instances of affection of the various portions of the cerebral cortex from cases which had for the most part occurred during the summer of 1904. After dealing shortly with the instances of affection of the frontal and the Rolandic region of the brain, the latter of which was the most common manifestation of the disease, he described a case in which there was evidence of affection of the occipital lobes. In this case the child was completely blind for three weeks without any other sign of ocular disease. From this the child gradually recovered completely, save for the fact that the child remained subject to attacks of *petit mal*. He then gave instances of affections of the cerebellum, both unilateral and bilateral, and finally instances of affections of some of the cranial nuclei. Passing then to the pathology of the disease he said that although recovery had taken place in all the present series of cases, yet in a former series he had been able to prove the pathological condition in two cases: in one case of hemiplegia in which the cortex of the left side was affected and in another in which the nucleus of the seventh nerve was affected on the right side. He then dealt with the seasonal relationships of the disease and pointed out that these cases of intracranial disease were more common during the summer months of the year. He had collected the cases of acute anterior poliomyelitis which had occurred during the summer of 1904 and he had met with 29 cases of anterior poliomyelitis and eight cases of polio-encephalitis. Much more pathological evidence was required on this point and he hoped at some future time to make his series of cases as complete pathologically as they were clinically.—Dr. C. E. Beevor said that the view held with regard to these cases of sudden hemiplegia in children was that they were due to thrombosis of the larger veins. He thought that considerable evidence had been brought forward pointing to the fact that the cause of this condition was thrombosis of the finer vessels.

SOCIETY OF ANÆSTHETISTS.

The Vernon-Harcourt Inhaler.

A MEETING of this society was held on Nov. 4th, 1904, Mr. C. Carter Braine, the President, being in the chair.

Mr. Edgar Willett, who opened a discussion on the Vernon-Harcourt Inhaler, said that he had now used it for over 250 cases and in selected cases in his hands it had given a satisfactory anæsthesia. In the large majority of cases he started the anæsthesia with nitrous oxide gas and ether and after some four or five minutes went on with the inhaler. He had done this because he found that it saved time and because in one case serious symptoms of syncope from chloroform, which disappeared under ether, had occurred. He had also found Mr. Harcourt's "increase tube," which allowed of the strength of the chloroform vapour being increased to 3 per cent., of great use and with it he was but rarely obliged to discard the apparatus for some other. Of course, there were a large number of cases where the inhaler could not be used but apart from these he had found that the inhaler answered to all the ordinary requirements where ether was contra-indicated.

Dr. H. MACNAUGHTON-JONES and Mr. WALTER TYRRELL also spoke in favour of the apparatus.

Mr. PERCY W. G. SARGENT had seen the apparatus in use in the hands of a number of anæsthetists for a variety of surgeons, including himself. He was forced to say that from the operator's point of view it was not satisfactory. The induction took a longer time than could be spared by a surgeon with a long list of operations before him, while the anæsthesia was in a large number of cases too light and "reflex movements," movements that required controlling by dressers, were far too common. Where the anæsthetist started with ether he readily understood that the inhaler was more successful, as the initial incision was made while the patient was under the influence of that drug.

Dr. J. BLUMFELD said that after considerable use of the inhaler he had formed definite conclusions as to its value. Such instruments might be regarded from two points of view, the purely physiological or the clinical. He dealt entirely with the latter aspect. There were certain disadvantages in the use of the inhaler which should be mentioned. Cases of operation about the face or the neck were obviously instances in which the apparatus could not be used; in addition there were many cases in which the condition of the patient rendered a perfect result impossible of achievement in a reasonable time. Thus on several occasions in abdominal operations he had discarded the instrument because of the unsatisfactory relaxation of muscles. He was of opinion that for general use an inhaler must have a wider applicability than was the case with this one and that it was the duty of anæsthetists to obtain the best results and to teach others to obtain them with the simpler forms of apparatus. He fully realised the importance of accurate and small dosage in the use of chloroform but he did not agree that it was only to be obtained by the use of this inhaler. He considered also that it had defects with regard to the possibility of observing absolute cleanliness in all its parts and also as regards the ease with which accidental complications in the apparatus might arise.

Dr. DUDLEY W. BUXTON pointed out that they were there to obtain the results of the experience of anæsthetists who had used the inhaler and not to discuss whether a 2 per cent. chloroform vapour was sufficient for all the exigencies of surgery. The "regulator" was graded for this percentage but it could equally well be arranged for higher percentages if such were required. The arguments advanced against the inhaler [illegible] (1) [illegible] (2) that it p[illegible] it was u[illegible] accurate [illegible] could say that he had met with no deaths and no dangers, though reports to the contrary had been hinted at. If a greater depth of narcosis than was represented by the third degree of Snow, the true surgical anæsthesia, was required, then either a greater length of inhalation or a higher strength than 2 per cent. could be obtained by employing either a larger bottle or the accessory tube. The statements about increased percentages being caused by alterations in the depth or the frequency of respiration had been discussed by Mr. Harcourt and his answers to the criticism were conclusive. His (the speaker's) clinical experience went to show that both the changes in respiration due to "respiratory storms," which could only occur during incomplete anæsthesia—i.e., in the induction stage—and the alleged dangerous increase in percentage due to "slopping" of the chloroform in the bottle when it was shaken were negligible. He had never seen any symptoms of increased narcosis, which must have arisen if any considerable rise in the percentage of chloroform had been inhaled. Of course, care must be taken to avoid shaking but even raw students were soon enabled to acquire this heedfulness. The immense value of this inhaler lay in the fact that the person using it who would be watching his patient, knowing what depth of narcosis was required, was able to regulate to a nicety the dose given. He was convinced that a more extended use of the apparatus in the hands of those whose experience had been unfavourable would give better results.

Dr. J. F. W. SILK stated that though he had had no experience of the inhaler himself he felt that he was justified in forming an opinion founded on the very full description of other anæsthetists' results. It was obvious to everyone at the outset that its use was a limited one, as Mr. Willett had made it abundantly clear that it was not suitable for infants, operations about the mouth, and abdominal operations where full muscular relaxation was required. In such circumstances he considered that it was not a suitable instrument with which to teach students, as they could not be instructed in those classes of cases which were peculiarly suitable for the administration of pure chloroform. Further than that the long time that was required for the induction, so far as hospital work was concerned at any rate, made it necessary that the induction should be by nitrous oxide gas and ether. He also condemned it on other grounds. Its safety had been alleged but he pointed out that with the death-rate from chloroform, taken all round, at 1 in 3000 it was a little premature to make dogmatic statements from figures which only amounted to hundreds of administrations, and those in the hands of specialists, among whom the death-rate was far lower than the figure he had mentioned. As regards the machine being a regulating one, he had seen the rise and fall of many of these instruments and they had all failed because they were too complicated for ordinary use, and though the present one was an improvement as regards the accuracy of the regulating, that had been obtained by still further sacrifice of simplicity. He himself preferred to regulate the dose by the requirements of each individual case and not by the theoretical percentage that was thought to be sufficient.

Sir VICTOR HORSLEY spoke very highly of the inhaler, considering that it marked a great advance on the usual haphazard methods of giving chloroform. He had seen it used in a great number of cases of his own and always with a satisfactory result after the administrator had mastered the instrument. It enabled the latter not only to know exactly what amount he was giving at any particular moment but also [illegible] As regards those cases where there [illegible] of abdominal muscles, he thoug[illegible] should not be aimed at, as that indicated a dangerous amount of narcosis.

Mr. H. C. CROUCH said that no report of the inhaler as used by former speakers was of any value; he had used the inhaler unclamped and had seen that the amount of shaking completely destroyed the intentions of the inventor, as the percentage of chloroform was obviously increased to a dangerous extent. It was idle for Dr. Dudley Buxton to say that the inhaler did not shake; the only way scientifically was so to fix it that it could not shake. He had done that and he found that the result was very different from the results with it unclamped. Sir Victor Horsley had said that it was an enormous advantage to know the amount of chloroform that was given. He agreed, but that was precisely what was not known with the Vernon-Harcourt inhaler, as with the indicator at 2 per cent., even in the clamped instrument, the anæsthetist might be giving 1·3 per cent. or 2·3 per cent. and he could not tell which. He was amused to see that the supporters of the apparatus had now given up the 2 per cent. limit as insufficient and had found that the "increase tube," which allowed of a nominal 3 per cent. to be given, was often necessary.

Dr. A. G. LEVY said that it was not necessary violently to splash the chloroform in order to raise the percentage of vapour, an appreciable increase of vapour being produced by the gentlest possible oscillation of the bottle, an extra surface of chloroform being thus presented by reason of the wetting of the sides of the bottle. During the transfer of the patient from the anæsthetising room to the operating theatre he had seen the bottle swaying sufficiently to produce a 5 per cent. vapour. It was significant that an excess of vapour was thus yielded at the moment when it was most necessary. Sir Victor Horsley had stated that a 2 per cent. vapour was sufficient for all purposes. Such a statement as evolved from the use of the Vernon-Harcourt inhaler could not be accepted in view of the inaccuracies of this instrument. When using an apparatus which eliminated these errors he found that 2 per cent. was quite insufficient. As the Vernon-Harcourt apparatus possessed sources of excess of vapour it was logical to assume, therefore, that more than 2 per cent. was administered in cases in which it was successfully used. He did not mean to suggest that the bottle was intentionally shaken, the normal oscillation of the bottle and that consequent upon the application of the hand to the bottle in warming it being sufficient to insure an efficient strength of vapour in the majority of cases. With regard to the large variations admitted to be consequent upon fluctuations in the strength of the breathing, Sir Victor Horsley had explained these errors away by saying that whilst weak breathing gave a higher percentage it also resulted in a lower dosage (less total chloroform per minute). This argument did not affect the innate fact that the apparatus did not evolve the percentages it registered; and moreover Sir Victor Horsley's dosage theory still required substantiation—it did not appear to be in conformation with prevalent views.

Dr. DUDLEY BUXTON, in the absence of Mr. Willett, replied. He said that most of the speakers had had little or no experience of the apparatus; theirs were pious opinions which lacked conviction. [illegible] hing that Sir Victor Horsley had said. [illegible] only say that Mr. Willett's limitation of cases was due to the fact that that gentleman held ether to be a safer anæsthetic than chloroform and so he employed it whenever it was possible. He (the speaker) used the inhaler for children (the faces of infants were not suitable for closely fitting masks) and for operations about the mouth until anæsthesia was established when he had recourse to a mouth tube and a Junker's inhaler. Mr. Crouch's remarks had been already dealt with. He believed that Dr. Levy's objections were more academic than real. In all cases the chloroformist must be alive to clinical phenomena and must meet the indication of the case. This was provided for by the valve in the Vernon-Harcourt inhaler. The period of induction was from eight to ten minutes and this was a shorter time than was required by the surgeon for his preparations. Where time was important the ethyl chloride-ether-chloroform sequence could be used.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Artificial Respiration.—Exhibition of Patients and Specimens.

A MEETING of this society was held in the large theatre of the Royal Infirmary on Dec. 21st, 1904, and partook of the nature of a clinical demonstration of patients. Dr. J. O. AFFLECK occupied the chair.

Professor E. A. SCHAFER gave a demonstration of his method of Artificial Respiration. The patient was placed in the prone position and the operator kneeling on one side rhythmically compressed both sides of the chest with each hand. By this method artificial respiration could be kept up for a long time as there was little fatigue to the operator. The prone position was very advantageous in that it allowed water and mucus to drain naturally away from the patient; the tongue also had no tendency to fall backwards into the throat as it was apt to do in the supine position. There was also little or no risk of fracturing the ribs as frequently happened in Howard's method. In cases of asphyxia the liver was generally enormously swollen and with the patient in the supine position it was very easily ruptured, and indeed this accident frequently happened in ordinary attempts at artificial respiration. By having the patient in the prone position more air was allowed to gain entrance to the lungs as the pressure was spread over a wider surface and more equally than it was in the supine position, when the pressure was exerted over a limited area on each side.

Dr. W. ALLAN JAMIESON exhibited: 1. A man who had suffered from an extensive Tertiary Serpiginous Eruption and who showed the advantage of combining local with constitutional treatment. The patient had had no reminder of syphilis for 27 years, then this eruption appeared on his back, chest, abdomen, the inner sides of the thighs, and the arms. It was evidently of the nature of a serpiginous gumma which spread widely showing crusts and slight ulceration. The man was admitted to the Royal Infirmary in June, 1904, and under potassium iodide the condition improved. He was, however, re-admitted in the following September as the eruption had again extended very widely. The whole area was scraped with a sharp spoon repeatedly. A starch paste with a small quantity of calomel was then applied while iodide of potassium and carbonate of ammonium were administered internally and the result was successful under this combined treatment. 2. A case of Lichen Planus exhibiting peculiar colouration. The patient was a cab-driver, aged 51 years. He had suffered from gonorrhœa in 1881 and soft sore with suppurating bubo in 1882 but there was no history of syphilitic infection. He was admitted on Dec. 8th, 1904. The eruption first appeared on the inner side of the left knee in the shape of small pink spots. This then spread over the abdomen, the flanks, and the arms and there was much itching. This eruption was now represented by brownish spots. On section the microscopic appearance was that of a retrogressing lichen planus.

Dr. NORMAN WALKER showed two men suffering from Keloid over the usual site, the front of the chest. Both had been treated by the x rays and had greatly benefited, the pain having almost immediately disappeared. Two cases of Lupus of the face in women were also shown to demonstrate the permanent results of treatment by the x rays. In one case the patient first presented herself in June, 1901, and had been subjected to many exposures. The last exposure was, however, in May, 1903, and so for an interval of 18 months she had had no treatment and yet the improvement had persisted. In this case the everted mucous membrane of the eyelid had been changed into skin. In the second case 107 exposures had been made.

Dr. DAWSON F. D. TURNER showed: 1. A case of Tic Douloureux treated by static electricity. The case occurred in a woman who could get no sleep on account of the pain; there were twitching of the face on the left side and numbness. She was deaf on the affected side and had had all her teeth removed without benefit to the condition. The static breeze which had been commenced on Nov. 8th had proved of the greatest benefit in this case. 2. A case of Epithelioma of the Lower Lip in a man which had been treated by radium and then by the x rays. He had had exposures to radium on 17 days amounting in all to about eight and a half hours' duration and then subsequently the x rays. His condition showed a marked improvement. 3. A case of Flat-foot produced by the traumatism of jumping from a vehicle. The sinusoidal current had been applied to the foot in a foot-bath, with the result that the foot [illegible] and the pain had entirely gone. Dr. [illegible] the sinusoidal current found its best application in paretic conditions. 4. A case of Non-healing Ulcer situated over the external malleolus of the right foot. The ulcer had come and gone during the past two years. By the application of the x rays twice a week for four minutes the ulcer had entirely healed. 5. A woman with a Chronic Varicose Ulcer over the lower part of the left leg and to the inner side. The x ray treatment had done much good though the patient had not been laid up but had performed her usual house duties all day.

Dr. J. W. B. HODSDON showed a child, aged three years, on whom he had performed Primary Disarticulation of the Right Hip. The child had been run over by a car which caused a complete fracture as well as a greenstick fracture of the femur. The importance of the case lay in the remarkably beneficial effects which resulted from the intravenous injection of saline fluid and adrenalin extract. The child's pulse was 200 and after the injection of one pint of sodium chloride solution and 30 minims of adrenalin chloride solution it at once fell to 120 and the condition of shock was recovered from. Its use quite replaced strychnine and stimulants.

Mr. C. W. CATHCART demonstrated two cases of Laminectomy for Paraplegia. 1. The first case was that of a man, aged 45 years, who had suffered during the preceding nine months from complete paraplegia. At first he had been treated for the pain in his back by rest in bed but without any benefit. On admission to the Royal Infirmary the conclusion arrived at was that there was pressure on the cord in the region of the tenth or eleventh dorsal vertebra. On opening the canal the cord was found to be compressed by a growth arising from the front. There was no tuberculous material in the canal. The laminæ having been removed distinct improvement was noted within three weeks although all the symptoms were aggravated for a few days after the operation. The operation was performed in March, 1903, and the man could now just stand alone and could walk by the aid of a go-cart. Previously to the operation he suffered intense pain in his back but now there was only a slight soreness. The case was probably one of tuberculous disease of the spine. 2. The second case was not a tuberculous one. The man first complained of a swelling at the back of the neck. An abscess developed there and was opened in March, 1904. In two or three weeks after this complete paraplegia of both arms and legs developed. Mr. Cathcart thought that there was an inflammatory swelling pressing on the cord in the cervical region. At the operation much granulation tissue was found underneath the laminæ. This was scraped [illegible]

nephritis. As he was getting weaker and emaciated and as the pain was chiefly complained of on the right side this kidney was cut down on from the lumbar aspect. The kidney was seen to be congested and swollen with certain spots of marked congestion and the surface was dotted over with yellow spots. It was evidently a case of septic nephritis and pyelitis. The pelvis of the kidney was incised and drained and at once the patient's temperature began to fall. He had steadily improved ever since the operation.

Dr. R. McKenzie Johnston exhibited a patient after operation for Extradural Abscess following mastoid disease. The girl was admitted on Oct. 3rd, 1904, and previously to admission had suffered from pain and rigors. On examination granulations and perforations were present in both ears. Her temperature rose soon after admission to 104° F. and she had rigors. It was thought to be a case of thrombosis of the lateral sinus though there was little or no swelling over the mastoid or displacement of the auricle. On cutting down, however, the mastoid cells were found to be softened and full of pus. These were scraped out and on chiselling upwards a small sinus was discovered with very fœtid pus and gas escaping from it. Working backwards the middle fossa was opened into and about two drachms of thin pus were evacuated. The lateral sinus was explored to the extent of three-quarters of an inch and was found to contain no blood but an organised white clot occupied its lumen. The interest of the case lay in the fact that the patient had been going about with a thrombosis of the lateral sinus. The girl had improved every day since the operation and was at present plump and healthy.

Mr. F. M. Caird showed: 1. A lad who, two years previously, had gone to the Edinburgh Royal Infirmary with Wrist-drop and Claw-like Contracture of the Fingers of the Right Hand. The elbow-joint had been fractured three years previously and the arm had been put up in splints. The condition simulated musculo-spiral paralysis but was really not so. It was an ischæmic contracture affecting chiefly the flexor tendons. The operation consisted in lengthening the flexors of the wrist and the fingers and the condition had very greatly improved. 2. A boy, aged six years, who had presented a very similar condition. The elbow-joint had been injured and had been treated by splints. The tendons in front and behind were operated on and the contracted condition had greatly improved. 3. A patient (male) after extirpation of the rectum and the anus by the combined abdominal and perineal route. The man, aged 68 years, had [illegible] carcinoma lasting four years [illegible] removed and the lower end of [illegible] ed in the mesial line in front. [illegible] l eight weeks previously and the patient had put on two stones in weight since. 4. A girl, aged 21 years, who had suffered from perforation of a gastric ulcer on two separate occasions. The first operation was performed on Sept. 22nd, 1903, 24 hours after the rupture. The ulcer was found situated on the lesser curvature and was of the size of a threepenny-piece. A slight hour-glass contraction of the stomach was then noticed. On Nov. 24th, 1904, she was again admitted and the operation was performed 14 hours after rupture. Many adhesions of the omentum were present and another ruptured ulcer was found of larger size than the previous one but in the same situation. The stomach showed a well-marked hour-glass contraction and as the suturing of the rupture contracted the passage too much gastro-enterostomy was performed and now the patient could eat any ordinary food.

Mr. H. Alexis Thomson exhibited a man, a tailor, who had suffered much from large gouty deposits on the areas of pressure—e.g., over the malleoli, elbows, and ligamentum patellæ. These had been removed and only one recurrence in the left elbow had shown itself. Many tophi were present [illegible] moved. [illegible] synovial [illegible] d pyorrhœa. Great improvement had resulted in his condition though it was generally stated that such deposits ought not to be interfered with.

[illegible] exhibited:— [illegible] of Enormous Horns growing [illegible]

Mr. J. M. C[illegible]: (1) [illegible]; (2) Two Cases [illegible] the Knee-joint; [illegible] and Liver from a case of Gastro-enterostomy.

Mr. Caird: (1) Rectum removed from the case described above; (2) a Tuberculous Kidney, with drawings illustrating the results gained by the Luys Separator; and (3) Stomach showing Posterior Gastro-jejunostomy and Lateral Anastomosis.

Society of Medical Officers of Health.—A meeting of this society was held on Jan. 6th, Dr. J. F. J. Sykes, the President, being in the chair.—Sir Lauder Brunton opened a discussion on the report of the Inter-departmental Committee on Physical Degeneration and pointed out that the fact of deterioration could be determined only by periodical and systematic measurements of children in schools. Medical inspection must be organised for the detection and relief of defects of vision and hearing and incipient constitutional disease. The physical education of children of both sexes should receive no less attention than the intellectual and the character of each should be to a great extent guided by the results of the medical examinations. School kitchens should provide means of instructing girls in the art of cookery while supplying meals at cost price to those who could pay and free to such as could not, the expenses being defrayed by voluntary effort or from the rates. Practical hygiene must be regularly taught and the schools themselves should be object lessons in health. The feeding of infants was a most difficult matter and on many grounds he did not approve of municipal milk depôts, preferring that the authorities should bring pressure on the large dairy companies to maintain a universally high standard of supply. He would not attempt to discuss the depopulation of the country by migration to the towns but expressed a hope that the authorities would some day consider any house "overcrowded" with more than two inmates to each room. Poverty, overcrowding, and physical degeneration were inseparably associated in causal relation. Medical officers of health must have [illegible] and the creation of [illegible] sirable. Failing this [illegible] an advisory council [illegible] thin whose province [illegible] fare of the nation [illegible] rations and including other scientific experts. The National League for Promoting Physical Education and Improvement was being constituted with a view to secure the organised coöperation of all existing associations and persons engaged or interested in the promotion of these efforts, and foremost among these he would place the medical officers of health throughout the country.—Sir John Gorst maintained that these conditions were well known to the officials of the Board of Education and that it was the duty of each one to press on the local education authorities, now the county and borough councils, the need for medical inspection at regular intervals; this, though it would not cure, would reveal the extent of the evils.—Dr. H. Franklin Parsons feared that free meals would not only pauperise the recipient but would lower wages.—Miss A. M. Anderson, chief lady inspector of factories, complained of the ignorance of the ladies who, with leisure and enthusiasm, offered their services as visitors. Girls of all classes wanted training in all that belonged to health which, under modern social conditions, they could not get from their mothers. The girls might be taught in evening schools but the instruction of the mothers must be provided by the medical officer of health.—Dr. J. C. McVail mentioned a school board in Scotland which had several houses of two and three rooms to which girls were drafted for a week or two at a time to learn domestic work. The depopulation of rural districts might be greatly checked by [illegible].—Dr. A. Newsholme [illegible] the money earned.—Dr. A. K[illegible] ratio observed in Edinburgh [illegible] the rooms from which the children came and their height, weight, and general intelligence. In the latter town the visitors provided meals at a cost charge of 1½*d.* a day to all who accepted the offer and found that such children made better progress than those fed at greater cost at home.—Dr. Kerr thought that the number of really half-starved children had been greatly exaggerated. But children must be looked on as future citizens from the physical side no less than from the mental; the appointment of school nurses in a few places had given the best results.—Dr. F. J. Allan said that he had received from a large staff of lady visitors valuable assistance after they had had the instruction that most of them greatly needed.—The President quoted figures showing the remarkable fluctuations in the infant mortality of different towns and after the discussion had been sustained by several speakers, medical officers of health and others, Sir Lauder Brunton replied. He pointed out that in Switzerland, where the State spent vast sums, greater than in any other country, on education, mostly free, very few children were fed at the cost of the rates and nearly as few by voluntary effort. He would say with the prophet, "My people are destroyed for lack of knowledge."

Glasgow Obstetrical and Gynæcological Society.—A meeting of this society was held on Dec. 21st, 1904, Dr. J. K. Kelly, the President, being in the chair.—The following specimens were exhibited:—Dr. J. M. Munro Kerr: Uterus removed by Vaginal Hysterectomy for Cancer of the Cervix complicated with Pregnancy. Cæsarean section preceded the vaginal operation.—The President: (1) Myoma of Uterus with Hæmorrhagic Degeneration; (2) Dermoid Cyst of Ovary; and (3) Ovarian Cyst.—Dr. J. Edgar: Mulberry Calculus from Ureter.—Dr. R. Jardine: Drawings of Corneal Opacities in Infants.—The business of the meeting was a discussion on the Treatment of Prolapse of the Uterus, introduced by Dr. W. L. Reid. Dr. Reid spoke first of the more chronic forms of prolapse, dwelling upon prophylaxis as very important. In milder forms of prolapse a pessary was often curative, more especially that of Albert Smith. When operative treatment was necessary the most suitable operation was that of amputation of the cervix with repair of the perineum together with anterior and posterior colporrhaphy. Fixation of the uterus to the anterior abdominal wall was also necessary in some cases. Dr. Reid said that he had no experience of paraffin injection in such cases.—Dr. Kerr was impressed with the disadvantages of the watch-spring pessary as becoming septic so quickly from the vaginal discharges. He also considered it of benefit to have a strong pelvic floor when repairing the perineum.—Dr. G. Balfour Marshall remarked that in cases of hypertrophy of the median portion of the cervix a pessary was of use in causing shortening.—Dr. Edgar had some experience of paraffin injection but considered it as somewhat dangerous owing to the risk of subsequent pulmonary embolism.—Dr. G. Scott MacGregor had tried paraffin injection once with failure.—Dr. C. C. Douglas spoke as to Martin's method of procedure.—The President remarked that he seldom performed a colporrhaphy when doing ventrofixation.—Dr. Reid replied.

Rochdale and District Medical Society.—A meeting of this society was held on Jan. 5th. Dr. D. Richmond showed five cases which had been operated on through the mastoid for Middle-ear Disease. All had suffered from discharge and deafness. One also suffered from attacks of giddiness and another from facial paralysis. The latter, a man, had had discharge from the ear for 20 years and was operated on by Dr. D. McKeown of Manchester. At the operation the sigmoid sinus was laid bare and appeared to be normal. A few days later the temperature became irregular and ten days after the operation the wound was reopened and the wall of the sinus was found to be indurated. It was freely exposed and excised after ligature of the internal jugular vein. The cavity was packed. Recovery was uninterrupted except for the formation of a large gluteal abscess. All five cases were cured by the operation. Three remained deaf, one recovered slight hearing, and one good hearing. The man who had Bell's paralysis had recovered almost complete power in the facial muscles. Dr. Richmond also showed a girl who had suffered from severe supra-orbital pain on the left side and also from what appeared to be hysterical fits. As the cause of the headache a diagnosis was made of blocking of the frontal sinus. The frontal region was trephined and a cyst was found containing from two to three drachms of clear fluid. The posterior wall was soft and yielding and the cyst seemed to be subdural. The lining was scraped and the cavity was packed with iodoform gauze. Granulation took place and in two weeks the wound was stitched. The patient had had no headache and no fits since the operation.—Mr. H. H. I. Hitchon, Dr. W. H. Carse, Mr. Wilton Mills, the President (Mr. W. Pooley), and others took part in a discussion on the cases.

Reviews and Notices of Books.

A Manual of the Practice of Medicine. By Frederick Taylor, M.D. Lond., F.R.C.P. Lond., Senior Physician to, and Lecturer on Medicine at, Guy's Hospital; Consulting Physician to the Evelina Hospital for Sick Children; Examiner in Medicine at the University of London. Seventh edition. London: J. and A. Churchill. 1904. Pp. 1065. Price 15*s.*

This manual is so well known that no words from us are necessary as to its general nature and scope. The work has been subjected to a very thorough revision since the last edition and considerable alterations and additions have been made. The sections on several subjects have been altered so as to include the results of the latest researches as to etiology, pathology, and treatment. In the section dealing with malarial fevers the relation of the mosquito to the malarial parasites is carefully considered and an interesting account is given of the changes which may be observed to occur in the organisms found in the blood of patients suffering from a pernicious form of fever. We notice that Dr. Taylor still employs the term "phthisis" as meaning "a destructive disease of the lung, brought about by the invasion of the tubercle bacillus." We have for some time past used the term "pulmonary tuberculosis" for such disease as being not only more exact but as indicating the site and the nature of the malady, and trust before long to see a general adoption of the term. A few remarks are made on the "sanatorium treatment," but these are so brief as to be practically valueless and no mention is made of one of the essential points—namely, the regulation of the patient's life according to his temperature chart. We quite agree, however, with Dr. Taylor's remark that for complete success the duration of the treatment must be very much longer than the period of three months for which it is sometimes prescribed.

In this edition many subjects are introduced for the first time into the book. A short account is given of Sleeping Sickness, the etiology being fully explained. Dr. Taylor is fully convinced as to the infection of patients by the glossina palpalis and as to the determination of the symptoms by the entrance of the trypanosome into the cerebro-spinal fluid. A brief description is given of Family Periodic Paralysis. The pathology is not definitely understood; the probability seems to be that some toxin is operating upon the muscular fibres. Some interesting observations have been made on the relations of the urine and of kreatinin-excretion to the attacks. In the section on Compression of the Spinal Cord some remarks have been added to the account of the diseases of the conus medullaris and the cauda equina. In discussing the diagnosis of these affections Dr. Taylor draws attention to the importance of seeking for the prominence of the spine which caries so frequently produces; at the same time he remarks that all the symptoms of compression may precede by several months the appearance of any projection of the spine. A section has been introduced on Diseases of the Thymus Gland. No mention, however, is made of the supposed connexion between atrophy of the gland and the marasmus of infants. In describing the disorders of nutrition which involve the bones and the joints the condition known as infective arthritis is discussed. In several of the infectious diseases, such as typhus fever and typhoid fever, influenza, pneumonia, septicæmia, and gonorrhœa, arthritis is found as a complication. Whether it is due in every instance to the specific organism of the disease or to a secondary infection is not always clear. Pulmonary osteo-arthropathy is also stated to be a form of multiple arthritis either of pyococcal or tuberculous origin. Another new section is that on Myelopathic Albuminuria, a name given by Dr. T. R. Bradshaw to a disease of the marrow of bones with which is associated the presence of albumin in the urine. The disease has probably in the past been confounded with mollities ossium.

It will thus be seen that Dr. Taylor's manual is still characterised by the thoroughness and the completeness which have stamped it throughout as a most excellent text-book both for students and for practitioners.

First Report of the Wellcome Research Laboratories at the Gordon Memorial College, Khartoum. By the Director, ANDREW BALFOUR, M.D., B.Sc. Edin., M.R.C.P. Edin., D.P.H. Cantab. Department of Education, Sudan Government, Khartoum. 1904. Pp. 84.

IN 1902 Mr. Henry S. Wellcome generously equipped the Research Laboratories of the Gordon College in the Sudan which were instituted for the purposes of (1) technical education; (2) the study of tropical disorders, especially of the Sudan, of both man and beast; (3) the study of the detection of poisons; (4) the chemical and bacteriological examination of water; and (5) the testing of materials of practical interest in the industrial development of the Sudan. Dr. Andrew Balfour was appointed director and reached Khartoum in January, 1903, and at once set to work to get the laboratories into working order. They now have the nucleus of what will eventually prove to be a most valuable collection of specimens and photographs of human pathology and tropical diseases. A "therapeutic garden" has been started to facilitate the study of the indigenous drugs and poisons of the Sudan. In several instances also medical officers in Khartoum have seized the opportunity of working in the laboratories.

The volume before us embraces the record of the first year's work. Dr. Balfour first describes that taken in reference to mosquitoes. Of the varieties found in Khartoum and its neighbourhood the commonest is *culex fatigans*, responsible for filariasis and dengue. The presence of this mosquito, however, had no very alarming effect. The *pyretophorus costalis*, however, had seriously to be reckoned with as it is both a filaria and a malaria carrier. The *stegomyia fasciata*, the carrier of yellow fever, was also found, as well as some other varieties. To get rid of these pests "mosquito brigades" were formed and the mosquitoes were attacked chiefly in the larval stage. This was comparatively an easy task as there were no swamps or ditches in Khartoum Crude petroleum was employed, about one pint being used for each well. The oil was simply poured down the well and then the water was not disturbed for 48 hours. All unused wells were closed whilst covers were fixed on those in use. The steamers on the Nile were also treated with crude petroleum, in addition to periodical emptying of the bilge water and fumigation with sulphur squibs. As the result of these measures Dr. Balfour estimates that 222,000 mosquitoes were destroyed, so that there has been an enormous depletion of these agents of disease. Another good result of the labours of the "brigades" has been to locate every well in Khartoum, a matter of great importance in the event of any outbreak of cholera or enteric fever.

In the section on Biting and Noxious Insects other than Mosquitoes is detailed a discovery by Lieutenant-Colonel Griffith, D.S.O., who was equipped by the laboratory with a small entomological outfit previously to his journey up the White Nile. This officer brought back specimens of the glossina morsitans caught on the Pongo river in the Bahr-el-Ghazal province. This fly had not previously been reported so far north in these regions. A very interesting portion of the report is devoted to the insects and vegetable parasites injurious to crops. The diseases discovered from an examination of the blood, the fæces, the urine, the sputum, and the skin are next detailed; then those detected by a general examination of the body are described, and, finally, the various local affections are noted. A chapter is devoted to the subject of eosinophilia in bilharzia disease and dracontiasis, and the report concludes with an account of the mosquitoes of Egypt, the Sudan, and Abyssinia by Mr. F. V. Theobald.

Should future reports equal the present one the Egyptian Government must be held fortunate in possessing so able a director of the Khartoum Laboratories as Dr. Balfour. The work shown is also an example of the good seed sown by the London School of Tropical Medicine, from which Dr. Balfour proceeded to Khartoum.

LIBRARY TABLE.

Examination of the Urine: A Manual for Students and Practitioners. By G. A. DE SANTOS SAXE, M.D., Assistant Pathologist to the Columbus Hospital, New York, &c. London, New York, and Philadelphia: W. B. Saunders and Co. 1904. Pp. 391. Price 6*s.* 6*d.* net.—Dr. Saxe's little book on the examination of the urine possesses many commendable features. It is of convenient form and size and is printed in clear type, with headings in dark letters, rendering reference to the different tests easy and rapid. It also gives a very complete account of the subject, dealing not only with substances commonly sought for in the urine, such as albumin, phosphates, chlorides, sugar, uric acid, and so forth, but also with the tests for purins, for kreatin and kreatinin, and for various pigments, rare acids, and bodies occasionally found as curiosities The names of authors who have devised special tests are quoted, but the references to their original articles are not given; we think that the value of the book would have been enhanced by the inclusion of a certain number of such references, especially in the case of methods which have not yet established their claims to acceptance. The information given is generally correct but we notice that the account of Pavy's solution as a test for sugar is very meagre and that the composition of the fluid is inaccurately stated, as the essential constituent, the ammonia, is not included. The latter part of the volume is devoted to the diagnostic import of the urinary findings and to methods of testing the functional activity of the kidneys, such as cryoscopy and injection of methylene blue or phloridzin. The classification of the various forms of nephritis is at present in so confused a condition that any scheme adopted would probably invite criticism. We venture to doubt, however, whether any distinct line can be drawn between some of the toxic conditions here classified as acute congestion of the kidneys and acute nephritis, while the division of chronic nephritis into chronic diffuse and chronic parenchymatous forms seems to rest upon a very slender basis, as is sufficiently indicated by the synonyms given as applicable to the two conditions respectively which appear mutually interchangeable. The book is very fully illustrated and among the figures are some useful illustrations of foreign bodies, such as starch granules, lycopodium, linen fibres, and similar materials, which often cause difficulties to the inexperienced. In view of the American spelling, "chemic" and "spheric" for "chemical" and "spherical," we wonder how it is that "clinical" escapes the docking of its final syllable. Probably the word is too commonly used to be altered; the artificial nature of the new spelling is sufficiently indicated.

The Religion of the Koran. The Wisdom of the East Series. By Arthur N. Wollaston, C.I.E. London: The Orient Press. 1904. Pp. 70. Price 1s. net.—As the sacred volume of some 170,000,000 of the present inhabitants of the world the Koran possesses an interest and an importance which well merit and will amply repay attention and study. It is universally allowed to be written with great elegance and purity of style. It would be difficult to surpass the eloquence and the beauty of the diction. As Mr. Wollaston says, "Well may Muhammad have disclaimed all power of working miracles, trusting to the sacred book as evidence of his mission from on high." In his introduction the author gives an interesting outline of the religion of Islam, and the little book will no doubt be well received as it is full of interest to lovers of Oriental lore. The extracts are sufficiently full to give an adequate idea of the teaching of the Koran.

The Art of Choosing a Husband. By Paolo Mantegazza. Translated from the Italian by Gabriel Claude Charton. London: Gay and Bird. 1904. Pp. 322.—This book contains a father's advice to his daughter on this most momentous question. The father is a medical man and the book is one which all may read and learn much from and yet, good as it is, we hesitate to recommend it for the perusal of young girls. Some of the pages have a continental flavour about them which is not pleasing. Had such portions been omitted in the translation there would have remained an amusing and instructive volume for our daughters. In discussing the professions, the father's advice may thus be summed up: Never marry an idler, a banker, a mediocre author or artist, or a medical man of little culture, who may always be compelled to flounder in mediocrity. In the medical profession the only good seats are in the stalls and boxes; the pit is a prison and the gallery is the penal settlement where hard labour is enforced. Medicine is a profession in which it is impossible to climb to the topmost height unless encouraged by human love or the aspiration for fame. Experience teaches that, everything else being equal, the soldier is the best of all husbands.

The Addison Temperance Reader, with Chapters on Thrift and on Juvenile Smoking. By William Finnemore. London: The Addison Publishing Co. Pp. 219. Price 1s. 6d.—This "Reader" was written by an ex-teacher who for several years was a lecturer on temperance in public elementary schools. The book has been read and revised in proof by several persons of judgment and with special qualifications for such work. It is written in a simple way and in moderate language and therefore commends itself to us, as it may well do to the teachers in our elementary schools. The chapters which bear on the formation of habits will be found particularly valuable. The book is illustrated by diagrams and pictures.

JOURNALS AND MAGAZINES.

The Journal of Anatomy and Physiology, Normal and Pathological, Human and Comparative. Conducted by Sir William Turner, K.C.B., F.R.S., D. J. Cunningham, F.R.S., G. S. Huntington, M.D., A. Macalister, F.R.S., and J. G. M'Kendrick, F.R.S. Vol. XXXIX., Part 2. January, 1905. With plates and figures in the text. London: Charles Griffin. Annual subscription, 21s., post free.—The contents of this number are: 1. Two cases of Fourth Molar Teeth in the Skulls of an Australian Aboriginal and a New Caledonian, by J. T. Wilson, M.B. Edin., Professor of Anatomy, University of Sydney, N.S.W., with two plates. 2. The Development of the Retina in Amphibia; an Embryological and Cytological Study, by John Cameron, M.D. Edin., with two plates. 3. The Relations of the Superior Oblique Muscle of the Eye in the Mammals, by Frank S. Poole, B.A. In this article are contained some novel observations on the angle of divergence of the superior oblique from the middle line in several animals. 4. The Os Calcis, Part ii., by P. P. Laidlaw, B.A., with five plates. 5. The Histology of Lymphatic Glands: the General Structure, the Reticulum, and the Germ Centres, by T. L. Bunting, M.D. Edin. 6. The Theory of Nerve Components, especially with regard to its Relation to the Segmentation of the Vertebrate Head, by Onera A. Merritt, B.Sc. This number contains the Proceedings of the Anatomical Society of Great Britain and Ireland for November, 1904.

The Practitioner.—This magazine makes a good start for the new year. The January number opens with a valuable article upon Moveable Kidney by Sir Frederick Treves who concludes that a very small proportion of the cases of this complaint require operation. A series of articles upon Diet in Pulmonary Consumption are scientific and valuable and the practical conclusions to be drawn from experiment and clinical evidence are excellently set forth in Dr. Arthur C. Latham's capital contribution. Articles on Gastro-enterostomy, on the Parasites of Small-pox, Vaccinia, and Varicella, on Tramps and Small-pox, and several reviews unite to complete an excellent issue.

The Journal of Physiology. Edited by Sir Michael Foster, K.C.B., F.R.S., and J. N. Langley, F.R.S. Vol. XXXII. No. 1. Dec. 30th, 1904. London: C. J. Clay and Sons. Price 6s.—The articles contained in this number are the following: 1. The Lymph Flow from the Pancreas, by F. A. Bainbridge, M.D. Cantab., with two figures in the text. The conclusions at which the author of this article arrives are that the intravenous injection of the substance obtained from the intestine by Mr. W. M. Bayliss and Dr. E. H. Starling and named secretin by them, or of the extract of the ileum, causes an increased flow of lymph from the thoracic duct; that this increase continues after the injection of secretin but not after the injection of the extract of the ileum when the portal lymphatics are ligatured; that secretin itself and not any depressor substance is the active agent in causing the increased flow of lymph; and, lastly, that there is a close relation between the secretion of pancreatic juice and the increased flow of lymph. 2. The Changes in the Viscosity of the Blood produced by Alcohol, by R. Burdon-Opitz, Columbia University, New York. The viscosity values were determined by the time occupied by a measured quantity of blood under a certain pressure in passing through a capillary tube of known size. Alcohol always rendered the blood more viscous, whether introduced into the system by intravenous injection or through the digestive tract. 3. The Gaseous Metabolism of the Kidney, by J. Barcroft, M.A., and T. G. Brodie, M.D. Lond., F.R.S. These experimenters find that the production of diuresis is accompanied by a marked increase in the amount of oxygen absorbed, though the increase is not proportionate to the degree of diuresis. In only one of several experiments was there an increase in the amount of carbon dioxide eliminated during diuresis. The onset of diuresis is not accompanied by a proportionate increase in the flow of blood through the kidney. The experiments were made on dogs. 4. The Relationship of the Thymus to the Sexual Organs; Part ii.: The Influence of Removal of the Thymus on the Growth of the Sexual Organs, by D. Noel Paton. The author finds that there is a reciprocal action between the thymus and the testis, each checking the growth of the other. 5. The Universal Presence of Erepsin in Animal Tissues, by H. M. Vernon, M.D. Oxon. The kidney was found to be richest in erepsin, then the intestinal mucous membrane, and then in succession the pancreas, the spleen, and the liver; the skeletal muscles and the brain were the poorest of all in erepsin. 6. The Formation of Prussic Acid by the Oxidation of Albumins, by R. H. Aders Plimmer, D.Sc. The author finds that by the oxidation of albumins with chromic acid a constant amount of prussic acid is evolved which varies with each albumin; the prussic acid arises from the glycocoll and aspartic acid but the other amido-acids also give rise to a small quantity. 7. The Effects of Adrenalin on Sugar and Nitrogen Excretion in the Urine of Birds, by D. Noel Paton. The author finds that adrenalin when administered subcutaneously causes glycosuria in birds as in mammals and does not act through the pancreas. 8. Some Observations upon the Functions of the Thyroid and Parathyroid Glands, by Swale Vincent, professor of physiology in the University of Manitoba, Canada, and W. A. Jolly, University of Edinburgh. The experiments made by these authors show great diversity of results in different animals. 9. The Selective Action of Cocaine on Nerve Fibres, by W. E. Dixon, M.D. Cantab., with five figures in the text. The author finds that cocaine locally applied picks out and paralyses some fibres before others, as sensory before motor-vagal fibres, fibres conducting upwards before those conducting downwards, vaso-constrictor fibres before vaso-dilators, and he suggests that it might hence be of service in early chloroform narcosis. This number of the journal contains the Proceedings of the Physiological Society for Nov. 12th, 1904.

New Inventions.

ASEPTIC TABLES FOR OPERATIONS AND DRESSINGS.

THE "phosphor bronze" metal with which Messrs. Allen and Hanburys, Limited, of 48, Wigmore-street, London, W., are making articles for use in hospitals and consulting rooms seems to be peculiarly suitable for the purpose by reason of *its great strength, cheapness, and its acid-resisting* and anti-corrosive properties. It takes a high polish but if left untouched assumes in the course of time a dark and pleasing colour somewhat resembling mahogany. We have had our attention drawn to an operation table constructed with this metal the special features of which are a head- or leg-rest (Fig. 1) and an improved means of altering the plane of the table. These improvements possess advantages to the patient as regards comfort and greatly facilitate the work of the surgeon or his assistants in rapidly and with little exertion altering the position of the patient. With regard to the head- and foot-rest racks, screws, and cones are entirely dispensed with and adjustment is made by pressing a handle to the right or the left. The dotted lines show the handle turned to the left. The angle of inclination is fixed automatically, the ends of a moveable rod engaging holes in fixed gun-metal quadrants clearly shown at either side of the table in the illustration. The table itself is placed at any inclination required by means of a lever which is easily worked with one hand. The position is locked automatically, the mechanism which effects this being remarkably simple and for all practical purposes impossible to get out of order. These tables have already been supplied to St. Thomas's Hospital and other hospitals. The aseptic dressing tables are constructed with the patent corner illustrated above (Fig. 2). The plate-glass shelves can be cleaned and dusted without being removed from the framework. The shelves rest on a very small surface, while the duster can be *freely passed around every corner and angle.* The ball-bearing castors attached to these tables are so made that the table moves with a slight touch. It should be mentioned that the operation tables are also fitted with patent castors which, by means of a lever, can be put out of action when required.

FIG. 1.

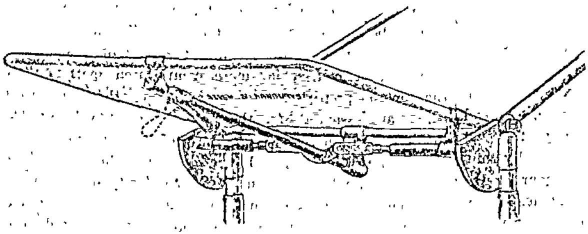
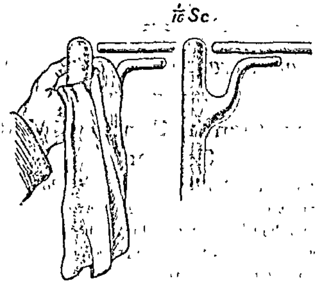
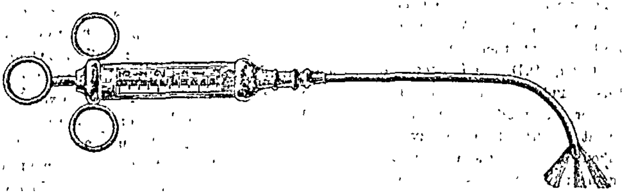


FIG. 2.



AN INTRALARYNGEAL SYRINGE.

THIS instrument differs from the ordinary intralaryngeal syringe in having three apertures placed laterally instead of one central opening, an arrangement which insures distribution of *the injected fluid over the supraglottic region. It* will be found equally useful for intratracheal injection, since the combined sectional area of the apertures is sufficient for the free escape of the fluid. Messrs. Mayer and Meltzer of 71, Great Portland-street, London, W., have made a most serviceable instrument graduated to a capacity of four drachms.



WYATT WINGRAVE, M.D. Durh.,
Physician, Central London Throat
Devonshire-street, W. and Ear Hospital.

LONDON SCHOOL OF TROPICAL MEDICINE.—Of the students who attended

Dr. J. H. Cook, Mr. D. Alexander (colonial service), Mr. T. G. D. Cooper (colonial service), Dr. D. H. Ainslie, Mr. W. A. Densham, Dr. H. N. H. Joynt (colonial service), Dr. G. H. L. Fitzwilliams, Mr. P. Phillips (colonial service), Dr. J. Gillies, Miss Kathleen Dawson, Dr. D. A. Ashton (colonial service), Dr. J. C. Carr, Mr. R. Dane (colonial service), Mr. J. W. Gromitt (colonial service), Mr. C. H. D. Ralph (colonial service), Mr. A. C. Lorena (colonial service); Dr. F. L. Norris (colonial service); and Dr. W. F. L. A. Holcroft (colonial service).

THE LANCET.

LONDON: SATURDAY, JANUARY 14, 1905.

A Seventeenth Century Medical Sermon.

THE art of preaching has, there is no doubt, declined since the great days of the sixteenth and the seventeenth centuries and the Church can no longer boast an ANDREWES, a BOSSUET, a TAYLOR, or a VIEYRA Even special occasions such as those with which the medical profession is more intimately connected—namely, the meeting of the British Medical Association or the anniversary services of the Guild of St. Luke—but rarely give rise to sermons which have the rhetorical force and the literary power of the old sermons. The old preachers were not afraid to draw startling morals and to use brilliant illustrations to set forth spiritual truths, and their discourses, although nowadays they would be considered forced in interpretation, afford most admirable reading. By the end of the seventeenth century the light was waning and although the mystical interpretation of Scripture was still employed yet the results were that the preacher drew somewhat muddy waters from the wells of knowledge. After ANDREWES and TAYLOR there were but few who could deliver a really moving sermon. A curious specimen, by no means the worst of its class, is now lying before us, being "A Sermon preached at St. Anne, Blackfriars, before the Company of the Apothecaries of London, Septemb. 8th, 1681, and at their Desire made Publick, by ANTHONY WALKER, D.D., and Rector of Fyfield in Essex." To this "Publick" copy of his discourse the Reverend Doctor has prefixed a preface in which he expresses his gratitude that the Company should not have in any way taken offence at the plain way in which he had warned its members of the flies which might find their way into its ointment. He also provides "arms to obviate two possible assaults" from those members of the public who were not apothecaries. "First of those who may grudge at the right and honour I have endeavoured to do your Profession. Secondly of those who may Subsann and expose my Phrase, because I sometimes speak (tho' sparingly) in your Language, and keep close to that Notion."

To come to the sermon itself: the text was taken from Ecclesiastes, chapter ten, the first verse. "Dead flies cause the ointment of the Apothecary to send forth a stinking savour: So doth a little Folly him that is in reputation for Wisdom and Honour." Dr. WALKER commenced by pointing out to his audience how the text sets forth the exceeding nobleness of the profession of apothecary, and, further, that "the most excellent and useful things may be corrupted or perverted by the casual or careless mixture of a little Evil." A fly is but a small thing and only gets into the ointment through carelessness. He then shows that besides the literal flies there are many who are flies in a mystical sense. Such are careless apothecaries who supply bad drugs. Moreover, he directs them: "Remember there are a swarm of Quacks and Empyricks, Mountebanks, Elixorists, Catholicists, as numerous as a swarm of Flies: and one Fly will quickly spy another: These watch your haltings, if you make blots these Gamesters will be sure to hit them: If you give any one a fly to swallow, they will fetch it up again without straining and present it spitefully to the whole City, in the Dimensions of a Camel: Therefore for the Honour of your Profession, and to take away occasion from them, who feel occasion to reproach you, Keep off the Flies. ...... Those little creeping Sneaks who walk like the Pestilence in darkness, under no Protection or Warrant but their own ignorant Presumption, may kill in secret and no man sees them; and their surviving Friends are ashamed to tell who hurt them for fear of blasting their discretion and they should dye unpitied for venturing their lives into such hands; and the Mushroom that did the Mischief hurts no man's credit but his own: which before was lost to all wise men; for it is his pride to stand alone; and his tool is of his own Invention, which no man ever heard of but himself. But you Stand in an Open Light, the beams of Publick Authority shine round about you. ......" For all this he reminds the apothecaries that they had no right to practise medicine. "There is vast difference between making and administering Physick. Nothing is more Common than for one Trade to make Tools for other Trades to work with."[1] Finally, the preacher passes to consider his text tropologically, following out the mediæval distich:—

> "Litera scripta docet · quid credas Allegoria ·
> Quid speres, Anagogo. quid agas Tropologia"

Flies are sins and one sin can and does do infinite harm; his hearers must be zealous and fervent in spirit for "This will keep off the Flies of wanderings, weariness, dulness, coldness: while the Oyntment boils, or keeps its heat, no Flye will light or venture to remain a blowing time upon it. ...... I have treated you from the first part of the text as Citizens *of London and from the second as Citizens of Zion.* ...... *For* although a bad man may be a good Apothecary; a bad Apothecary, a man dishonest in his trade and Profession, cannot be a good Man." So ends this quaint and very telling discourse, one in which there is sound wisdom worthy the consideration of every man who exercises a trade or a profession. The language is homely and the similitudes may be to our hearing farfetched but it never yet did a man any harm to be told boldly of his actual or possible faults.

The treatment of disease and the care of a sick man comprise, of course, far more complicated matters than the mere preparing of drugs. But those qualities which are essential for the professor of the latter are in every way necessary for the professor of the former. Knowledge, diligence, and carefulness are the foundations of the medical profession. The complexity of medicine, by which word we include all branches of the healing art, is so great that no man can be thoroughly acquainted with the whole of it. But if he has built a sure foundation in his student days he can during his professional life raise a superstructure of scientific and practical learning which will enable him to ease many pains, to sweeten perhaps to save, many lives, and to become the trusted friend of many of his fellow creatures. Such a practitioner is not only the man who knows many things but he is fully aware of the limitations of his knowledge. To again quote the old divine: "The higher any man is raised in Reputation, by manifesting himself wise, the more circumspect he is concerned to be to secure his station; for a little Folly will depose him, tho' he reigned over men's minds by the Scepter of his Wisdom. 'Tis ticklish standing on a Pinnacle: and besides the danger of becoming giddy: a small inclining either way may bring him down by the overpoise of his own weight. His height exposes him to all men's view, to most men's envy; and 'tis next to impossible for him to tread awry without severest Censure, who hath so many watchful eyes upon him. ...... The Good Man is the Wise Man and the Sinner is the Fool."

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[1] Apothecaries were not allowed to practise medicine until the reign of George II.

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Sea Voyages for the Treatment of Tuberculosis.

OUR Berlin Correspondent this week alludes to arrangements made by the Hamburg-American Steamship Company to organise a scheme for the treatment of tuberculous cases by sea voyages. This renders particularly interesting a communication that we have received from a Scottish physician stating that it is proposed to attempt a new departure in the treatment of tuberculosis by sea voyages. A large sailing vessel will leave this country about the end of January for a long voyage in warm latitudes and will be prepared to convey a "number of consumptives limited to 50, of inebriates, and of other invalids." It is intended that the patients suffering from tuberculosis shall live on deck day and night whenever the conditions of weather permit, so that they may have the advantage of constantly breathing absolutely pure air containing much ozone. During the voyage the vessel will call at, among other places, Gibraltar, the Canary Islands, Rio de Janeiro, River La Plata, Pernambuco, and the West Indian Islands, and opportunities will be given for the patients to land and to see a little of the countries thus visited. Such is the prospect put before a limited number of invalids whose circumstances, physical and social, permit them to avail themselves of it. And while we must be allowed to point out that there are drawbacks as well as advantages to such a scheme we think that every medical man having a case under his charge which appears fit for such treatment should make further inquiry upon the matter.

The treatment of tuberculosis by means of sea voyages has not been so generally adopted in more recent years as formerly. There are several obvious disadvantages which life on board ship entails, the chief of which are the closeness of the cabins during bad weather and the difficulty of providing fresh meat, vegetables, and milk which are so essential for the welfare of tuberculous patients. On a large sailing vessel the diet can in a great measure be arranged satisfactorily and in the latitudes through which it is proposed to travel fine weather may be expected for a greater part of the trip. But in addition to the difficulties which might arise either from adversity of the elements or monotony of the cuisine it must be remembered that the sanatorium treatment of tuberculosis, as scientifically understood, can hardly be carried out in detail on board ship. The objects of the sanatorium treatment of tuberculosis are to attempt to arrest the activity of the disease, to encourage reparative processes, to bring about compensatory hypertrophy of the sound portions of the lungs, and to sustain the power of the heart. These indications are carried out by rest in the open air during the febrile periods, by a good and varied diet, and by carefully regulated exercise. A quiet life in the open air can certainly be obtained on board ship provided that the elements are kindly disposed. The diet presents some difficulties which, however, may to a great extent be overcome. But when the question of exercise is considered then a drawback to the treatment of tuberculosis by means of a sea voyage becomes apparent. Everyone who has travelled much knows how difficult it is to get adequate exercise on board ship. Theoretically a large amount of exercise may be taken by promenading the deck, but special conditions are required here if the exercise is to be satisfactory, while the pacing up and down speedily becomes monotonous and will only be persevered in by persons of considerable resolution. In the tropics pacing the deck can be undertaken only at certain limited times of the day and every deck is not specially adapted for the purpose. Walking on hilly ground, it is true, is found to be highly beneficial for sustaining the power of the heart and thoroughly aerating the lungs Certainly the sloping deck of a vessel under full sail cannot correctly be called "level ground," and it hardly forms a surface favourable to systematic exercise. The watchfulness that may be required to preserve balance is found fatiguing by persons subject to nausea and we think that all invalids would be liable to the same sensation; while walking on deck is only pleasurable if a fair amount of unimpeded space both in breadth and length is at the disposal of the walker, factors that do not always prevail. In spite, however, of the possible drawbacks that we have indicated we think that the scheme may afford many sick persons a valuable opportunity. The project for obtaining a maximum amount of sunshine and fresh air free from dust may be found highly beneficial in suitable conditions, but we believe that cases of tuberculous affections of the glands and the joints will, as a whole, benefit more than those in which the lungs are affected, though undoubtedly certain individuals suffering from pulmonary tuberculosis may take advantage of this opportunity with benefit to themselves. Cases of advanced disease should, of course, be rejected by those in charge of the administration of the scheme. Those most suitable for the voyage are young adults with limited or quiescent disease. Cases with a hectic type of temperature are best treated on land, as are those of a hæmorrhagic type and those complicated with dyspepsia and diarrhœa. It is also, we think, essential that each intending traveller should be a good sailor and fond of a sea life.

We notice that patients other than tuberculous are also to be taken and an excellent therapeutic prospect is thus opened up, supposing that due care is taken against infection. Cases convalescing from pleurisy, empyema, and slowly resolving pneumonia would be especially suitable for such a voyage in search of renewed health. It is fully recognised that many cases of pleurisy with effusion, apparently idiopathic in origin, are really of a tuberculous nature, and nothing could be more advantageous for recovery than a long sea voyage. Young people, too, with a family history of tuberculosis, especially if they exhibit feeble thoracic expansion, would also gain advantage from such a trip. We trust that it will be found possible to keep careful records of the results obtained in the cases of tuberculosis. It would be of great interest to contrast them with those experienced in the sanatoriums in this country and abroad. One of the chief disadvantages experienced by young adults in the sanatorium treatment is the monotony of the life which is usually enforced. On board a sailing ship there would necessarily be periods when a similar monotony would be experienced in spite of all efforts to render the time as pleasant as possible, but the anticipation of visiting fresh lands and viewing new scenes and the reminiscences of the places already seen would go a long way towards dispelling the despondency engendered by routine and it is this moral effect that such a voyage is intended to have upon alcoholic subjects. We think the scheme a good one and we shall watch its developments and results with considerable interest.

Business Cellars.

AN article in a recent number of the *Manchester City News* comments, under the heading "Life and Work in Our Business Cellars," on the conditions under which many men of business are obliged to carry on their work in Manchester, conditions which, alas, are not found only in the great Lancashire capital. Manchester, like other places, has completely abolished the cellar dwellings which were thought half a century ago to be quite fit habitations for the poor, for in all the great towns of England any large proportion of cellar tenements would be regarded as a reproach to the inhabitants. That thousands of civilised beings should have been condemned to make their miserable homes in underground dungeons, amid damp, gloom, and stagnant air, seems to us incredible nowadays. But, as our contemporary points out, what is rightly considered a thing to be condemned in the case of the poor and for night occupation is allowed unremarked if these underground places are used by day for business purposes. The only difference is that the warehouses are used during the day but not at night, while probably the inhabitants of the old cellar dwellings exactly reversed the process. Of course the revival in the best parts of great cities like London and Manchester of cellar tenements is due to the enormous value of land in the centre of such communities. Land in the business parts of Manchester sells at £100 a square yard, that being not at all an excessive price, and land in London and Liverpool—where a crusade against cellar tenements, as our special correspondent says in his letter this week, is now proceeding—is proportionately costly. Our urban by-laws require a certain proportion between the height of a building and the width of the street, so that we cannot in England emulate the building eccentricities of the American towns. But if we cannot build up we can build down and it seems that many warehouses have been built recently in business centres with double cellars, the bottom one being excavated out of the very bowels of the earth. Goods are stored in them and packers and warehousemen work there all day in artificial light (generally gaslight) and with a limited supply of air—necessarily very impure under the usual conditions as to ventilation, or rather the want of it. This matter was brought before the Manchester Chamber of Commerce a few years since when, though all agreed that the matter was one of urgent public importance, nothing was done to prevent a continuation of the abuse of the ordinary laws of living. And Manchester is only one of many towns where the evil custom of working underground persists. In the streets of London, as in those of Manchester, a whole host of underground tradesmen make their living, callous to the gloom and the gas-poisoned atmosphere. Every cellar in some districts is utilised by restaurants and cafés, where the foul air is made fouler by the fumes of cooking, and terrible is the lot of the cooks, the waiters, and the waitresses whose days are spent—too soon spent—in working for what we call "their living" in such conditions. It is a strongly marked inconsistency for the authorities of any city to be so careful concerning dwelling houses, where the workers spend very little more perhaps than a third of the 24 hours, and yet to allow underground warrens for business occupation, extending in very many cases from early morn till late at night, where the conditions are such as to render healthy living impossible. Those of us who walk London with an observant eye know that much of what has been said about Manchester might be said about the metropolis, while no great cities are free from the abuse. Armies of clerks can be seen now and again working in the great metropolitan offices below the level of the road, while many gratings in the pavements belch forth hot and acrid fumes from restaurant kitchens. Much has been done in London to remedy this state of affairs, but much remains before our practical sanitarians. The remedy is, of course, to spread the business part of our cities over a wider area, to let them grow horizontally instead of up and down by removing the necessity for all business to be done at the centre. It is not accurate to attribute all the evils of centralisation to the landowner with his exactions; the state of things is brought about by the struggle of the public to get to the centre, a desire which seems to animate all the workers in the human hive. It is this impulse to get to the centre that will have to give way before the sanitary impossibilities at which we have hinted, and already there are signs that London is beginning to flow back to its periphery. Suburban values have gone up; if the rents have not fallen in the very heart either of business or fashionable resorts the area just without the nucleus has decidedly given way to the competition of outlying parts. Increased facilities for intercommunication and for bringing the environment into closer touch with the contained city will do the rest. Electric tramways, tube railways, motor omnibuses may all be regarded as indications that decentralisation is taking place. In the first instance their object is readily to convey more persons to the centre, but when such facilities have transformed localities in the environment into thickly populated districts these districts will try in as many ways as possible to be self-sufficing.

Annotations.

"Ne quid nimis."

BLOODLESS SURGERY IN BOND-STREET.

THE quack is always with us, as is well shown by the passage in our "Looking Back" column this week, and while the laws regulating the practice of medicine remain as they are we may safely assume that he always will be. At the present time his position is made a more than usually favourable one from the point of view of his own pocket by the eager collaboration of newspapers intent on sensational paragraphs. The orthodox medical man may not advertise in the lay press but the quack who does ill some of the things that are done well by the orthodox may have his powers trumpeted forth high and low. It is an anomalous position that might have moved the pen of Swift or Rabelais to ridicule. Because a man has never learned to do certain things or received an official guarantee of his ability, therefore he may tell all the world that he can do these things—more, he may reap the foolish world's guineas as fast as they choose to sow them. These observations are suggested by a recent visit to the "bloodless surgeon" whose doings in Bond-street have prompted reporters' ravings in certain daily newspapers of late. We witnessed a remarkable exhibition not so much of Mr. Barker's powers but of what people are willing to endure at the hands of a quack when the same treatment would be pronounced as intolerable cruelty in the hands of the medical man. We may say at once that Mr. Barker appeared to us a hardworking individual believing in himself. He is capable of doing good in certain cases, cases in which medical men upon scientific methods are doing more good. He is capable of doing great harm in other cases and we are in little doubt that he does it. We saw cases of adhesions, of old Pott's disease, of old tuberculous hip disease, and of latent curvature treated, and how much damage was done can only be told when a certain period of time has elapsed. We saw much done with great pain that is in hospitals and private surgeries daily effected painlessly. We saw several cases rejected on the ground that no good could be done and in these cases we saw no fee taken.

THE TEMPLE OF ASKLEPIOS AT EPIDAUROS.

IN a volume of archæological memoirs recently published in honour of M. Perrot there is an essay by M. Cavvadias who has for many years so successfully conducted the excavations at the temple of Asklepios at Epidauros. This essay treats of the cure of diseases at that sanctuary and the conclusions arrived at, if strictly correct, are extremely important in connexion with the history of ancient medicine among the Greeks. Pausanias, the traveller, states that he saw at Epidauros, in, or at the approach to, the Heroon, six stelæ upon which were inscribed the names of patients, the malady of each, and a history of the cure achieved. M. Cavvadias has found four of these, one of them bearing an inscription which originally consisted of about 130 lines of 50 letters each but is now very seriously mutilated and defaced. The point of the memoir written by M. Cavvadias is that this inscription confirms those which he has previously edited by showing that in no case were the cures effected at the Heroon of Epidauros secured by medical treatment. His statement is so emphatic that it will be well to quote it verbatim; he says: "Dans le Sanctuaire d'Esculape à Épidaure on ne pratiquait pas une médecine, ou une thérapeutique proprement dite." He goes on to say that the cures of the sick during the Greek epoch were attributed entirely to the direct intervention of Asklepios. The Heroon was not a place for study in which medical men received a training founded on observation and experiment; it was a "holy place" where the patient himself invoked the deity's protection, hoping not for help from human skill but for divine intervention. This being so, M. Cavvadias argues that it is an error to suppose that in Greek times medicine was practised at the Asklepieia. All the texts referring to medical cures at these temples date only from Roman times. The later classical authors have confounded what took place at these sanctuaries in the Roman period with the practice in the Greek era. Strabo asserts that Hippocrates profited by his studies at the Temple of Asklepios at Cos but M. Cavvadias believes that the inscriptions there were no more scientific than those which he has unearthed at Epidauros and if this were so Hippocrates could not have obtained any useful medical knowledge from them. It was only under the Romans that the hierarchy of the temples availed themselves of medical knowledge, as is shown by the inscription of Apelles found at Epidauros.

CHOLERA IN PERSIA.

A REPORT dated October, 1904, received at the Foreign Office from Mr. J. R. Preece, C.M.G., His Majesty's consul at Ispahan, makes reference to the epidemic of cholera which has been ravaging Persia all through the summer. It travelled to the north through Kermanshah and Hamadan to Kom and thence spread north and south to Tehran and Ispahan, while another course was taken *viâ* the Karun to the head of the Persian Gulf and thence to Shiraz. The two streams of infection met at Komishah, 45 miles south of Ispahan. "It has," continues Mr. Preece, "been somewhat severe in the villages of the Ispahan district, but Ispahan itself was for a long time immune. The late Dr. Tholozan, who was chief physician to Nusruddin Shah and on the staff of the French army and had given a great deal of attention to the incidence of epidemic diseases in the East, told me that from his studies he had deduced the fact that in Persia Ispahan was the last place to be attacked, and when attacked it generally escaped much easier than other places. He imagined that this was due to its central position, height, and the extreme dryness of its climate. It is possible that these may have some influence on the course of an epidemic here, but I think there are other causes which account for the immunity of Ispahan: 1. Ispahan is almost entirely served by wells for drinking water, and although generally there is plenty of water from the Zaenderud running through the various canals, which traverse the town from west to east, yet the well water is preferred. This year, however, the canals have been empty. 2. All the latrines of the place are small and shallow and are not, as in other places, simply wells sunk to a depth of many yards in the ground with four leads radiating from them. These are sealed up when filled and a fresh one dug, as is the custom in all other towns I have known in Persia. As the Persians always use water these deep shafts are full of liquid filth which permeates the subsoil, thus impregnating it throughout with fœtid matter. Periodically the latrines are emptied out and night soil is mixed with dry earth and exposed to the sun for some days and, after being thoroughly disinfected, is used as manure for tilling the fields. The contents of the latrines are sold by the

REBOUND

housewife and this is about the only ready-money transaction which takes place in Ispahan. Thus, while Tehran with a population of some 250,000 people has lost, during this epidemic, something like 25,000, and Shiraz with a population of 45,000 has lost about 5000, Ispahan, with 80,000, has not lost more than 500 at the outside." In addition to the information contained in Mr. Preece's report we learn from other sources that the Persian epidemic is attracting attention in Russia. On Dec. 15th, 1904, at a meeting of the Association of Russian Medical Practitioners, Privat-Docent S. I. Slatogoroff gave a lecture on his experiences in connexion with the epidemic of cholera in Persia. He was the chief of the staff sent out by the Russian Minister of Finance to combat the disease. He said that the cholera made its appearance early in the spring of last year in Persia and was most prevalent in the neighbourhood of Shat-el-Arab where it was a permanent endemic under conditions similar to those existing on the Ganges. After reaching Tehran it spread to the north, threatening Tabriz and Magaru, the sanitary conditions of which were most favourable to the propagation of the disease. Dirty water flowed through the streets and served for drinking purposes. In the streets there were trenches filled with human bodies and excrement. There was no medical assistance at hand except that obtainable from native practitioners. The mortality reached 80 per cent. and more but the Russians succeeded in reducing it to 30 per cent. by means of an extensive administration of stimulants such as camphor and caffeine, together with subcutaneous injection of solutions of table salt. In conclusion Dr. Slatogoroff strongly insisted on preventive inoculation, saying that he inoculated about 1500 persons of whom but 27 (1·9 per cent.) fell ill and four died; whereas of the uninoculated 9·7 per cent. sickened. In Tabriz alone 15,000 persons died in two months and the total for all Persia was 150,000 deaths. He feared for Russia in the coming year and distrusted quarantine.

SUPPURATIVE MYOSITIS DUE TO THE GONOCOCCUS.

IN recent years the possibility of widespread infection of the tissues by the gonococcus producing lesions such as arthritis, pericarditis, endocarditis, and abscesses has been shown. Among the rarest complications of gonorrhœa are affections of muscles which may take the form of myalgia, atrophy, or localised inflammation. In the *Johns Hopkins Hospital Bulletin* for December, 1904, Dr. N. M. Harris and Dr. L. W. Haskell have reported the following case of suppurative myositis due to the gonococcus. A married woman, aged 34 years, was admitted on July 3rd, 1902, to Dr. Osler's ward. She had been married 13 years and had four healthy children. Since the birth of the last child, 11 months before, she had suffered from leucorrhœa and had not menstruated. Four weeks before admission a painful lump of about the size of a hen's egg appeared in the right calf. It subsided, leaving a painful swelling. On examination a tender, boggy swelling of about the size of a hen's egg was found at the junction of the sacral and lumbar regions. It was said to be of three or four months' duration. The right lower limb was held semi-flexed and the calf was much swollen, measuring 34 against 28·5 centimetres on the other side. The calf gave a boggy and fluctuating feeling and was very tender. The patient looked pale, sallow, and rather emaciated. The red corpuscles were 3,648,000, the white were 16,000, and the hæmoglobin was 64 per cent. On the 7th the calf was aspirated with a hypodermic syringe and yielded a small quantity of pus which contained cocci and diplococci staining well and decolourised by Gram's method. Cultures showed that they were gonococci. On the 8th the swelling in the sacral region was incised and drained. It was found to be an abscess extending under the erector spinæ on both sides. There was considerable sloughing of muscles, especially above the attachments to the pelvis. The abscess cavity was swabbed with pure carbolic acid and alcohol and packed with iodoform gauze. The abscess in the calf was also incised. It was under the gastrocnemius and soleus muscles and extended up into the popliteal space and contained one and a half pints of pus. There was considerable sloughing of these muscles and of their tendons. The temperature, which had ranged from normal in the morning to 102° F. in the evening, became normal. The patient was carefully questioned as to symptoms of gonorrhœa but beyond the leucorrhœa no history of them could be obtained. The myositis evidently was not secondary to arthritis or tenosynovitis, for she had never complained of her joints. This case is important because, unlike several of the few cases which have been reported as examples of gonorrhœal myositis, the bacteriological evidence was complete. The recorded cases seem to show that gonorrhœal myositis may be due to toxins absorbed into the blood or, as in this case, to implantation of the gonococci in the muscles and that the inflammation may be of all grades of severity, from an early resolving painful induration to such extensive suppuration and necrosis as that described above.

THE MEDICAL DIRECTORY FOR 1905.

THE 1905 issue of Messrs. J. and A. Churchill's valuable Medical Directory appeared in the last week of the past year. One new subject appears in the useful "Abstract of the Principal Laws affecting the Medical Profession"—namely, "Registration Fees." The total number of names for 1905 is 38,361, an increase of 572 over the total of 1904. Of departmental increase the London list shows 6397 names as against 6328 in 1904, the English provincial list 16,718 as against 16,553, the Welsh list 1236 as against 1207, the Scottish list 3733 as against 3696, and the Irish list 2632 as against 2629. The list of registered practitioners resident abroad contains this year 4448 names as against 4292 last year, and the list of service members 3101 as against 3016. The largest increase is shown in the "too late list" which this year contains 96 names as against nine last year. There is thus an increase in every department of the profession. The Directory is a work which is indispensable to members of the medical profession and of great use to those of many other classes and we congratulate the publishers on its prompt publication.

THE NUISANCE ON THE FORESHORE OF BELFAST LOUGH.

MR. P. C. Cowan, chief engineering inspector to the Irish Local Government Board, and Mr. D. Edgar Flinn, one of its medical inspectors, sat in Belfast on Dec. 14th, 15th, and 16th, 1904, to make inquiry with regard to the petition of the Castlereagh district council praying for a provisional order to form a united district for the purpose of abating a nuisance on the foreshore of Belfast Lough. That a nuisance exists was amply proved by medical and chemical evidence and it is due to the existence of a seaweed, the "ulva latissima,' which feeds on sewage and gives off sulphuretted hydrogen; the nuisance is clearly caused by unpurified sewage being allowed to flow into the lough, those on the sides of Belfast Lough saying it is due entirely to the Belfast sewage while the Belfast council retorts that the townships on each side of the lough contribute their share. No feasible scheme to remedy the nuisance was put forward and it is likely that one of two schemes only will be of any use. The one is to reorganise completely the main drainage scheme of Belfast which is totally unfitted for the present size of the city and to carry the sewage down by means of conduits along each side of the lough, one opening at Blackhead on the north-west and the other at Donaghadee on the south-east of the lough, into each of which the drainage of the boundaries of the lough would empty. In this way the waters of the lough would be kept pure. The other plan is, in addition to the formation of bacteria beds, to purify the crude sewage, to carry out a scheme of reclamation of slob lands on each side of the lough. Banks would be constructed from the Kinnegar to Holywood point on the south-east side and from Greencastle on the other side to a corresponding point opposite; these would form the north-eastern boundaries of the County Down and County Antrim reclamation schemes. Once the banks were completed ample material could easily be provided for the gradual work of filling in and reclamation. The sewage, properly treated, would be largely carried away by the current. No doubt this would be a costly undertaking but it would be final and effective and the reclaimed land would constitute a valuable asset so as to recoup whichever authority—harbour, corporate, or rural—carried it out. All other remedies are only partial and piecemeal and will never rectify the present deplorable condition of an otherwise beautiful lough.

THE DISPLAY OF PHYSICAL INFIRMITY AS AN INCENTIVE TO ALMS-GIVING.

THE exhibition by professional mendicants of the results of injury and of genuine physical conditions of a painful nature as well as the display of pretended mutilation and simulated deformity are familiar to all who read the police reports, as well as to medical men, and the methods of the malingerer were dealt with in detail in THE LANCET of Jan. 7th, p. 45. We may sometimes even wonder that the benevolent public should so readily consent to be imposed upon when they are so frequently warned but there seems to be no limit to the credulity of soft-hearted persons who when face to face with what they believe to be great suffering in others do not pause to consider the effect that their alms-giving may have. They forget that charitable institutions exist for the relief of genuine suffering in the poor and that, on the one hand, their money bestowed in aid of hospitals will do far more effective good than when given directly to an individual, whereas, on the other, indiscriminate giving encourages begging on the part of impostors. The recent case of a pretended paralytic in the City has no doubt called attention to such frauds as his, and to the tricks of other members of the begging fraternity, but such misdirected ingenuity as theirs has been a source of profit for centuries, although from time to time detection has been followed by penalties more or less severe. The following instances are to be found in the late Sir Walter Besant's "London in the Time of the Tudors," and one of them shows that then, as now, the medical profession took an interest in their exposure, although the medical man nowadays can hardly act so vigorously on his own initiative as the surgeon described. If he had had to invoke the aid of the police and to waste time in giving evidence he would very likely have left the "dommerar" in peace. Perhaps the fact that the punishment of the detected impostor has grown milder accounts for his continued existence. Sir Walter Besant writes: "The counterfeit crank was a pretended epileptic. He carried a piece of white soap which he put into his mouth to represent the epileptic foam. Harman draws a lively picture of such a man. He begged about the Temple, his face was covered with blood and his rags with mud and dirt. At noon he repaired to the back of Clement's Inn, where in a lane leading to the fields he renewed the blood on his face from a bladder which he had with him and daubed his jerkin and hose again with mud. A certain printer watched him. In the evening he took a boat and crossed the river. The printer followed him and caused him to be taken up in St. George's Fields as a common beggar. They took him to the constable's house, where they stripped off his rags, showing him to be a healthy and comely man with no sign of any disease; in his pockets they found the sum of 13s. 3½d.; they gave him an old cloak of the constable's, in which he sat by the fire and drank three quarts of beer, after which he threw off the cloak and ran away naked. But they found out where he lived—viz., in a 'pretty house, well stuffed with a fair-joined table and a fair cupboard garnished with pewter.' So they took him to Bridewell where they painted him, first in his disguise and next in his proper attire. Then they whipped him through London and brought him back to Bridewell, where he stayed till they thought fit to let him go. The 'dommerar' pretended to be dumb, he carried a forged licence, and generally pretended to have lost his tongue. One of them was, unluckily for himself, caught by a surgeon who proved that he had a tongue, though he had neatly folded it away somewhere, and as the fellow would not speak the surgeon tortured him till he did. This done they hailed him before the magistrate who administered the usual medicine. The Abram man was one who feigned to have been mad and to have been kept in Bedlam for a term of years."

THE ROYAL SANITARY INSTITUTE.

THE thirty-ninth course of lectures and demonstrations for sanitary officers will begin at the Royal Sanitary Institute, Parkes Museum, Margaret-street, London, W., on Monday, Feb. 13th. The course is divided into two parts, the first consisting of four lectures on elementary physics and chemistry and 21 lectures on hygiene, public health, and the duties of sanitary inspectors. The second part, consisting of seven lectures, will commence on Wednesday, April 12th. The lecturers on elementary chemistry and physics are Dr. E. J. Steegmann, medical officer of health of Heston, Isleworth, and Dr. J. Priestley, medical officer of health of Lambeth. Among the lecturers during the month of March are Dr. G. Newman, medical officer of health of Finsbury, and Dr. H. R. Kenwood, medical officer of health of Stoke Newington, the former taking for his subject, on March 1st, 3rd, and 6th, the duties of a sanitary inspector and the latter dealing with infectious diseases, water, and statistics on March 9th, 10th, 13th, and 15th. Mr. W. Hunting will deliver the opening lecture of Part II. on April 12th, his subject being the signs of health and disease in animals destined for food and tuberculin and other tests; Mr. James King, veterinary inspector of the Metropolitan Cattle Market, will give on April 13th a demonstration on diseased meat; and Dr. E. P. Manby, medical inspector to the Local Government Board, on April 26th, 27th, and 28th will deal with, amongst other things, the preservation and storing of foods, the hygiene of cowsheds and dairies, and the laws and regulations affecting the inspection and sale of foods. In connexion with these lectures a series of inspections and demonstrations will take place from time to time. For example, on Feb. 18th a party will be conducted over the Willesden Parish Infirmary by Mr. A. Saxon Snell; on Feb. 25th the Battersea disinfecting station, mortuary, and shelter will be inspected, the demonstrator being Dr. G. F. McCleary, medical officer of health of Battersea; and Mr. J. R. Leggett will conduct on March 2nd a demonstration of bookkeeping as carried out in a sanitary inspector's office at Islington. On April 19th Mr. R. Glover will superintend an inspection and a demonstration at Messrs. Harrison and Barber's knacker yard, Whitechapel. The fee for the complete course is £3 3s., or for Part I. £2 12s. 6d. and for Part II. £1 1s. The Saxon Snell prize, which is to be awarded by the council of the Royal Sanitary Institute at intervals of three years to encourage improvements in the construction or adaptation of sanitary appliances, is offered for the first time this year. It will consist of £50 and a medal of the institute for the best essay on Domestic Sanitary Appliances, with Suggestions for their Improvement. Particulars of the conditions governing the competition can be obtained from the secretary of the institute.

INSANITARY AREAS IN SOUTHWARK.

THE facts of a case reported in the daily press of Dec. 31st, 1904, in which death was, no doubt, accelerated by insanitary surroundings, give us food for serious reflection. We are so much accustomed to evidences in the way of torn-up roads and torn-down houses, of attempts to enlarge and to improve London generally that we are apt to forget the unseen places where any enlightening efforts on the part of the London County Council are yet far to seek. Such spots, unfortunately, still exist. Nor can we applaud any æsthetic endeavours of the Council in the direction of wide thoroughfares or beautiful buildings or lovely statues so long as overcrowding exists within the area of the Council's jurisdiction or so long as a single death can occur in such circumstances as were investigated by Dr. F. J. Waldo on the occasion to which we are referring. The death took place at King's-court, Borough, which lies in an area known as Erith-place. This area is three acres in extent and holds about 850 persons. It is one of three that were officially scheduled as unhealthy and reported to the London County Council in 1898. Yet for some reason, possibly not unconnected with the unprofitable nature of Erith-place as a building site, while the two other areas received due attention the Erith-place area, the worst of the three, has continued to be neglected. The area includes several cul-de-sacs and a network of narrow courts hemmed in by tall buildings. In Erith-place it is possible to shake hands from house to house across the court. In such a neighbourhood disease is rife and thrives apace. There is no remedy but the destruction of such a spot and the very existence of the area is a reproach to the London County Council. We are glad to notice that a statement was made by one witness at the coroner's inquest to the effect that the area is to be cleared. We agree with the coroner, Dr. Waldo, who was "very glad to hear it."

THE MEDICINE-MEN OF CENTRAL AUSTRALIA.

Messrs. Spencer and Gillen's admirable books on the savages of Central Australia and Queensland are quite as delightful to the social satirist as to the serious anthropologist. It would seem that in their obscure way the hitherto despised and neglected "black fellows" of Australia have for long ages been making game (unconsciously, of course) of much that in Europe is treated with solemnity. Molière himself could not have been more severe upon medical men than are the black Queensland practitioners upon themselves. Their etiquette, which is very elaborate, is conceived in a spirit that would have delighted the author of "Erehwon." For instance, until he is well stricken in years the medicine-man of the Arunta and Kaitish tribes must eschew hot drinks and eat no fat, and the young Warramunga medicine-men must drink very little water and abstain from all native dainties, such as big lizard, native cat, wild dog, and "euro." Messrs. Spencer and Gillen knew of a case in which an elderly practitioner died and the cause of death was at once set down to furtive indulgence in this last-named food. When once they are old and grey-haired Warramunga medicine-men may eat anything and can compel their younger *confrères* to bring them in supplies of the forbidden delicacies. "In fact, the old doctors, and especially the particular man who made him into a medicine-man, can kill a younger one who fails to comply with this rule." Both old and young practitioners, however much they may bully each other behind the scenes, maintain a very firm and consistent attitude towards the public. All disease is set down to the existence in the system of "foreign bodies!" The sick man is always held to have a bone, not necessarily in his leg, but anywhere inside him. The object of the medicine-man is to locate this bone and to point out its wanderings—from the forehead downwards—to an open-mouthed audience. Having done so for some days, he extracts or "exorcises" it and "finds" it at a distance where he has previously buried it. The Anula medicine-men, however, who allow women to practise, are degenerates, or they mark an earlier stage in development, for they do not profess to extract bones but to introduce them below their victims' skins. They are necromancers pure and simple. Strange to say, it is not easy to become a medicine-man. The initiation is long and severe and involves visions, during which the aspirant fancies he exchanges intestines with a tutelary spirit. The power of the medicine-man resides almost entirely in an amulet worn in the nose. This is manufactured by some veteran practitioner out of fur string and is said to be the work of certain very powerful old serpents, reptiles as much connected with medicine among the Australian aboriginals as in ancient Greece.

AMŒBIC DYSENTERY.

AN instructive report has been issued by the Government Laboratory, Manila, on the subject of amœbæ and amœbic dysentery.[1] The first part by Dr. W. E. Musgrave and Mr. M. T. Clegg deals with the cultivation of amœbæ and their etiological significance. On a culture medium consisting of meat extract and agar, rendered alkaline to phenolphthalein to the extent of 1 per cent. and sometimes with the addition of a trace of peptone, it was found possible to cultivate various amœbæ. The amœbæ were isolated by a modified method of plate culture; the material containing the amœbæ is well spread over a sterile plate of the agar medium and an isolated amœba having been located by means of a Zeiss A A objective this is replaced with a clean dry Zeiss D D lens which is then lowered on to the amœba. In many instances the amœba adheres to the lens and may then be transferred to a fresh plate of agar and in this manner a pure cultivation may be obtained. It was, however, found impossible to grow the amœbæ unless bacteria were also present. Various bacteria will serve this purpose, e.g., the spirillum choleræ, but often the amœbæ exhibit a selective action for certain bacteria and without these refuse to grow. All the amœbæ studied developed best at room temperature. With regard to the etiological significance of amœbæ Dr. Musgrave and Mr. Clegg believe that all species are, or may become, pathogenic. In amœbic dysentery the amœbæ can be detected with certainty only when they show their characteristic motility on a warm stage and they are best demonstrated in the fluid portions of the stools after the administration of a saline cathartic. In the second part of the report by Dr. Musgrave the treatment of amœbic dysentery ("intestinal amœbiasis") is dealt with. The various methods of treatment are discussed and a word of warning is given on the use of ipecacuanha which Dr. Musgrave considers may be dangerous in the case of patients much reduced in strength by long continuation of the disease. When bismuth and similar substances are used enemata may be inefficient owing to the bowel being coated with a sticky deposit which should first be cleared away with a saline purgative.

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[1] No. 18, Bureau of Government Laboratories, Manila, 1904.

Directions are given for the proper use of enemata and cold solutions of quinine salts—1 in 1500 to 1 in 750—are considered to be the best of all. A useful survey of the literature of the subject is given and the report is illustrated with a number of plates.

THE MAKING AND UPKEEP OF ROADS.

AT first sight there would not seem to be much of a medical interest about the above-mentioned subject. But there can be no question that good roads are an important factor in the health of the people, primarily from a sanitary point of view in towns and secondarily in the country because on good roads depends in great measure agricultural prosperity and on this in its turn depends the question of the overcrowding of towns. Anyone who has ever been in France must recognise how far superior in most cases are the main roads of that country to our own. A London macadamised road is a thing to shudder at. Fortunately there are not many of them but such as exist are a disgrace to a civilised community. They are badly laid to begin with and they are never kept up. The London vestry or borough council's idea of the way to lay a macadamised road is as follows. First of all prepare the ground by roughly grubbing up the old road with a "scarificator." Then take large lumps of granite weighing roughly five or six ounces each and dump them on the scarified roadway. Then run a steam roller over them and cover deficiencies with sand. The pieces of granite being much too big to bind act as levers and tilt when any traffic passes, the sand is washed away by the first shower and in a few weeks the road "pockets." It is therefore full of holes which are generally puddles, especially if the road is watered, and contain decomposing dung. No more care is taken and the roadway is left to itself until it gets too bad even for the municipal authority to bear it any longer. Then out come the scarificator, the large lumps of granite, and the sand and the process begins again. If the road were properly laid at first, according to Macadam's instructions and were to be tended by having hollows filled up as they appeared it would last much longer than it does at present and the surface would be good. An evening contemporary has this week published a most interesting article upon the French Department of Ponts et Chaussées, in the charge of which are most of the roads of that country. It is, we suppose, too much to hope that this country will ever have a similar department but the London County Council might at all events organise a department seriously to take in hand the roads of London, with whatever substance they may be paved. As for rural roads, the bicycle and the motor-car have done a good deal to raise their condition but even now it entirely depends upon the frame of mind of the local authorities as to whether a rural road is good or not and many of them seem to consider that "work on the roads" is a fitting method of employing out-of-work unskilled labourers without considering that to keep a road in order requires a good deal of skill. The influence which a well-laid and cleanly roadway has upon the health of town dwellers is so obvious that it need not be insisted upon further.

THE DESTRUCTION OF ORGANIC MATTER IN TOXICOLOGICAL INVESTIGATIONS.

IN the Russian *Gazette of General Hygiene, Forensic and Practical Medicine* Professor A. F. Grigorieff describes a method for the disintegration of organic material in toxicological analysis. The organic matter (intestines and so on) is first dried at from 70° to 80° C. and then pounded in a mortar. Ten grammes are then placed in a retort and submerged in ten times its volume of strong sulphuric acid. The mixture is then carefully heated, all frothing being prevented as far as possible, until the liquid is of a brownish colour. After cooling slightly ten cubic centimetres of fuming nitric acid are added and the liquid is boiled again. Under this treatment the liquid gradually assumes a yellowish colour. After a time another addition of nitric acid is made and the heating is continued. If the liquid does not become clear and of a bright yellow colour more nitric acid is added. At this point another ten grammes of the organic material may be added and the operation as described repeated. More material may be put into the retort, care being taken to keep an excess of sulphuric acid present. The liquid is then vigorously boiled and the oxidation may be considered to be finished when the evaporation of the nitric acid vapours ceases and when, after being cooled, the liquid becomes transparent and colourless. When much fatty matter is present a larger quantity of nitric acid is necessary and it may be freely added at the commencement of the process. The acid liquid is diluted with water and boiled until no more brown vapour issues. The usual chemical reagents such as sulphuretted hydrogen gas may then be applied for the purpose of separating the metals. Professor Grigorieff experimented with small quantities of most of the mineral poisons in organic material in this way and succeeded in detecting their presence even when they occurred in minute quantities. The process recalls that devised by Kjeldahl in which the destruction of organic matter by strong sulphuric acid is effected and at the same time the nitrogenous compounds are converted into ammonia which may be expelled and estimated and thus the quantity of nitrogen in the original material determined.

ELEVATION OF THE HIPS IN THE TREATMENT OF PLACENTA PRÆVIA.

IN the *New York Medical Journal* of Sept. 17th, 1904, Dr. A. King calls attention to a method of treating placenta prævia which does not seem to have been described previously and which from its simplicity and efficacy appears to be valuable in checking of the hæmorrhage by elevation of the hips. He relates the case of a surgeon who saw in consultation a case of placenta prævia. For several hours there had been slight hæmorrhage and pains. The vagina had been packed with iodoform gauze which was saturated with blood. The surgeon removed the pack and found a marginal attachment of the placenta, the os beginning to dilate and the head presenting. The patient was anæsthetised with ether and placed in the lithotomy position at the edge of the bed. The castors were removed from the bedstead and the side to which the patient had been brought was elevated by means of two chairs placed under the legs so that the patient's body formed an angle of 45° with the horizontal. The canal of the pelvis was then easily accessible to manipulation. The action of gravity by preventing loss of blood and the escape of amniotic fluid facilitated turning. The vagina and the cervix were dilated and the membranes were ruptured over one foot which was brought down. The entire delivery of the child took less than five minutes and not an ounce of blood was lost. A practitioner who heard of the case treated another one with the same excellent result. Elevation of the hips suggested itself to the surgeon because he knew of the great saving of blood due to this position in pelvic operations, especially when veins are cut, and that the bleeding in placenta prævia is principally venous. In hysterectomy when using Trendelenburg's position he never closed the abdominal wound without previously lowering the patient to make certain that hæmorrhage would not follow the change of posture, for he had frequently found that blood welled up from some vein, though not a drop escaped when the hips were elevated. It is certainly surprising that the principle of elevation of the bleeding point, which is so well recognised in the treatment of venous hæmorrhage, has been ignored in the treatment of placenta prævia.

WE record in another column the death of Professor Sklifosovski, which has just occurred at Moscow. Professor Sklifosovski, whose scientific position was a very brilliant one, became personally and favourably known to many of his European colleagues during the Twelfth International Medical Congress which was held in Moscow in 1896. Professor Sklifosovski was president of the organising committee of the Congress and to his efforts was largely due the fact that the immense gathering passed off so successfully.

THE medical officer of health of the Cape Colony states that during the week ending Dec. 17th, 1904, no case of plague in human beings was discovered.

ANNUAL REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD.

SECOND NOTICE.[1]

IN our first notice we dealt with what may be termed the epidemiological portion of this report—that is to say, with Appendix A which relates to the etiological investigations carried out by the inspectors of the medical department of the Local Government Board. We now propose to deal with Appendices B and C in which an account is given of the auxiliary investigations which are conducted year by year by bacteriologists and others specially employed under the direction of the medical officer of the Board.

The Pathology and Etiology of Rat Plague and other Infectious Rat Diseases.

The part played by the rat in the diffusion of plague has been variously estimated by different observers. Some attribute to the rat a very large share in the causation of the disease in the human subject, others regard this rodent as exercising quite a minor influence in this direction. Dr. E. E. Klein has set himself to ascertain by means of a carefully conceived series of experiments what is the precise significance of plague in rats and what are the channels by which the disease in rats is conveyed from rat to rat and from rat to man. In discussing the pestis bubonica which occurs naturally in rats Dr. Klein refers to the disease which prevailed among rats at the Cape of Good Hope and which was believed by Dr. A. Edington not to be plague but a form of hæmorrhagic septicæmia, such as swine fever, fowl cholera, and so on. The result of the work carried out by Dr. Klein with material sent to him by Dr. Edington has led the former to the conclusion that the organism in question was that of plague although it presented certain unusual morphological and cultural characteristics.

As regards the method by means of which the plague is spread from rat to rat the experiments of Dr. Klein do not tend to support the view which was put forward by Simond, and which has been strongly supported by others, that the disease is, to any large extent, conveyed from rat to rat by means of fleas. Dr. Klein has been unable to repeat the experiments of Dr. F Tidswell who found that an emulsion of fleas taken from a "plague-dead" rat was capable of conveying plague to other rats. Fleas may, in Dr. Klein's view, occasionally convey plague from rat to rat, but this is not, he thinks, at all a common method of conveyance. After keeping on numerous occasions the rats in the same cage for some time in order that their initial fights might cease one of the animals was inoculated with plague from which it subsequently died, but in no single instance has the healthy rat succumbed to the disease until long subsequently; to test its susceptibility it was inoculated directly and died. Moreover, the rat first inoculated has in numerous instances had opportunity of infecting by means of its fleas the rats kept in adjoining wire cages; but here, again, no such flea-borne transference has ever been observed. In Dr. Klein's view one of the most common causes of infection from rat to rat is by means of the wounds and abrasions which are to be found on nearly all rats in the wild state. Such an abrasion may easily become inoculated by articles soiled by the excreta of rats ill with plague. He thinks, too, that many rats are inoculated owing to their fighting propensities and to the fact that rats ill with plague are extremely irritable. In the case of a rat afflicted with pneumonic plague the oral mucus would be thus a ready means of infection.

But perhaps the most interesting part of Dr. Klein's contribution to the present volume is that which relates to the diseases other than plague from which rats are liable to suffer. It is certainly not improbable that in the past much unnecessary alarm may have been caused by illness among rats which was not due to plague. Dr. Klein refers in the first place to the disease which is caused among rats by the Danysz bacillus by means of which it was sought to destroy the rats in the Paris sewers. There is, however, no difficulty in distinguishing this bacillus from that of plague. In the case, however, of the s.s. *George Royle*, on board of which many dead rats were found while the vessel was being unloaded at Bristol, the case was very materially complicated by the fact that the vessel came from Smyrna which was at that time a plague-infected port. Much alarm was very naturally caused by this circumstance but it was eventually determined by Dr. Klein that the bacillus, which had presumably caused the death of the rats, was not that of plague but a bacillus which he termed bacterium Bristolense. Dr. Klein's communication is of considerable value as indicating caution in arriving at the conclusion that a fatal disease among rats on board ship is of necessity due to plague.

A Bacteriological Test for the Pollution of Air by Saliva.

For many years there has been a growing discontent among teachers of preventive medicine as to the use of the carbonic acid index for estimating the pollution of the air of rooms, factories, and other places. But in the absence of any better standard such test has had to be continued notwithstanding the fact that there are many other sources of this gas than man and animals. Within recent years the Germans, and notably Flügge, have shown with what facility an easily recognisable organism, such as bacillus prodigiosus, can be conveyed through the air by acts of loud talking, coughing, and especially sneezing, and they have also shown by the aid of carefully arranged Petri dishes that during acts of coughing and sneezing persons suffering from advanced pulmonary tuberculosis may disperse the tubercle bacillus for considerable distances both before and behind the seat which they occupy. It is important, however, to observe that in ordinary quiet speaking or breathing few, if any, organisms are given off by the breath. But both these series of experiments related to organisms which may be regarded as abnormal or extraneous in so far as the healthy human being is concerned, and hence Dr. Mervyn H. Gordon has been led to undertake an investigation "to determine whether it is possible to find a bacteriological test of the pollution of air by material given off by the human body comparable to the B. coli (&c.) test for the pollution of water by material derived from a like host; a test capable of application as an index of the possible access of morbific virus to air, in a manner similar to that in which the B. coli (&c.) test is an index of its possible access to water."

After a careful examination of the salivas of a large number of people of different ages and sex Dr. Gordon found, as might perhaps have been expected from the work of Miller, David, and Goadby upon the micro-organisms of the mouth, that the organism which was most abundantly present in the saliva was the streptococcus brevis (Lingelsheim) which Goadby found "in all mouths, healthy or unhealthy, clean or dirty." This streptococcus is in no sense confined to the mouth of man but it is found also in the mouths of monkeys, dogs, rabbits, or guinea-pigs. Dr. Gordon found this organism to be present in great abundance in the several salivas tested by him. It was generally present to the extent of 10,000,000 per cubic centimetre of saliva and sometimes the figure reached ten times that amount. Other streptococci were found, but Dr. Gordon has selected streptococcus brevis as being that which affords the most useful test for the presence of saliva Often, therefore, confirming the experiments of others with bacillus prodigiosus and bacillus tuberculosis, he undertook similar experiments in reference to what may be called the normal flora of the human mouth, that is to say, he engaged different persons to speak for certain periods and with varying degrees of vehemence, and by employing tests on the same principles as were employed in dealing with what we will call the extraneous organisms he found that the normal micro organisms of the mouth were carried by droplets in practically the same manner as Flugge and others have demonstrated to be the case with organisms purposely introduced into the mouth or which were there present by virtue of the diseased condition of the patient Whatever organism was employed it was found that the maximum distance at which it could be detected was 40 feet in front of, and 12 feet behind the operator We have no space to describe in detail the methods employed by Dr Gordon but it must be mentioned that he found neutral red broth the best medium for cultivation by virtue of the fact that its colour is markedly changed by streptococcus brevis when incubated anaerobically for 48 hours at 37° C , a phenomenon which does not ensue in the case of the other streptococci of human saliva As a result of this experience Dr Gordon is inclined to regard the streptococcus brevis test as "almost if not quite as delicate a test for saliva as is B coli for the presence of fæcal matter

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[1] The first notice appeared in THE LANCET of Dec. 3rd, 1904, p. 1609.

It would seem, therefore, that we may have in the presence or relative abundance of the streptococcus brevis in rooms occupied, or which have been recently occupied by man or animals an indication of the adequacy or insufficiency of the ventilation of the room, factory, or cowshed but the conclusions will naturally be governed very materially by the
xcitement
nce, if the
a factory
wherein strict silence was enjoined we can imagine that the ventilation might be regarded as excellent and a similar remark might be made with respect to a crowded church wherein, or at a time when, the members of the congregation were taking little active part in the service Conversely in a factory where there was much loud talking, in a place of worship when a revivalist meeting was being held, or at times in the London Stock Exchange or Paris Bourse the conditions might be regarded by the streptococcus brevis test as calling for action under the Public Health Act In a public place such as the House of Commons a different standard of *relative abundance* would be necessary, on the one hand during the dinner hour and, on the other, during an altercation below the gangway But, as Dr Gordon observes in summing up his most interesting paper, "the value of the streptococcus test as a means of estimating pollution of air by breath borne material and as a test for the efficiency of ventilation is a matter for the future to determine" He suggests the
draught by way of diverting
any pathogenic organisms wl
mouth of the speaker to some exhaust chamber below the floor We should much like to see this suggestion acted upon and some experiments undertaken with the view of determining the force necessary to divert the droplets given off during a paroxysm of coughing or during some violent declamatory effort

It is, of course, difficult to ascertain to what extent the strepto
ubtless active in
of normal saliva
virulence for the
mouse cannot be regarded as conclusive of their harmlessness in all circumstances It would seem to be clear from the experiments of the Germans conducted some time ago that wherever violent speaking is taking place the hearers in the vicinity are liable to become infected by any infectious disease or condition from which the speaker is suffering, assuming that such infection can be given off by the medium of the saliva, and what Dr Gordon s work has possibly done is amongst other things, to hold out a hope that in the future we may be able to ascertain a means of diminishing this obvious risk without undue interference with our comfort Although a great deal of additional work will be necessary before the carbon dioxide test can be usefully superseded by the one here under discussion the bacteriological test might in certain cases be employed in conjunction with the chemical

A FRENCH SANATORIUM FOR CURABLE CONSUMPTIVES

(FROM A SPECIAL CORRESPONDENT)

AN account of a visit to the new sanatorium for poor consumptive patients at Bligny, 22 miles south west of Paris, may be of interest in the present state of the campaign against tubercle Half an hour in the train to Orsay and one and a quarter hours in a ramshackle country omnibus through quiet domestic scenery bring the traveller to the front gate and without any introduction a medical visitor is warmly welcomed as a *confrere* by the medical director of the institution, Dr Guinard

The Bligny Sanatorium, opened in October, 1903, was erected on the initiation of M Paul Mirabaud, a generous Parisian banker, for the sum of £48,000, and is maintained to a large extent by receipts from patients, assisted by contributions from the charitable society, L'Œuvre des Sanatoriums Populaires de Paris, which erected it The inmates pay £4 a month or if their means will afford it £6 Most pay only £4 Their proportionate cost works out at £5 a head a month The founder was fortunate in his architect M Magne Professeur à l École des Beaux Arts, whose work is as satisfactory to the artistic sense as to the demands of modern science Built in massive style and of good proportions in rough cobble like concrete blocks, which give the effect of old stone and are said to be equally durable, it has from the entrance or side, the general air of an old château adapted to its present use On the reverse aspect, however, there is no question of new wine in old bottles Two heavy wings 120 feet long flank at an obtuse angle the central two floored building of similar length, its face entirely occupied by the galleries which open along their whole length and height, are the essential elements in the treatment Ascending a few steps or passing up the stairway to one or other of these galleries, the visitor looks down a long vista of full length wicker chairs, each separated from its neighbour by a little table on the floor and an electric light on the wall each occupied by the particular one of the 120 inmates who has been assigned to it as he has been assigned to his bed, bedroom, place at table, his distinguishing number, and his general equipment by the director on admission The patients look warmly covered, dressed in a variety of ordinary apparel lying on a thick grey blanket and a couple of cushion pillows, with another blanket to cover them At intervals the line is broken by a glass screen to break up the draught , underfoot is the concrete floor with rounded corners , overhead the beams of the roof and out over the light iron railing a splendid view south south west—the approved aspect—through the park which slopes away into the valley below to the cosy little village of Bris sous Forges to the richly cultivated and wooded undulating country beyond and to the dim blue hills in the far distance An hour later some of the patients are in occupation of the croquet court and bowling ground, others are wandering about the bushes and copses of the 220 acre park, and a few by special leave are walking outside up to a radius of half a mile from the house

The object of this sanatorium is to cure poor male consumptives For this purpose none but cases in an early stage are admitted , the patients do the housework themselves , there are no nurses , and the staff for 120 patients consists only of three medical men a few persons engaged in the offices grounds, and engine house, and a body of 13 women belonging to a religious sisterhood who manage the kitchen linen store, and laundry Having fewer resources than many of us for enjoying idle hours the patients object less than most persons probably would to the very rigid arrangement of their day The printed time table announces that the patient rises at 7 A M , takes his coffee at 7 30 and his douche at the medical attendant s hands at 8 , he then takes his walk till 9 15 , lies down till 10 15 , and eats again at 10 30 , he walks rests eats, rests eats, walks rests, eats and finally rests, till at 9 he goes to bed, and at 9 30 is in the dark The discipline is strict We sat down together to dinner at 1 o clock and to a collation of bread and butter and hot milk at 4 o clock , and we rose again at a signal from the medical man presiding at the table with a great clatter of chairs on the concrete floor as if we were at school. The food was excellent both in quality and cooking; our own poor people would call it luxury if they had the French taste—two meat courses, two vegetables, a soup, and a dessert with a flask of red wine. But forced feeding is not attempted; the appetite only is forced and that only by natural means. Serving at meals is done by the healthiest patients in turn, ten or 12 being detailed for the purpose each day. The bedrooms are similarly tended; the beds are made and all clothes and boots are brushed by the patients themselves. Clothes and boots are brushed in separate cloak-rooms where the boots are always exchanged for slippers on entrance after a walk, prevention of dust and waste matter being considered more effective than accumulation and removal. The bedrooms, containing two or three beds in each, are small but unencumbered by furniture of any kind, with windows which are kept open by a patent lock, being shut only for half an hour before bedtime and in the rare event of a storm driving straight into the room. The patients are unable to close them but they can be closed if necessary. Two or three patients were keeping their beds by order and one was allowed to receive a visitor. In such cases it is obvious that windowless windows are a drawback. All washings take place in the lavatory attached to each bedroom, kept with scrupulous care, or in the douche room in the basement. The douche is a wave, not a spray, and begins at a temperature of 30° C., declining to 12°.

On the ground floor of one wing, passing on account of the slope of the hill into the basement of the central block, are the kitchens, linen store, douche, bottle-washing, dispensary, and medical rooms. The bottle-washing room is of especial interest. Every patient has his numbered pigeon-hole and a couple of pocket spittoons, "crachoirs de poche," flat two-ounce bottles of blue glass with a rubber-lined metal cap which screws on to the neck. One of these the patient keeps always in his pocket, so that no spittoons are seen anywhere about the premises and there is no need for infecting handkerchiefs with tuberculous sputum. When the bottle is nearly full the patient takes it to the bottle-washing room which opens directly both to the outside, and to the passage, and exchanges it for the clean bottle. The bottles are cleaned by an assistant. The sputum is mixed with dry sawdust and burnt. A specially devised, jacketed metal sink receives the bottles, steam is turned on, and the whole is kept boiling, caps, rubber lining and all, for thirty minutes. They are then stood on a wooden stack to dry and when dry are returned to the pigeon-holes. All rags, papers, and soiled materials are thrown into covered metal bins also to be burnt. The medical rooms are of considerable interest. The most important medical instrument of all—the scales—takes a prominent place; and by its side are various strange versions of Laennec's original stethoscope. There are a complete skiagraphic installation with a good developing room which is little used, although there are already a few good skiagrams of caseous lungs to be seen; a high-frequency equipment; apparatus for testing the lung capacity, shape of the chest, and variations of the pulse; and all requisites for bacteriological work, section cutting, and examination of the blood. Some of this outfit, all of the first quality and carefully selected, may at first appear superfluous. But the three medical officers—Dr. Guinard, Dr. Bertelon, and Dr. Dieuzaide—are experts and enter into the details of their special subject with all the single-minded enthusiasm which distinguishes Frenchmen and Germans from ourselves who, as a rule, prefer general knowledge to special. Far from time hanging heavy on their hands it was evident that they take little leisure from their work and seldom go into Paris. All three of them study every single case and study with them is no light task. Besides the usual methods of examination the most detailed microscopic and bacteriological investigation of sputum, blood, and urine is carried out. This is repeated for each patient once in every three weeks and six or seven complete "analytic essays" have therefore to be made out every day. The mass of detail thus collected is made easily available by being entered on a comprehensive sheet of printed questions in which all useful information is properly classified and arranged. Thus the space headed "Personal Antecedents" includes the following sub-headings: growth, habitual health, military service, style of life (*genre d'existence*), antihygienic work, privations, overwork, excess, alcoholism, tobacco, promiscuity, and particular circumstances, besides the more usual details. In examination of the sputum other bacteria besides the bacillus tuberculosis, elastic fibres, and cellular elements are expressly described; in that of the urine cryoscopy and the diazo reaction; and in that of the blood the agglutinating power.

As to therapeutics, little is done beyond giving the most minute attention to general health. Drugs are given only for symptomatic treatment. Local lesions are treated in the usual way. A surgical table and instruments in a glass case have not yet been used but admirable electric laryngeal and nasal lamps and cauteries are in common use, worked from a switchboard at the physician's hand. Dry-cupping is in favour. One man on the day of my visit was sitting in a chair with 20 glass cups of the usual size on his back.

There are two outhouses. In one is the laundry, devised with proper attention to the special requirements of infected clothes, equipped with the most efficient washing churns and centrifugal driers, propelled by water-power, and with a Geneste-Herscher disinfecting apparatus running through a wall between two adjacent rooms. In the other is a double gas-engine which works the electric light and pumps up the water. Drinking water is filtered in Pasteur-Chamberland apparatus. The sewage is disposed of by being water-carried into hermetically sealed iron chambers in the basement, from which it is removed in carts mixed with disinfectant, and, I think, buried at a distance. There is room here for improvements which are being undertaken. The park includes a kitchen garden in which a few of the stronger patients are occasionally encouraged to do some light work. There is at present no satisfactory means of transport between the sanatorium and the nearest railway station.

In all, this establishment at Bligny would seem to leave little, if anything, to be desired and its scope of usefulness is soon to be doubled by the erection in the grounds of a similar sanatorium for 120 women. But it is difficult to keep many patients in the institution for much over the three months to which they are held hostage by the amount of their washing bill and even in the first year's working there have already been several relapses after discharge and not a few intractable cases even in the very favourable group selected for the treatment. It is more useful as a school for consumptives than as a hospital. Would it not be still more useful, as Dr. Newsholme and others have long insisted, if looked on only as a school, giving at the same time a good opportunity for accurate diagnosis, dismissing all idea of hospital functions, and limiting the term of education to a fortnight?

MEDICINE AND THE LAW.

The Law Relating to Medical Practitioners in America.

SEEING that the laws now in force in the United States are to a large extent founded upon English jurisprudence it is not unprofitable to consider the reports of cases heard in the American courts. The decisions of American judges are not, of course, in any sense binding upon an English court of law, but in so far as the judgment of an American court is based upon principle it is at least entitled to respect if cited to an English judge. It should be remembered, however, that in some states of the Union Acts have been passed which have no parallel in this country—as, for instance, the Act which is in force in some States (e.g., New York) which prevents a medical man disclosing the secrets of the consulting room even in the witness-box. In the recently published "General Digest of American Cases" there are some decisions of interest to medical practitioners in England. It is proposed to give an account of some of these decisions in the somewhat peculiar language which appears to be used by the American law reporters. Actions for malpractice appear to be of frequent occurrence in America, if it is fair to judge from their constant appearance in the law reports. The question constantly arises as to what degree of negligence will render the practitioner liable to an action for damages. A physician who is merely a general practitioner cannot be held liable in damages to a patient for diagnosing and treating a disease of the eye as conjunctivitis when it was in fact glaucoma, when the evidence showed that glaucoma is a very rare disease, that it is incurable in character, that its certain diagnosis could be made only by a skilled expert of special training and experience and that it should be treated with remedies and appliances which are never expected to be within reach of the general practitioner of medicine, that its prominent symptoms were so nearly identical with those of conjunctivitis that the diagnosis made by the defendant was one reasonably to be expected from a general practitioner, and that the treatment given was not found faulty by any [illegible] who testified in the case (Wo[illegible] Ct. 213). If a charge of negl[illegible] that the plaintiff must be in a position to substantiate the charge. Thus the burden of proof on the plaintiff is to show that the defendant did not exercise reasonable care, skill, and diligence. In the case of De Long *v.* Delaney, which was heard in Pennsylvania, an action was brought against a physician for failing to use a tourniquet after an accident. There was no evidence from any witness competent to express an opinion that a tourniquet should have been used or that the tight bandage which had, in fact, been used by the defendant was not fully as good. It was held that in the circumstances the judge was right to withdraw the case from the jury. In the case of English *v.* Free (55 A. 777) it was decided that in an action for malpractice against a surgeon evidence that he made an error in diagnosis is insufficient. Some interesting American cases are also recorded in which questions have arisen with regard to fees. Where no fee has been arranged beforehand it is for the jury to say what remuneration shall be paid to the physician for his services and it is often a matter of difficulty to state the criterion according to which the jury must decide the question. In the case of McKnight *v.* Detroit (97 N.W. 772) an action was brought by a physician of high standing for "compensation"—i.e., for fees. The judge told the jury that they should consider the skill and experience of the physician and the character of the services and limit the plaintiff's claim to such sum as would compensate the plaintiff for those services. He would not say that if the defendant was liable at all it was only in a fair and reasonable amount. He also refused to tell the jury that the plaintiff had no right to fix an arbitrary fee and that no number of physicians could agree on a fee to be charged and that it did not make any difference how many patients the plaintiff attended. These matters were to be taken into consideration. It was held in a superior court that this charge was correct. Disputes sometimes arise as to how much is agreed upon to be paid for an operation. In the case of Abram Bros. *v.* Krakower (84 N.Y.S. 529) the plaintiff testified that it was agreed that he should perform an operation for the defendant. Another surgeon was to be present and to receive $500, while the plaintiff was to receive $250. The other surgeon was called as a witness and proved that he attended and received a cheque for $500. The patient (who defended the suit) alleged that the contract was that the plaintiff was the only person to be paid and that he was to receive $750 if a certain operation proved necessary and only $250 if merely the operation actually performed proved necessary. He also alleged that the cheque for $500 had been made payable to the [illegible]

[illegible] that a husband resists a claim for services rendered to his wife. In McCoy *v.* Fletcher (85 N.Y.S. 1022) a surgeon brought an action against a husband to recover fees for an operation performed on the wife. It was proved that the operation was performed with the husband's knowledge. The jury, nevertheless, found for the husband. On appeal, judgment was entered for the plaintiff on the ground that the verdict was against the weight of evidence. It is now a matter of common knowledge that in many States of the Union Acts have been passed which prohibit a physician from disclosing professional information acquired from a patient. Divers questions have arisen as to the effect of this rule. In one case (Crago *v.* City of Cedar Rapids, 98 N.W. 354) it was decided that the expert testimony of a physician, based upon hypothetical questions, as to the cause of an injury to a person whom he had attended as a patient cannot be rejected under Section 4608 of the Code of Iowa, which provides that no physician shall be [illegible]

with [illegible] disclo[illegible] tion [illegible]

prohibited from giving such evidence (Deutschmann *v.* Third Ave. Ry. Co., 84 N.Y.S. 887). Nevertheless, in an action on a policy issued by a benefit society which was defended on the ground of false statements in the application, the testimony of a physician as to the physical condition of the deceased when he was treated by the witness was excluded; but the exclusion only extended to the time of treatment (Dubcich *v.* G. L., 74 P. 832).

The Duties of the Police.

At a recent inquest at Hackney it was shown that the deceased, a plasterer, after a drinking bout had suffered from delirium tremens and in this condition had attacked his wife and children first with a saw and afterwards with a chopper. After a violent and prolonged struggle he had appeared to fall asleep and was left by his terrified family on the bed where he was afterwards found to be dead. The medical evidence was to the effect that death was due to heart failure following upon an attack of delirium tremens and upon the struggle which had taken place. Fortunately, no other death than that of the man himself was the result of the incident, a fact which was in no way due to any assistance received by his unfortunate wife and offspring from the police. They had sent a neighbour for assistance and two constables had actually arrived but had refused to enter the house. As many are [illegible]

was asked for by the coroner's jury as to the conduct of the policemen in the case referred to above and it is to be hoped that the Chief Commissioner has had his attention called to the matter. Every Englishman likes to regard his house as his castle but he does not push this to the point of preferring to be murdered or wounded in it to enduring the intrusion of the [illegible] existing for the [illegible] crime, and will be [illegible] an act of trespass if it is honestly undertaken in the belief that a dangerous act is being committed and can be stopped.

Looking Back.

FROM

THE LANCET, *SATURDAY,* Jan. 13, 1827.

Medical Police, and Secret Remedies.

M. DOUBLE read before the Royal Academy of Medicine of Paris, the first part of a work which he had undertaken in order to prove,—1st. That for several centuries, by the vigilance of the administration, in concert with the most distinguished medical men, the strongest efforts have been made to rid society of the pestilence constantly springing [illegible] to be tolerated.*

In France, the first decree relative to this object was issued by Philip IV., called the *Bel*, in 1311; it prohibited the exercise of the healing art to all those who had not been recognised by sworn masters (maitres jurés) capable of practising the art. Louis XIV., especially by his declaration of 1696 and 1702, and the decree of 1767, manifested a sincere wish to repress the abuses which had introduced themselves into the exercise of medicine. He prohibited to every person, not provided with a valid title, the practice of medicine as well as the sale or gratuitous distribution of medicaments, and included in this prohibition the religious orders. Louis XV. [illegible] the purpose of exa[illegible] inspecting the miner[illegible] The unfortunate Lo[illegible] the Royal Society [illegible] same powers.

The decree of the 10th of August, 1810 may be considered as the resumé of preceding legislation on the subject, and it positively establishes, that *secret remedies ought no longer, and could no longer, be tolerated.*

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* M. Double's observations cannot apply to England, for quack medicines and quacks abound, and will continue to abound, as long as our government encourages the sale of the one and the constituted medical authorities possess no power to prevent the existence of the other.—ED. L.

THE LANCET RELIEF FUND.

Almoners.

THIS Fund, which came into operation on the 1st of February, 1889, has for its Almoners the President of the Royal College of Physicians of London (Sir WILLIAM SELBY CHURCH, Bart., K.C.B., M.D. Oxon.), the President of the Royal College of Surgeons of England (Mr. JOHN TWEEDY), the President of the General Medical Council (Dr. DONALD MACALISTER, M.A., B.Sc., F.R.C.P.Lond.), Mr. THOMAS WAKLEY, F.R.C.S.Eng., and Mr. THOMAS WAKLEY, jun., L.R.C.P. Lond., with Sir HENRY PITMAN, M.D. Cantab., F.R.C.P. Lond., as Honorary Auditor.

Scope of the Fund.

FOR the guidance of those seeking assistance and of those desirous of recommending deserving cases, it may be useful to record that THE LANCET Relief Fund is sustained solely by the Proprietors of THE LANCET, who provide every January the sum of at least £300, which is administered free of cost, with the object of affording immediate pecuniary assistance to registered medical practitioners, or to their widows and orphans, in cases of distress and emergency, by the grant of money by way of loans free of interest, or gifts, as the circumstances of the various cases may require. In the case of widows and orphans, in order to come within the scope of the Fund, the death of the Husband or Father must have been of recent occurrence.

Chronic Cases ineligible.

WHEN the Fund was inaugurated considerable misapprehension existed as to the precise objects for which it had been established, and, as a result, the majority of the earlier applications, being cases of *chronic* distress, and not coming, therefore, under the designation of *emergency*, could not be entertained. As the Almoners still receive applications for assistance for cases which are obviously of a *chronic* character, it is thought advisable to append a statement concerning cases of this nature which appeared in THE LANCET of Feb. 16th, 1889:—

> "We are requested by the Almoners to state that, from the character of a number of the applications received, both personally and by letter, for relief, it is evident that in many cases the object for which this Fund has been established is not quite clearly understood; and if relief had been afforded in the cases of those who suffer from chronic distress the Fund would have been completely exhausted within the first few days of its existence. They would therefore be greatly obliged if those readers of THE LANCET who may be asked to endorse applications would carefully peruse the Application Form and explain the precise object of the Fund to those applicants whose cases do not seem to come within the scope of the purpose for which the Fund has been established, which is to afford prompt aid to registered medical practitioners, or to the widows or orphans of members of the profession, who, in consequence of the supervention of some unexpected emergency, which is not likely to recur, have pressing need of immediate and temporary pecuniary relief"—

And who, it may be again pointed out, are likely to be permanently benefited thereby.

SIXTEENTH ANNUAL REPORT of the ALMONERS.

For the year ending December 31, 1904.

IN presenting their Sixteenth Annual Report the Almoners have to record that the balance in hand on Dec. 31st, 1903, was £160 2*s.* 3*d.*, to which, on Jan. 1st, 1904, the Proprietors of THE LANCET added the sum of £300, making a total sum of £460 2*s.* 3*d.* available for grants during the year 1904.

The number of applications for assistance received by the Almoners during the year was 55—a decrease as compared with those received in the previous year—of which 15 were so obviously outside the scope of the Fund that they were rejected by the Secretary by virtue of the discretionary power conferred upon him by the Almoners at their meeting on Jan. 1st, 1890; seven were rejected by the Almoners after due consideration; four were withdrawn by the applicants; in seven cases Forms of Application were sent but were not returned—probably the applicants recognised that their cases were outside the scope of the Fund; and 22 applicants were relieved by gifts or loans of money ranging from £5 to £25. The relief of the 22 cases, a detailed list of which is given in the accompanying Statement of Accounts, involved the expenditure of the sum of £266—a sum just within the normal income of the year, omitting balances brought forward and possible receipts from repayment of loans.

Letters continue to be received by the Almoners from some of those whom they have helped, expressing their gratitude for the relief which has enabled them to mitigate, and in not a few cases to overcome, their difficulties, and thus testifying to a pleasing feature in the administration of the Fund.

The promptness of the relief afforded to applicants is also a feature to which the Almoners continue to give their particular attention; in this connexion it may not be uninteresting to record the fact that on several occasions the Almoners have again been able to consider cases and to grant relief on the actual day on which the application was received. In one case of urgent distress (No. 629) the circumstances were considered by the Almoners and aid was rendered within four hours of the application being made.

There continue to be far too many applications received for assistance for what are obviously "chronic" cases, a large proportion of the cases rejected by the Almoners and the 15 cases rejected by the Secretary coming under this heading. It cannot be too emphatically reiterated that THE LANCET Relief Fund exists to meet cases of *sudden emergency*, where timely help will tide the practitioner over unforeseen difficulties, or to afford a widow and orphans a few weeks' respite from the more pressing financial cares of their unhappy position.

The Almoners, in their Report for the year 1901, had occasion to deplore the neglect on the part of applicants who had received loans from the Fund to fulfil their obligations and to repay the amounts of their loans. They have pleasure, therefore, in recording that the sum of £31 was repaid during the year under review.

Dr. Donald MacAlister, M.D., F.R.C.P.Lond., M.A., B.Sc., having succeeded Sir William Turner, K.C.B., M.B.Lond., F.R.C.S.Eng. & Edin., F.R.S., as President of the General Medical Council at the conclusion of the last autumn session, thereupon became an Almoner of the Fund and kindly consented to act as such. Sir William Turner's signature is appended to this Report, he having acted as an Almoner for practically the whole of the period covered by it. The present Almoners desire to record their appreciation of his services to the Fund during six years and of the excellent advice which he was ever ready to give.

In conclusion, the Almoners desire to state that they will at all times be glad to have their attention called to any cases of genuine distress coming within the scope of the Fund but they trust that those recommending cases or giving testimonials will first take steps to satisfy themselves of the *bona fides* of such cases before endorsing them. In the administration of such a Fund as this the Almoners are of necessity largely guided in their decisions by the testimonials accompanying the applications.

(Signed) W. S. CHURCH. JOHN TWEEDY.
WM. TURNER. DONALD MACALISTER.
THOMAS WAKLEY. THOMAS WAKLEY, Jun.

January, 1905.

THE LANCET RELIEF FUND.

STATEMENT OF ACCOUNTS FOR THE YEAR ENDING DEC. 31st, 1904.

DR.	£	s.	d.	£	s.	d.
To Balance at the London and Westminster Bank, Limited (Westminster Branch), Jan. 1st, 1904 ...				160	2	3
" Proprietors of THE LANCET, Jan. 1st, 1904 ...				300	0	0
" Repayment of Loans:—						
Case No. 599 ...	5	0	0			
" 591 ...	1	0	0			
" 617 ...	25	0	0			
				31	0	0
				£491	2	3

CR.	£	s.	d.	£	s.	d.
By Loans:—						
Case No. 617 ...				25	0	0
By Gifts:—						
Case No. 604 ...	10	0	0			
" 605 ...	5	0	0			
" 606 ...	5	0	0			
" 607 ...	5	0	0			
" 608 ...	25	0	0			
" 610 ...	5	0	0			
" 611 ...	20	0	0			
" 612 ...	10	0	0			
" 613 ...	20	0	0			
" 614 ...	10	0	0			
" 616 ...	10	0	0			
" 618 ...	10	0	0			
" 619 ...	10	0	0			
" 620 ...	25	0	0			
" 622 ...	5	0	0			
" 623 ...	10	0	0			
" 624 ...	5	0	0			
" 625 ...	10	0	0			
" 626 ...	6	0	0			
" 628 ...	20	0	0			
" 629 ...	15	0	0			
				241	0	0
Balance at Bank, Dec. 31, 1904 ...				225	2	3
				£491	2	3

I find by the Bankers' Book that the actual Balance on Jan. 1st, 1904, to the credit of the Fund was £160 2*s.* 3*d.*, to which the sum of £300 was added by the Proprietors of THE LANCET on Jan. 1st, 1904.

The balance at the Bank on Dec. 31st, 1904, was the sum of £225 2*s.* 3*d.* I have also checked the receipts for disbursements and find the above account strictly accurate.

January 3rd, 1905.

HENRY A. PITMAN, Hon. Auditor.

ASYLUM REPORTS.

London County Asylum, Bexley Heath (Report for the year ending March 31st, 1904).—The average number of patients resident during the year was 2085, comprising 1012 males and 1073 females. The admissions during the year amounted to 585—viz., 282 males and 303 females. Of these, 528 were first admissions. Dr. T. E. K. Stansfield, the medical superintendent, states in his report that "the hopeless character as to the possibility of recovery of the bulk of the admissions during the year is clearly demonstrated. ...... The axiom the sooner the disease can be brought under treatment the greater hope there is of recovery applies more to mental alienation perhaps than to any other form of disease." Only 30 per cent. of cases came under treatment within three months of the beginning of the attack, owing to which, adds Dr. Stansfield, "not only is the possibility of recovery greatly diminished but when recovery does take place the permanent injury present in every case is proportionately greater. The importance of *habit* in relation to mental diseases is but little appreciated and yet to my mind it is one of the most powerful factors in the development of chronic insanity and it remains after the first causes have passed away, as is well illustrated by the bulk of cases in every asylum. All this points to the urgent necessity of patients being bought under proper observation and treatment at the earliest period of their alienation before insane habits of thought and action become fixed." Melancholia was present in 23 per cent., paranoia and delusional insanity in 14 per cent., primary dementia in 13·5 per cent., and general paralysis in 6 per cent of the admissions. Among the causes of insanity were arteriosclerosis, senile decay, alcoholic intemperance, insane parentage, and syphilis, in descending order of frequency. "The important part played by heredity in the causation of mental disease was demonstrated by the fact that insane heredity was made out in 132 cases or 22·5 per cent." The number of cases discharged as recovered during the year amounted to 162—viz., 56 males and 106 females, or 7·7 per cent. of the average number resident. The deaths during the year amounted to 167, or 8 per cent. as calculated on the same basis. Of the deaths seven were due to renal disease, nine to colitis, 13 to cerebral softening, 18 to cardiac disease, 19 to pulmonary and other forms of tuberculosis, 46 to general paralysis of the insane, and the rest to other causes. The Commissioners in Lunacy state in their report that the general scheme and management of the asylum deserved favourable commendation, that the patients appeared to be well dressed and well cared for, that the day-rooms and dormitories were bright throughout, and that the medical-case books were kept in a highly satisfactory manner. They recommend that in case of fire the high level water-tank should be used. The committee of management states in its report that plans have been prepared and adopted for the erection of a hospital villa to accommodate 50 male patients and the necessary staff. The internal decoration of the asylum is now complete.

London County Asylum, Horton (Report for the year ending March 31st, 1904).—The average number of patients resident during the year was 1940, comprising 880 males and 1060 females. The admissions during the year amounted to 842—viz., 329 males and 513 females. Of these 824 were first admissions. Dr. F. Bryan, the medical superintendent, states in his report that an unusual number of the admissions have been patients of extremely troublesome character. The number of patients discharged as recovered during the year amounted to 218—viz., 76 males and 142 females, or 11·2 per cent. of the average number resident. The deaths during the year amounted to 245, or 12 per cent. as calculated on the same basis. Of the deaths six were due to colitis, 14 to renal disease, 15 to senile decay, 22 each to pneumonia and organic brain disease, 29 to pulmonary and other forms of tuberculosis, 45 to cardiac disease, 47 to general paralysis of the insane, and the rest to other causes. There were three inquests held during the year. The first was on a female patient who strangled herself by means of a small piece of cord torn from her nightgown and resulted in a verdict of "suicide during a state of unsound mind." The second was on a male patient who was alleged by his wife to have sustained ill-treatment at the asylum. The verdict was "death from natural causes, to wit, syncope produced from congestion of the lungs." The third was a male patient, a general paralytic who accidentally injured himself by fracturing his ribs and sternum and died the next day from bronchitis and emphysema. A verdict in accordance with the evidence was returned. The general health of the inmates has been good throughout the year and there were comparatively few cases of influenza. Painting and decorating of the asylum have been going on throughout the year. The committee of management states in its report that various portions of the building now in course of completion at the asylum include sanitary annexes to the airing courts, greenhouse, cricket pavilion, and half-padded rooms at the respective costs of £807 15*s.*, £990, £140, and £647. The painting and papering of the buildings have been in progress since April, 1903, and have cost £3005. The roads on the estate and the airing court paths are being put into thorough repair at a cost of £900. Precautions against fire and facilities for escape from an outbreak have received continued attention. The outer doors of the wards and dormitories have been altered to open outwards, the estimated cost of the work being £460, and the fire emergency exit doors have been constructed at a cost of £52. A second fireman has been appointed and the supply from the water mains has been increased at a cost of £75. The asylum has not been visited by the Commissioners in Lunacy in the year under review.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On Sanitary Administration in the Itchen Urban District and upon the Prevalence of Enteric Fever therein, by Dr. H. TIMBRELL BULSTRODE.[1]—The urban district of Itchen is an area about two miles broad by two and a half miles long, situated on the east side of the estuary of the river Itchen. Southampton Water forms its southern boundary. In 1901 this district contained 2683 inhabited houses. Building is increasing, some 700 new dwellings having been put up since 1898, when the urban district was formed. The population consists mainly of artisans and others employed in Southampton who go daily to and from their work across the steam ferries. At Woolston and in a few other localities are "residential" houses of the larger kind. Enteric fever has lately shown a notable prevalence in this district. The figures for notified cases of this disease in each year from 1899 to 1903 are respectively 17, 12, 63, 52, and 65. The last three numbers appear extremely high for a population of about 13,000 persons. It is possible that some of the recent increase has been more apparent than real, for the reason that a larger proportion of mild cases of enteric fever, especially in children, have been notified than was formerly the case. This is suggested by the very low case mortality, the recorded deaths from enteric fever during the five years in question being three, one, two, two, and two only. But however this may be, it is obvious that the prevalence of the disease has become a serious question for the district. Dr. Bulstrode considers in his report the possible operation of various causes of spread of enteric fever. There seems no reason to suspect the water-supply, which in most instances is derived from the mains of the South Hants Waterworks Company. Inquiries with regard to milk, shell-fish, and other food consumed by the persons attacked had not been made with much regularity by the local officers concerned, but the data as far as they go do not tend to implicate particular food supplies. As regards sewerage it is remarkable that the increase of enteric fever has coincided with the provision of a system of sewers in the district in replacement of the cesspools which were previously in use and which had proved very objectionable. The house drains provided in connexion with the new sewers are in most cases satisfactory according to modern standards, but the sewers themselves leave a good deal to be desired. They must be leaky in places, as they admit a quantity of soil water, and although designed as part of a "separate system" they receive large volumes of rain water and occasionally have overflowed in times of storm. Purification of sewage at the outfall is also liable to be unsatisfactory, partly because of the excessive volume of the sewage and partly because of the manner in which septic tanks and filtration are employed at the new outfall works. It is possible that the extensive disturbance of already polluted soil in the neighbourhood of dwellings, wh [illegible] sewers were laid, has had [illegible] increase of enteric fever. [illegible] instances in which the disease has appeared in the same dwelling at intervals of several months or years also seems to support the suggestion of specific pollution of soil. Dr. Bulstrode indicates, however, certain other questions which should not be lost sight of. One is that in many cases direct infection was traced from person to person. The district has no isolation hospital and no disinfecting apparatus; moreover, dwellings in which cases of enteric fever occurred were not in all cases disinfected after the recovery of the patient. T[illegible] A[illegible] n[illegible] enforcement of local by-laws, and to other administrative matters.

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[1] London, Eyre and Spottiswoode, Edinburgh, Oliver and Boyd; Dublin, E. Ponsonby. Price 6*d*.

On the Sanitary Circumstances and Administration of the [illegible] *the Penzance Regis*[illegible][2]—This report gives [illegible] vey of the sanitary conditions of two boroughs (Penzance and St. Ives), five urban districts (Madron, Paul, St. Just, Ludgvan, and Hayle), and West Penwith rural district. The population of the whole is nearly 50,000; the area under consideration, the most westerly portion of England, comprises agricultural land, market gardens, mines (now mostly disused workings), wild moorland, fishing villages, and small towns and scattered hamlets. The districts are dealt with separately and the sanitary condition and administration of each are reviewed. Among the principal recommendations which Dr. Low makes as a result of his survey are the following. In Penzance there is need for constant supervision of the stream which brings drinking water from Langen to the town in order to prevent pollution from adjoining farmhouses and land. In view of the recent prevalence and the heavy case mortality of diphtheria steps should be taken to secure bacteriological aids to diagnosis in this and other infectious diseases. At St. Ives measures are required to prevent the pollution of the Stennack stream, while similar pollution of the Tolcarne stream should be dealt with in the Madron district. The urban district of Paul, which includes the well-known villages of Newlyn and Mousehole, is reported to contain a number of objectionable and insanitary conditions. It requires an improved water-supply, proper scavenging, flushing to the [illegible] needs some approach to [illegible] which is now wanting. The [illegible] also should be provided with [illegible] water in replacement of the [illegible] re liable to pollution. The [illegible] in general a better sanitary record than the other districts concerned. It is satisfactory to find that many of the improvements of this district followed an inspection made by Dr. F. St. George Mivart in 1897 and it may be hoped that Dr. Low's report will have a similar [illegible] ea with which he deals [illegible] thout hospital accomm [illegible] and for each of these districts Dr. Low gives figures showing the extent to which scarlet fever, diphtheria, and enteric fever have been prevalent in recent years.

On the Sanitary State and Administration of the Newtown and Llanidloes Rural District, by Dr. R. A. FARRAR.—This is another administrative report relating to a large area situated in the valleys of the Severn and Tarannon and including the head waters of the Wye. The population of Newtown and Llanidloes district is about 12,000 As a result of detailed inspection Dr. Farrar recommends the appointment of an efficient inspector of nuisances and also of a district surveyor. At present there are two medical officers of health, each in general practice and responsible for a wide area. The salary which the district can afford would be [illegible] officer who was not [illegible] ports, however, that [illegible] whole rural district there would be an advantage in a single medical practitioner being appointed as its medical officer of health.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9181 births and 5955 deaths were registered during the week ending Jan. 7th. The annual rate of mortality in these towns, which had been 19·2, 19·4, and 22·4 per 1000 in the three preceding weeks, declined again last week to 19·9 per 1000. In London the death-rate was 18·5 per 1000, while it averaged 20 5 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 10·0 in Leyton, 10·5 in Hornsey, 10·8 in Smethwick, 12·6 in Walthamstow, 12·7 in King's Norton, 12·8 in Leicester, 13·0 in Northampton, and 13·4 in Bournemouth; the highest rates were 25·0 in Hanley, 25·8 in Huddersfield, 26·9 in Great Yarmouth, 27·8 in Coventry, 28·7 in Sunderland, 28·8 in Nottingham, 30·0 in West Bromwich, 31 4 in Grimsby, 31·8 in Stockton-on-Tees, and 37·4 in Merthyr Tydfil. The 5955 deaths in these towns last week included 399 which were referred to the principal infectious diseases, against 421, 399, and 475 in the three preceding weeks; of these 399 deaths, 123 resulted from measles, 97 from whooping-cough, 70 from diphtheria, 40 from scarlet fever, 39 from diarrhœa, 27 from "fever" (principally enteric), and three from small-pox. No death from any of these diseases was registered last week in Croydon, Brighton, Reading, Great Yarmouth, West Bromwich, Smethwick, Aston Manor, Coventry, or Rotherham; the highest death-rates from the principal infectious diseases were recorded in St Helens, Grimsby, Nottingham, Stockport, Preston, Stockton-on-Tees, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in East Ham, Plymouth, Burton-on-Trent, Grimsby, Nottingham, Middlesbrough. Stockton-on-Tees, and Merthyr Tydfil; from scarlet fever in Southampton and Northampton; from diphtheria in East Ham, Rochdale, Bradford, and Stockton-on-Tees; from whooping-cough in Norwich, Grimsby, Nottingham, Preston, South Shields, and Tynemouth; and from diarrhœa in Handsworth (Staffs.), Derby, and Merthyr Tydfil The mortality from "fever" showed no marked excess in any of the large towns. Of the three fatal cases of small pox registered in these towns last week one belonged to Oldham, one to Burnley, and one to Bradford The Metropolitan Asylums hospitals contained 18 small-pox patients at the end of last week, against 6, 14, and 17 at the end of the three preceding weeks; one new case was admitted during the week, against two, nine, and five in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2403, 2393, and 2386 on the three preceding Saturdays, had further declined to 2308 on Saturday, the 7th inst.; 187 new cases were admitted during the week, against 242, 242, and 201 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 387, 416, and 521 in the three preceding weeks, declined again last week to 443, but were eight above the number in the corresponding period of last year. The causes of 97, or 1·6 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Portsmouth, Bristol, Leicester, Hull, Newcastle-on-Tyne, and in 35 other smaller towns; the highest proportions of uncertified deaths were registered in Reading, Birmingham, Grimsby, Liverpool, St. Helens, Manchester, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 22·6, 21·2, and 21·6 per 1000 in the three preceding weeks, declined again to 20·6 per 1000 during the week ending Jan. 7th, but was 0·7 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 15·4 in Leith and 16·3 in Greenock, to 21·3 in Perth and 22·8 in Glasgow. The 690 deaths in these towns last week included 37 which were referred to whooping-cough, 14 to measles, 13 to diarrhœa, eight to "fever"

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[2] Ibid, price 1s.

(including one case of typhus), four to diphtheria, and three to scarlet fever. In all, 79 deaths resulted from these principal infectious diseases last week, against 80, 90, and 78 in the three preceding weeks. These 79 deaths were equal to an annual rate of 2·4 per 1000, which was 1·1 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 32, 31, and 40 in the three preceding weeks, declined again last week to 37, of which 26 occurred in Glasgow, two in Edinburgh, two in Aberdeen, two in Paisley, and two in Greenock. The deaths from measles, which had been 17, 19, and 20 in the three preceding weeks, decreased to 14 last week, and included seven in Aberdeen, three in Glasgow, two in Edinburgh, and two in Leith. The fatal cases of diarrhœa, which had been 16, 25, and 12 in the three preceding weeks, rose again last week to 13, of which six were registered in Glasgow, four in Edinburgh, and two in Dundee. The deaths from "fever," which had been six, eight, and two in the three preceding weeks, increased again to eight last week, and included four in Glasgow and one of typhus in Aberdeen. The fatal cases of diphtheria, which had been seven, five, and two in the three preceding weeks, rose again last week to four, of which three occurred in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 206, 174, and 184 in the three preceding weeks, declined last week to 182, and were 31 below the number in the corresponding period of last year. The causes of 35, or more than 5 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·3, 24·5, and 25·0 per 1000 in the three preceding weeks, further rose 25·6 per 1000 during the week ending Jan. 7th. During the past four weeks the death-rate has averaged 25·1 per 1000, the rates during the same period being 19·0 in London and 18·2 in Edinburgh. The 186 deaths of persons belonging to Dublin registered during the week under notice were four in excess of the number in the preceding week, and included five which were referred to the principal infectious diseases, against 10, 12, and 26 in the three preceding weeks; of these, three resulted from measles, one from "fever," and one from diarrhœa, but not any from small-pox, scarlet fever, diphtheria, or whooping-cough. These five deaths were equal to an annual rate of 0·7 per 1000, the death-rates last week from the principal infectious diseases being 1·0 in London and 1·9 in Edinburgh. The fatal cases of measles, which had been six, ten, and 16 in the three preceding weeks, declined again last week to three. The 186 deaths in Dublin last week included 34 of children under one year of age and 45 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons showed a slight decline from the respective numbers recorded in the preceding week. Nine inquest cases and seven deaths from violence were registered; and 65, or more than a third, of the deaths occurred in public institutions. The causes of ten, or more than 5 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING DECEMBER, 1904.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious disease it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 6·1 per 1000 of the population, estimated at 4,648,950 persons in the middle of 1904. In the three preceding months the rates had been 8·0, 9·0, and 7·2 per 1000 respectively. The rates were considerably below the average in Paddington, Kensington, the City of Westminster, St. Marylebone, Finsbury, and the City of London, while they showed the largest excess in Hammersmith, Hackney, Bethnal Green, Poplar, Wandsworth, and Woolwich. The notified cases of small-pox, which had been one and six in the two preceding months, further rose last month to 16, of which seven belonged to Deptford, six to Woolwich, and one each to St. Pancras, Bethnal Green, and Wandsworth. The Metropolitan Asylums hospitals contained 17 small-pox patients at the end of last month, against three, one, and three at the end of the three preceding months. Scarlet fever was slightly less prevalent during December as compared with the preceding month; among the various metropolitan boroughs this disease showed the highest proportional prevalence in Hammersmith, Bethnal Green, Battersea, Wandsworth, Camberwell, and Deptford. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals at the end of the month was 2349, against 2127, 2662, and 2566 at the end of the three preceding months; the weekly admissions averaged 233, against 311, 359, and 249 in the three preceding months. The prevalence of diphtheria showed a considerable decline last month; this disease was proportionally most prevalent in Hackney, the City of London, Bethnal Green, Stepney, Poplar, Southwark, and Woolwich. The Metropolitan Asylums hospitals contained 800 diphtheria patients at the end of last month, against 871, 940, and 893 at the end of the three preceding months; the weekly admissions averaged 99, against 131, 139, and 123 in the three preceding months. The prevalence of enteric fever showed a slight diminution during December last; among the various metropolitan boroughs the greatest proportional prevalence of this disease occurred in St. Pancras, Hackney, Holborn, Finsbury, Bethnal Green, and Greenwich. The number of enteric fever patients in the Metropolitan Asylums hospitals, which had been 237, 225, and 178 at the end of the three preceding months, had further fallen to 159 at the end of last month; the weekly admissions averaged 22, against 45, 25, and 25 in the three preceding months. Erysipelas was proportionally most prevalent in Hackney, Holborn, Bethnal Green, Southwark, Camberwell, and Deptford. The 22 cases of puerperal fever notified during the month included three in Hammersmith, three in Bethnal Green, three in Lambeth, two in St. Pancras, two in Poplar, and two in Wandsworth.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in public institutions having been distributed among the several boroughs in which the deceased persons had previously resided. During the four weeks ending Dec. 31st the deaths of 6555 persons belonging to London were registered, equal to an annual rate of 18·4 per 1000; in the three preceding months the rates had been 14·0, 14·3, and 14·6 per 1000. The lowest death-rates in London last month were 12·8 in Hampstead, 13·4 in Stoke Newington, 14·0 in Woolwich, 14·9 in Deptford, 15·0 in Greenwich, and 15·1 in Lewisham; while the highest rates were 21·7 in Stepney, 21·9 in Holborn and in Bethnal Green, 23·9 in Bermondsey, 25·0 in Finsbury, and 25·5 in Shoreditch. The 6555 deaths from all causes included 389 which were referred to the principal infectious diseases; of these, 124 resulted from measles, 33 from scarlet fever, 65 from diphtheria, 80 from whooping-cough, 28 from enteric fever, and 59 from diarrhœa. No death from any of these diseases was recorded last month in Stoke Newington or the City of London; the lowest death-rates from the principal infectious diseases in the aggregate occurred in Kensington, the City of Westminster, Holborn, Camberwell, and Deptford; and the highest rates in Hammersmith, Fulham, Finsbury, Shoreditch, Bethnal Green, Poplar, and Bermondsey. The 124 fatal cases of measles showed a decline of 107 from the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Islington, Hackney, Finsbury, Shoreditch, Bethnal Green, and Bermondsey. The 33 deaths from scarlet fever were 19 below the corrected average number; among the various metropolitan boroughs this disease showed the highest proportional mortality in St. Marylebone, Shoreditch, Bermondsey, Wandsworth, and Woolwich. The fatal cases of diphtheria numbered 65 last month, against an average of 173 in the corresponding period of the ten preceding years; the highest death-rates from this disease occurred in Hammersmith, Hackney, Bethnal Green, Poplar, Lambeth, Lewisham, and Woolwich. The 80 deaths from whooping-cough showed a decline of 39 from the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Hammersmith, Fulham, St. Marylebone, Shoreditch, Bethnal Green, Southwark, and Bermondsey. The 28 fatal cases of "fever" showed a decline of 39 from the average number in the corresponding periods of the ten preceding years; the greatest proportional mortality from this

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING DECEMBER, 1904.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1904.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes	Death rate per 1000 living	Deaths of infants under one year to 1000 births.
		Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas	Cholera.	Total.	Annual rate per 1000 persons living.	Small pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping cough	Typhus fever.	Enteric fever.	Other continued fevers	Diarrhœa.	Total.	Annual rate per 1000 persons living			
LONDON...	4,648,950	16	1032	520	—	162	4	22	368	—	2174	6·1	—	124	33	65	80	—	28	—	59	389	1·1	6555	18·4	136
West Districts.																										
Paddington	146,975	—	29	13	—	4	—	—	3	—	49	4·3	—	—	1	1	3	—	1	—	1	7	0·6	183	16·2	103
Kensington	179,236	—	16	9	—	9	—	1	13	—	48	3·5	—	—	1	—	1	—	—	—	3	5	0·4	222	16·1	164
Hammersmith	117,412	—	46	16	—	2	—	3	4	—	71	7·9	—	1	1	4	9	—	1	—	3	19	2·1	175	19·4	195
Fulham	152,482	—	31	19	—	3	—	—	10	—	63	6·4	—	1	1	1	9	—	1	—	6	19	1·6	224	19·2	164
Chelsea	74,329	—	18	6	—	—	—	1	3	—	28	4·9	—	—	1	1	2	—	—	—	—	4	0·7	109	19·1	155
City of Westminster	177,321	—	23	2	—	3	—	—	9	—	37	2·7	—	—	—	2	2	—	1	—	2	7	0·5	222	16·3	116
North Districts.																										
St. Marylebone	130,337	—	15	5	—	4	—	—	8	—	32	3·2	—	—	2	1	3	—	—	—	2	8	0·8	200	20·0	84
Hampstead	86,663	—	15	2	—	4	—	1	7	—	29	4·4	—	—	—	—	2	—	1	—	1	4	0·6	85	12·8	100
St Pancras	235,936	1	39	23	—	15	—	2	19	—	99	5·5	—	11	1	2	4	—	1	—	—	19	1·0	371	20·5	130
Islington	341,044	—	86	20	—	5	—	1	20	—	132	5·0	—	20	4	2	5	—	2	—	1	34	1·3	460	17·6	125
Stoke Newington	52,445	—	11	4	—	—	—	—	5	—	20	5·0	—	—	—	—	—	—	—	—	—	—	—	54	13·4	99
Hackney	226,266	—	62	37	—	15	—	—	28	—	142	8·2	—	10	1	5	—	—	3	—	1	20	1·2	326	18·8	153
Central Districts.																										
Holborn	57,161	—	11	2	—	4	—	—	8	—	25	5·7	—	—	—	—	1	—	1	—	—	2	0·5	96	21·9	103
Finsbury	93,958	—	13	4	—	7	—	—	8	—	32	4·2	—	11	—	1	—	—	1	—	2	15	2·0	190	25·0	133
City of London	23,482	—	1	4	—	1	—	—	1	—	7	3·9	—	—	—	—	—	—	—	—	—	—	—	36	20·0	100
East Districts.																										
Shoreditch	117,033	—	29	15	—	4	—	1	10	—	59	6·6	—	11	2	—	4	—	2	—	2	21	2·3	229	25·5	194
Bethnal Green	130,207	1	48	28	—	8	3	3	22	—	113	11·3	—	7	1	3	3	—	1	—	4	19	1·9	219	21·9	130
Stepney	303,791	—	85	45	—	14	—	—	23	—	167	7·2	—	9	1	4	3	—	2	—	9	28	1·2	505	21·7	132
Poplar	169,905	—	43	56	—	7	—	2	16	—	124	9·5	—	6	1	12	1	—	—	—	7	27	2·1	256	19·6	143
South Districts																										
Southwark	207,937	—	30	36	—	7	—	1	23	—	97	6·1	—	3	1	2	7	—	1	—	—	14	0·9	338	21·2	144
Bermondsey	129,397	—	30	18	—	4	—	—	8	—	60	6·0	—	8	4	2	4	—	—	—	1	19	1·9	237	23·9	159
Lambeth	310,359	—	62	34	—	6	1	3	19	—	125	5·3	—	1	1	7	7	—	2	—	5	23	1·0	422	17·7	138
Battersea	175,465	—	50	20	—	5	—	—	11	—	86	6·4	—	4	1	—	1	—	2	—	—	8	0·6	215	16·0	137
Wandsworth	257,448	1	103	34	—	8	—	2	24	—	172	8·7	—	11	3	4	3	—	2	—	1	24	1·2	305	15·4	134
Camberwell	268,384	—	76	11	—	4	—	1	31	—	123	6·0	—	—	1	1	5	—	1	—	3	11	0·5	333	16·2	145
Deptford	113,509	7	35	9	—	3	—	—	13	—	67	7·7	—	—	—	1	—	—	—	—	2	3	0·3	130	14·9	99
Greenwich	101,651	—	18	5	—	8	—	—	9	—	40	6·1	—	4	1	—	1	—	1	—	1	8	1·0	117	16·0	126
Lewisham	140,401	—	28	12	—	6	—	—	5	—	51	4·7	—	2	1	3	—	—	—	—	2	8	0·7	163	15·1	119
Woolwich	123,416	6	29	31	—	1	—	—	8	—	75	7·9	—	4	2	6	—	—	1	—	—	13	1·4	133	14·0	103
Port of London	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup

disease occurred in Hampstead, Hackney, Holborn, Shoreditch, and Battersea. The 59 deaths from diarrhœa were slightly in excess of the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Hammersmith, Fulham, Bethnal Green, Stepney, and Poplar. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was more than 43 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 136 per 1000. The lowest rates of infant mortality were recorded in St. Marylebone, Hampstead, Stoke Newington, the City of London, and Deptford; and the highest rates in Kensington, Hammersmith, Fulham, Chelsea, Hackney, Shoreditch, and Bermondsey.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet-Surgeon James Charles Francis Whicher has been placed on the Retired List at his own request (dated Jan. 1st, 1905).

The following appointments are notified:—Fleet Surgeon V. G. Thorpe to the *Victorious*. Staff Surgeon T. C. Meikle to the *Majestic*. Surgeons: C. J. E. Cock to the *Vernon* for the *Furious*; J. Whelan to the *Vivid*; T. H. Vickers to the *Wildfire* for the *Endymion*; J. Lightfoot to the *Excellent*; N. J. Roche to the *Vivid* for Plymouth Hospital; W. H. Thomson to the *Russell*; G. M. D. Richards to the *Fire Queen*; A. D. C. Cummins to the *Drake*, on recommissioning, and H. Woods to the *Vivid*, to be lent to the *Circe*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel R. H. Forman joins at Woolwich. Captain J. M. Buist is under orders for service in South Africa. Captain A. C. Lupton now at Hounslow, is to be attached to the North-Eastern District (Headquarters, York). Surgeon-Lieutenant-Colonel J. Magill, from the Coldstream Guards, to be Lieutenant-Colonel, vice J. I. Routh, promoted, with seniority next above P. H. Johnston, C.M.G. (dated Dec. 3rd, 1904). Captain W. J. P. Adye-Curran is placed on temporary half-pay on account of ill-health (dated Dec. 23rd, 1904). Captain A. J. M. Cuddon-Fletcher resigns his commission (dated Jan. 11th, 1905) Lieutenant L. Cotterill to be Captain (provisionally) (dated Dec. 5th, 1904).

INDIAN MEDICAL SERVICE.

The King has approved of the following promotions among officers of the Indian Medical Service:—*Bengal Establishment:* Majors to be Lieutenant-Colonels (dated Oct. 1st, 1904): John Tasman Waddell Leslie, David Prain, Arthur Thomas Bown, Upendra Nath Mukerji, and William Locking Price.

The King has also approved of the retirement from the service of the undermentioned officers:—Surgeon-General David Sinclair, C.S.I. (dated Nov. 15th, 1904); Colonel Bartholomew O'Brien (dated Dec. 3rd, 1904); and Lieutenant-Colonel William Locking Price (dated Dec. 4th, 1904).

VOLUNTEER CORPS.

Royal Garrison Artillery (*Volunteers*): 1st Fifeshire: Supernumerary Surgeon-Major (Honorary Captain in the Army) S. Linton resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated Jan. 7th, 1905). 2nd East Riding of Yorkshire: Surgeon-Lieutenant A. W. Scott to be Surgeon-Captain (dated Jan. 7th, 1905). *Rifle*: 4th Volunteer Battalion the Royal Fusiliers (City of London Regiment): Supernumerary Brigade-Surgeon-Lieutenant-Colonel W. D. Waterhouse (Senior Medical Officer, 2nd London Volunteer Infantry Brigade) is granted the honorary rank of Surgeon-Colonel (dated Jan. 7th, 1905).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Manchester Companies: The undermentioned Lieutenants to be Captains: H. G. Parker (dated Jan. 7th, 1905), W. R. N. Smithard (dated Jan. 7th, 1905), and C. W. S. Saberton (dated Jan. 7th, 1905).

NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on Jan. 10th, Sir J. Dick, K.C.B., being in the chair, the sum of £90 was distributed among the several applicants.

JANUARY ARMY ORDERS.

An abstract of Royal Warrant, Instructions, Regulations, &c., promulgated to the army on Jan. 1st has been published in the different service journals, from which it would appear that these cover a wide extent and more or less concern every branch of the service down to the announcement of the fact that the short-lived *Army Journal of the British Empire* has ceased to exist.

DEATHS IN THE SERVICES.

Brigade-Surgeon James Dow Sainter recently at Chester Villa, Craigellachie, aged 70 years. He joined the army as an assistant surgeon in 1859 and served with the Cavalry Division throughout the campaign of 1860 in China. After service in India he retired in 1880.

THE WAR IN THE FAR EAST.

The year 1905 has opened with gloomy prospects, so far as can be seen, for the Russian army in the Far East. When writing last week we said that while General Stoessel's heroic defence of Port Arthur had compelled the respect and the admiration of all, friends and foes alike, the news of the capitulation of the beleaguered fortress had given rise to an intense feeling of relief, in that an end had come at last to the sufferings and further futile sacrifice of life on the part of its devoted garrison. Its complete surrender has since taken place and 878 officers, with some 23,000 or 24,000 rank and file, have been handed over to the Japanese authorities. Of the 878 officers about half have given their parole. Apparently nothing could have exceeded the mutual courtesy and the good feeling exhibited by the rival generals—General Nogi and General Stoessel—at their meeting or the consideration, kindliness, and respect shown by the Japanese to the Russian troops as they marched through the lines of the investing army. Among those who marched out were 100 medical officers. According to Japanese estimates the total Russian casualties during the siege of Port Arthur amounted to 25,000. It does not seem to be quite clear, however, whether the total number surrendering at the end of the siege is inclusive or exclusive of the sick and wounded. We do not yet know what were the total casualties incurred by the besieging Japanese in their various assaults but these were undoubtedly largely in excess of those of the besieged garrison. It is reported that the Japanese since September last had prepared medical supplies for 20,000 men and these supplies are now proceeding by railway from Dalny to Port Arthur. Very many hospital attendants together with stores have been sent by the Japanese into the place. The Chinese have already set to work to rebuild their houses, while large parties are working everywhere burying the dead. It is much to be regretted that, owing to some misunderstanding which has since been satisfactorily explained, H.M.S. *Andromeda*, which had very promptly left Wei-hai-wei on receipt of the news of the fall of Port Arthur with stores, provisions, surgeons, and surgical staff to succour the Russian sick and wounded, failed to effect a landing. Scurvy was widely prevalent among the troops and in Port Arthur during the siege diseases of various kinds had made great ravages among them. Dysentery, typhus (typhoid fever?), and scurvy were the main causes of death. The ghastly spectacle presented inside the town and the fortress after their surrender fully bore out General Stoessel's despatch of Dec. 28th, 1904. It suffices to say that nothing could well have been worse than the state of things to which the besieged had been reduced. Of the original garrison of 35,000 nearly one-third had died and less than an eighth were capable of carrying arms. With regard to the belligerent armies confronting one another on the Shaho the dead-lock still continues, at any rate so far as any important or decisive movements are concerned. The *Wochenblatt* has collected information regarding the Manchurian armies as to the losses in killed, wounded, and missing in certain actions and operations. The Russian statistics are taken from the *Siberian Medical Notes*. From these it would appear that the Russian total of 70,354 includes 341 officers and 8730 men killed, 1506 officers and 49,626 men wounded, and 66 officers and 10,085 (mostly killed) missing. Apart from the achievement of some striking military success on the part of the Russians, which would, of course, upset all calculations, it seems to us that everything hinges on the question of supply. Unless an army in the field, and especially in a winter campaign, can be well fed and clad it cannot be kept in health and what may be termed fighting fettle. The Russians have, we believe, been very successful hitherto in their commissariat arrangements. Can these be maintained, with a sufficient supply of ammunition also, on the railway service which they have, or hope soon to have, at command?

The special committee of the Grand Duchess Elizabeth Theorodovni has received from General Kuropatkin a telegram in which he observes that from the beginning of the war to Dec. 13th, 1904, 1090 officers and 19,815 privates have been sent back to Russia; of these 520 officers and 5085 privates were wounded. Of the total number of privates sent home, 2897 had their discharge from the service because of unfitness through their wounds, and 5999 were released from service for one year.

Correspondence.

"Audi alteram partem."

THE ASYLUM MEDICAL SERVICE.

To the Editors of THE LANCET.

SIRS,—Your correspondent "M.B.," in the issue of THE LANCET of Dec. 31st, 1904, p. 1888, draws attention to a great blot in asylum organisation—viz., the poor pay and the enforced celibacy of the second medical officer who often is, and always should be, the deputy medical superintendent. The medical staffs of asylums in England are still far from adequate to the work the [illegible] favourably with those p[illegible] asylums. This relative [illegible] by the vast amount of statutory clerical work in the English asylums which occupies much time and diverts attention from more important matters. If the second and third medical officers in our large asylums were paid and accommodated in a manner that would admit of their being married much good would result in the treatment of the insane. Little progress in this direction can be hoped for until the treatment of the insane is placed under the direction of a "Minister of National Health."

The Lord Chancellor under existing conditions is physician-in-chief to 100,000 insane sick persons, with the result that the Lunacy Commission is not organised as a medical but as a legal body, in which the medical element is so outnumbered and so overburdened that it is practically powerless. [illegible] lums is to place [illegible] bad second. U[illegible] and asylums placed under a medical authority there is no possibility of reform in this or many other much more grievous methods of lunac[illegible]

I [illegible]

Jan. 9th, 1905.

To the Editors of THE LANCET.

SIRS,—I am glad to find that the grievances of assistant medical officers in asylums for the insane have at last been given publicity in the columns of THE LANCET, and while "M.B.'s" letter in your issue of Dec. 31st seems to refer chiefly to county asylums, from my own experience the same restrictions seem to apply to those in private asylums. In the latter the medical superintendent has an even greater power than he has in the former. "M.B.'s" letter, had it been written by myself, could hardly have expressed my experience more exactly. Leave of absence ought not to be subject to the moods of the medical superintendent. He can, and in most instances does, go out and about as he thinks fit, but if an assistant medical officer wishes to go off duty he has to ask the superintendent before he can do so. Again, leave ought not to be confined to so many hours a day or week, but one ought to be able to reckon on having a night off once a month, as is the case with nurses and attendants in some asylums, and a week-end once a quarter would not be asking too much when one takes into consideration the nature of [illegible] Again, a superior officer o[illegible] with the prescriptions of [illegible] frequently seen done and that without any sort of consultation between the two. In fact, I have known a superior officer tell his inferior [illegible] in spite [illegible] disease [illegible] that giv[illegible] exists i[illegible] inquire into the conditions under which assistant medical officers work, as they have done in the past in the case of nurses and attendants.—I am, Sirs, yours faithfully,

Jan. 3rd, 1905. MEDICO.

THE TREATMENT OF PARALYSIS IN CHILDREN.

To the Editors of THE LANCET.

SIRS,—I have read with much interest Dr. Alfred A. Mumford's article in THE LANCET of Jan. 7th, p. 16, on the treatment of paralysis in children, which I am sure will be very useful by calling attention to the advantages of systematically encouraging voluntary movement in this class of cases. I am convinced that this is by far the most efficacious method of treatment and I thoroughly agree with Dr. Mumford's statement that "every fresh effort made by the child, and especially every successful effort, in achieving a new organised movement becomes in its turn a very potent therapeutic agent." It is astonishing to observe at how early an age a child can be taught to make systematic movements and I have for many years been in the habit of treating quite young children by having them taught to practise voluntary [illegible] In a book on orthopæd[illegible] "The consequence of t[illegible] ance of the muscular c[illegible] the paralysed muscles having no opposition to their action become gradually shortened and their function being in abeyance they also lose activity. Thus the paralysis of one set of muscles leads indirectly to the disuse and loss of power in others and a limb may be rendered almost useless by the paralysis of but a few of its more important muscles."

I would point out, moreover, that in partial paralysis of a limb many movements can be produced by practice in the vicarious action of the muscles, the functional activity of which is unimpaired. The most efficient means of developing the power of an enfeebled muscle is its moderate use alternating with its complete rest. A little ingenuity exercised in the application of this principle to cases of paralysis in children will generally be well rewarded by the resulting improvement. The methods recommended by Dr. Mumford are excellent and I can confirm his experience of the usefulness of the progression on all fours. Of course, deformities which mechanically interfere with the use of limbs must be remedied by tenotomy or other means, but a long experience leads me to protest against applying to young children cumbersome instruments of support which often prevent rather than assist muscular development. The children should be daily encouraged to the voluntary use of the weak muscles, so that the first return of voluntary power, however slight, may be exercised and developed.

I am, Sirs, yours faithfully,
WARRINGTON HAWARD.

Green street, Grosvenor square, W., Jan. 10th, 1905.

THE RECENT DISCUSSION ON CHLOROFORM ANÆSTHESIA.

To the Editors of THE LANCET.

SIRS,—May I be allowed to add a few words in confirmation of Dr. F. W. Hewitt's views on the inadequacy of a fixed percentage of chloroform vapour for anæsthetising all types of the human subject? In addition to muscular and plethoric persons, alcoholics, and heavy smokers there are other patients who exhibit a very considerable resistance to the effects of small quantities of chloroform: (*a*) those who have suffered from tropical fevers—and during the induction of anæsthesia especially; (*b*) the emphysematous; and (*c*) the febrile. With regard to the first class I do not know that it has been pointed out before that previous attacks of malarial and other tropical fevers render their subjects extremely difficult to anæsthetise, but in my experience such is the case, and I have records of a number in whom even a concentrated vapour of chloroform was barely potent enough to produce muscular flaccidity during abdominal operations and in whom the use of a Junker's apparatus alone was a mere farce. Owing to the immobility of the chest walls in emphysematous patients the interchange of gases in the air sacs is effected largely by slow diffusion from the upper air passages and I have found that during induction of chloroform anæsthesia a resistance to the effect of the vapour much above the normal is due to this cause. Highly febrile patients may also exhibit undue resistance to small doses during induction on account of the decreased solubility of gases in liquid blood as the temperature of the latter increases.

I have long held the view from practical experience that chloroform does not prevent the transmission of nerve stimuli and the occurrence of reflex respiratory spasms so completely as ether, and in operations involving dilatation of the cervix uteri and sphincter ani or much dragging on pelvic and abdominal organs I frequently resort to ether when such spasms arise under chloroform in order to abolish them.

The form of obstructive stertor which Dr. Hewitt designates reflex spasmodic tongue retraction frequently occurs under chloroform in obese and plethoric subjects and is vibratory or rhythmic in character. It commences when a strong surgical stimulus is applied and ceases when it is discontinued. Failure to recognise the nature and causation of obstructive stertor due to reflex laryngeal spasm and to reflex tongue retraction may be readily understood when admitted by surgeons and physiologists who are not engaged in constantly administering anæsthetics to the human subject but shows a lack of accurate observation in any administrator of experience. So greatly do I desire to emphasise the importance of attending to the state of the corneal reflex and other clinical symptoms and of relieving stertor and even slight asphyxial factors directly they arise in chloroform anæsthesia, and as compared to these duties so trifling is the ease of learning dosage with very simple apparatus, that I regard the use of so-called percentage inhalers for chloroform with apprehension for the security of the public and the misguided practitioner who uses them.

I am, Sirs, yours faithfully,
H. BELLAMY GARDNER.
Mansfield-street, Portland-place, W., Jan. 3rd, 1905.

THE TREATMENT OF PULMONARY TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—I was very interested to read in THE LANCET of Dec. 31st, 1904, p. 1825, the very able address on the treatment of phthisis by Dr. Hector W. G. Mackenzie. There are, however, some points in it with which, as a sanatorium physician of some experience, I feel I must disagree. Dr. Mackenzie says that the good results obtained in English sanatoriums go far to show that our English climate is not unfavourable to lung patients and that even winter residence in England is not incompatible with an open-air life. Now I go so far as to say that these results prove conclusively that our home climate is as favourable to the proper carrying out of the treatment as that of any place abroad.

In Falkenstein Sanatorium, Germany, where I was first a patient and afterwards an assistant doctor, the winters are foggy, dull, and very rainy, with a little snow, yet the experience of many years has shown that patients do best there in the winter months. Dr. Mackenzie, I see, still clings to the myth that very high and dry altitudes are best for the consumptives. I am convinced, however, that a great many physicians, experienced in sanatorium work and otherwise, will agree with me when I say that results do not bear this out. On the contrary, these conditions are in a large proportion of cases distinctly harmful. At these high altitudes the tendency to hæmoptysis, heart trouble, &c., is enormously increased even in the early stages of the disease. Again, patients have not only the initial long journey to go through but they are frequently unable to complete the cure there. Generally they have to leave in the summer months—a fact which entails the worry and risk of travelling and changing to an absolutely different climate. In my opinion, too, a patient cured in his own country has a far better chance of keeping in good health than one cured elsewhere, because his body has been trained to withstand the variabilities of the climate in which he has to pass his life Experience has also shown that patients cured in places like Davos have a much greater tendency to relapse when they go down to lower levels. I am glad that Dr. Mackenzie has given the weight of his great authority and experience against the practice of stuffing—a method of treatment which is, to say the least of it, most unscientific.

I am, Sirs, yours faithfully,
A. C. FALKINER, M.B. Dub.
Portbury, Somerset, Jan. 2nd, 1905.

THE ORGANISMS OF VARIOLA, VACCINIA, AND VARICELLA.

To the Editors of THE LANCET.

SIRS,—A case recorded by Dr. Richard Rolfe under the title of "A Case of Variola following an Unusual Course"[1] is of extreme interest and excites philosophical speculation as to the inner workings of the disease processes undoubtedly present. The researches of Guarnieri, Jackson Clarke, Calkins, and more recently of Dr. W. E. De Korté,[2] strongly point to protozoal organisms being the causal agents of variola, vaccinia, and varicella. Apparently one common organism running on different evolutionary lines is to be found in the pocks of these three affections, and now that Dr. De Korté[3] claims to have cultivated the organism in pure culture further scientific light on the subject may be expected at an early date.

I have long felt the conviction—based on clinical and epidemiological observations—that vaccinia, variola, and varicella are the products of the life-processes of one common type of organism existing under different evolutionary conditions. It appears as if we were on the verge of scientific confirmation of this speculation but many observations must yet be made before sufficient facts will be available for critical judgment and acceptance. I venture to suggest that in Dr. Rolfe's case the illness from Nov. 11th to 14th was undoubtedly an abortive attack of variola. In the light of Dr. A. E. Wright's researches this attack probably induced a "negative phase of immunity." The vaccine lymph inoculated on Nov. 16th contained the same pathogenic type of organism as that of variola but under different evolutionary conditions. This organism was stimulated by the abortive attack of small-pox to produce similar lesions to those found in variola; or, on the other hand, the variola organisms lying latent in the patient were stimulated into unusual activity by the vaccine organisms. The skin lesions appeared on the third day after vaccination. Further, the interaction of the two strains of the protozoal (?) organism evidently modified the ordinary phenomena of vaccination. My own practical experience teaches me that if an unvaccinated person attacked with small-pox *be vaccinated on the first day* of illness the skin lesions of small-pox may appear as usual on the third day, while those of vaccinia may run an almost normal course. I am inclined to look upon the rash in Dr. Rolfe's case as being more of the nature of a "vaccination rash" induced largely by the prior abortive attack of small-pox than as a genuine case of modified variola. But I express this opinion with all due diffidence. A clinical point of importance which would put this view out of court would be the presence of dark brown or black discoid scabs appearing on some of the lesions, supplanting the stage of suppuration.

In April, 1902, I saw a youth, aged 17 years, who had been revaccinated a few weeks previously but had in the meantime been in contact with a case of small-pox. He exhibited a hard shotty eruption of the face (not the forehead) and wrists and one papule on the arch of one foot but no constitutional symptoms were noted. The papules faded without passing through a vesicular stage. The case was isolated as possibly variola though I inclined to the diagnosis of a varioloid vaccination rash.

The record of a case of chicken-pox which shows some of the difficulties which beset medical men in making specific diagnoses may not be deemed unnecessary. On June 3rd, 1902, I was asked to see in consultation an unvaccinated boy, aged nine years. I found copious semi-puriform vesicles on the trunk and limbs, including two on the thenar eminence of the right thumb and five on the sole of the left foot. Several pocks were also present on the dorsal aspect of each foot. Here and there on the trunk and limbs "constellations" of vesicles were noted On the face were observed papules and a few vesicles A history was obtained of two previous cases of chicken pox in the house The patient had complained of backache and nausea on May 31st but had not been very sick The temperature when I saw him was normal There were very few pocks on the scalp and the lesions were more abundant on the upper parts of the limbs than on the lower The balance of evidence was therefore in favour of a diagnosis of chicken pox but we were getting sufficiently near the border line in symptoms to take all due precautions as to isolation of the patient and to urge vaccination or revaccination of contacts

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[1] THE LANCET, Dec. 31st, 1904, p. 1833.
[2] THE LANCET, Dec. 24th, 1904, p. 1776.
[3] Practitioner, January, 1905, p. 51.

The above cases in my own experience and the case recorded by Dr Rolfe recall to my mind that so long ago as 1889 my friend Sir William J Collins[4] pointed out that "specificity" depends on the "soil on which the seed is sown, that there is in disease, as in all nature, a tendency of the common to become the specific, the homogeneous to give birth to the heterogeneous ' I have made certain observations and deductions in connexion with some other infectious diseases (which I shall record in another place) which all point towards the part played by evolutionary factors in disease processes

I am Sirs yours faithfully
J. T C NASH, M D Edin D P H Cantab,
Jan 7th 1905 Medical Officer of Health Southend on Sea

THE EVOLUTION OF MAN'S DIET

To the Editors of THE LANCET

SIRS,—I quite agree with Dr J Sim Wallace that we moderns could greatly increase our power to cope with coarse vegetable foods if we from early years accustomed ourselves to them I believe however, that even then we should, in respect of this power, fall far below the apes Not the most primitive race of man could subsist on the natural diet of these creatures, and, though very little anatomical difference can be discovered between the digestive organs of man and the

postulate a wide difference in

two Though the vegetable f

in cellulose than our own, yet even they would appear to

[illegible] removing the pips of a choice apple before eating it

I must doubt whether the bitter, acid, and acrid principles which enter so largely into the natural diet of the anthropoids facilitate in any substantial degree the digestion of cellulose, but that they may play a useful part in digestion and nutrition and that the diet of us moderns is all too deficient in them I can well believe Indeed, I venture to think that here Dr Wallace makes a most valuable suggestion There can be no doubt that both man and the apes have an instinctive liking for substances of this kind Dr Mitchell finds that when a sick chimpanzee is off its food and when every other plan has failed he can induce the invalid to eat by flavouring its viands with rhubarb, and we know that children often display a violent craving for unripe fruit in rebellious protest, it would seem, against the soft bland and generally alkaline food on which they are nowadays nurtured Whether this bland diet is also, as Dr Wallace suggests responsible for their craving for sugar is well worth being put to the test

I am, Sirs, yours faithfully,
Wimpole street W, Jan 8th 1905 HARRY CAMPBELL

To the Editors of THE LANCET

SIRS,—Dr Harry Campbell s views as to the "evolution of man's diet' must have induced some of your readers to be more particular as to diet in the treatment of disease and so far will do good but the study of diet is a most complex subject and deserving the attention of every member of the profession It is a subject in which everyone ought to take an interest, since not only the body but the mind depends upon what we put into the stomach Drugs have dominated our profession since the days of the alchemists and now there

that we are suffering from having departed from the diet of primitive man before fire was stolen from the gods and when he ate only fruit and nuts his natural food Our food now (apart from the flesh of animals which causes so much disease, directly and indirectly) consists very largely of starch, the conversion of which into dextrine is a great tax on the energy of the digestive system Good cooking may lessen the danger of eating such food, but however well cooked our food ought to be masticated thoroughly and kept in the mouth until into the fluid form, nothing except fluid being allowed to enter the stomach With practice in chewing food the tongue becomes like a filter that will allow no solid substance to pass Such chewing takes time but it is time well spent and food so chewed will go twice as far as food bolted, as it is too apt to be Scientific observations on the value of such chewing are much needed and when made will be most valuable in the study of dietetics

I remain, Sirs, yours faithfully,
JOHN HADDON, M D Edin
Denholm Hawick N B Jan 8th 1905

THE L S A QUALIFICATION AND MEDICAL APPOINTMENTS

To the Editors of THE LANCET

SIRS —It is refreshing to find a member of the profession who is not an L S A wielding his pen in favour of justice being done to the holders of this much belittled diploma in the matter of hospital appointments, &c That the professional equipment of the Licentiates of the Apothecaries' Society is of a satisfactory character is shown by their success in the competitive examinations for the navy and army I have before me a table[1] showing percentages of successes of holders of various degrees and diplomas at these examinations, from which I extract the following —

L S A alone	70	per cent	successes
Scottish Conjoint alone	39	,,	,,
Irish	34	,,	,,
Manchester degree	62	,,	,,
Aberdeen ,,	54	,,	,
Edinburgh ,, ,,	50	,,	,,
Glasgow ,,	66	,,	,,
Dublin	45	,,	,,
Royal University degree alone	63	,,	,,

These navy and army competitions are the only post-graduate tests in which all candidates appear on equal terms and the results should I think, convince all impartial persons that the L S A is not the inferior practitioner that the holders of these other degrees and diplomas often represent him to be and that he is capable of more than holding his own in professional competition This being so, is it asking too much that the powers that be should give to the persons with this diploma proper and sufficient titles and that the ridiculous chatter about it being the lowest qualification for admittance to the Medical Register should cease? Is it not simple justice that all hospital appointments which are open to holders of Conjoint diplomas &c, *should be equally open to* the L S A ? Your correspondent "Not an L S A,' is quite right about the surgical examiners at the Apothecaries' Society being appointed by the General Medical Council, and I may add that it is the duty of these examiners (see Medical Act, 1886 Section 5 Paragraph 2) ' to secure the maintenance of such standard of proficiency in medicine, surgery and midwifery as is required under the foregoing provisions of this Act The effect of this clause is that *every* final examination for the L S A is conducted under the direct supervision of the General Medical Council s own appointed examiners who are responsible for the standard of efficiency The same conditions now apply to the L A H Irel At no other qualifying examinations whether for degrees or diplomas, are the interests of the public so carefully safeguarded Medical members of hospital boards have no excuse for ignorance on this subject and it is their duty to correct it in the lay members.

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[4] Public Health, 1889

[1] Brit Med Jour, Jan 7th, 1905 p 40 table vii

I am, Sirs, yours faithfully,
A. RIVERS-WILLSON,
President of the Association of Physicians and Surgeons of the Society of Apothecaries.
Oxford, Jan. 9th, 1905.

LOCAL IRRITATION AND CANCER.

To the Editors of THE LANCET.

SIRS,—Now that the parasitic origin of cancer has almost come to be regarded as an impossible theory it may not be without interest to remind your readers that the older authorities considered the systemic origin of cancer as being necessary to its local evolution. At the present time the opinion seems to prevail that a relation exists between cholelithiasis and cancer. In this connexion the most suggestive theory of the origin of cancer is that which has been propounded by Mr. J. H. Webb of Melbourne—viz., that cell proliferation is due to the deposition of cholesterine in the tissues, either locally from injury or some nutritional disturbance in the liver, associated with deficiency of the bile soaps which normally hold cholesterine in solution. For his conclusions and treatment I would refer those interested to my recently published pamphlet "On Some Methods of Hypodermic Medication in the Treatment of Inoperable Cancer," in which I also describe some cases of my own treated with hypodermic injections of Chian turpentine, the effect of which, there is reason to think, is also that of a solvent of cholesterine.

In the same way I suggest that the presence of glycogen in new growths may be due either to undue local deposition in the tissues or dependent on some nutritional disturbance in the liver or pancreas leading to cell growth. Incidentally I might mention that in two cases of malignant disease recently which have come under my notice one or other parent died from diabetes. This, together with the comparative infrequency of glycosuria and cancer in the same patient, as I believe, is suggestive of some alternation or antagonism between the two diseases. Chiefly, therefore, the underlying theory here put forward is that cell proliferation or alteration of type of division may be dependent on some systemic condition and local irritation determine site of growth. Continued reflection on this subject has led me to believe that in dealing with cancer something more than purely local treatment is indicated—that is to say, that after the surgeon has removed the source of local irritation represented by the primary growth there should follow treatment directed to the systemic origin of the disease. Were the lines of treatment I have indicated in my pamphlet to be carried out subsequently to operation it is reasonable to hope that recurrence might not so frequently occur. This opinion has been partly based on the experience gained in the treatment of cases of cancer where the disease has passed beyond the sphere of surgical relief. If palliative results can be obtained in such unfavourable cases as these it is only reasonable to conclude that where the conditions are favourable the results should be eminently better and the tendency to recurrence diminished. I am, Sirs, yours faithfully,

JOHN A. SHAW-MACKENZIE, M.D. Lond.
London, Jan. 2nd, 1905.

TICKS AND TICK-TRANSMITTED DISEASES.

To the Editors of THE LANCET.

SIRS,—To the list of countries mentioned by Dr. G. H. F. Nuttall in his paper at the Epidemiological Society[1] in which bovine redwater fever occurs, I can add the Republic of Colombia. It is prevalent in the south-western portion (and possibly elsewhere), i.e., far distant from Venezuela, which country Dr. Nuttall includes. Ticks also infest horses and dogs in the same districts, the former with oftentimes serious effects. Whether these are due merely to loss of blood or to some form of equine piroplasmosis such as is known in other countries I am unable to say.

I am, Sirs, yours faithfully,
M. D. EDER.

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[1] THE LANCET, Dec. 24th, 1904, p. 1785.

CHICAGO.

THE DARK AND INSANITARY PREMISES USED FOR THE SLAUGHTERING OF CATTLE AND HOGS.—THE GOVERNMENT INSPECTION.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(*Continued from p. 52.*)

THE first or most obvious defect of the stockyards is the absence of slaughter-houses. Here living animals are treated in exactly the same manner as is ordinary raw material. The Chicago stockyards therefore consist of a number of factories instead of slaughter-houses. These various enterprises are grouped together on the same spot and work not in opposition but as "a combine" one with the other. Here the evident desire is to treat living animals as if they were bales of cotton, of wool, or of any other kind of raw material. What would have happened but for the intervention from Washington of the Federal Government and the prohibitive laws enacted by European States against Chicago products, it is appalling to conjecture. Left to themselves the organisers of this vast industry were not likely to consider that animals, whether living or recently slaughtered, are more liable than inorganic raw material to convey or to absorb germs of disease. That what is intended for food should be prepared in especially clean places is also insufficiently taken into account. The sole object seems to be to convert each animal into saleable product in the quickest and cheapest manner possible. For this the work has to be organised on a wholesale scale so as to pay the cost of labour-saving machinery and there must be the greatest possible subdivision of labour. In a word, the principles of modern industrialism have to be applied and there is no business in the world, not even at the Krupp works, where this done on a larger scale. Of course, all the private butchers have been bought up or driven out of existence for many a mile round by this huge monopoly. Private slaughter-houses were, and generally are, very defective when judged from the sanitary point of view; still they are preferable to slaughtering in factories. The number of animals killed is much smaller than in factories and this is done not upstairs but on the ground and in a little building like a stable where there is no difficulty in obtaining air and light. At the Chicago stockyards I was first taken to see the killing of pigs and found that outside the big factory buildings there are long, inclined, boarded passages up which the animals are driven. Thus the pigs are brought up to the height of the second floor. As they enter the main building each pig is caught by one of the hind legs. With rope and loop-knot and hook it is slung up, the head downwards and the neck exposed, at a convenient height for the slaughterer to strike. With great rapidity the suspended pigs are pushed on to a sort of passage about four feet broad where their throats are slashed open as they pass along. These rows of hanging pigs struggle violently, throwing out torrents of blood. Both sides of this death passage to the height of five feet are thickly caked with the blood of thousands of healthy and unhealthy pigs. Within less than a minute the dying pig reaches a long tank full of scalding water and in this the palpitating body is thrown, though life is probably not yet quite extinct. Standing in the damp and steam men armed with long prongs push the swine along. By the time when the hogs have floated down to the other end of the boiling-water tank they are sufficiently scalded for the bristles to be easily extracted. They are now put on a moveable counter or platform and as the hogs pass along other workers scrape the bristles off their backs. All this is done on the second floor of the building and there are suitable openings in the floor through which the blood flows to be collected and utilised below. At a subsequent stage the body is opened and the intestines are removed. Fortunately the law, not the local or State law, but the national or Federal law, stipulates that:—

> The head, tail, caul, or fat inclosed in the omentum of the animal and the entire viscera shall be retained in such a manner as to preserve their identity until after the post-mortem inspection has been completed, in order that they may be identified in case of the condemnation of the carcass. Should the carcass of any animal on the said post-mortem examination be found diseased or otherwise unfit for human food it shall be marked with a condemnation tag, the same to be attached with

According to the national law there must be two examinations—the ante-mortem and the post-mortem. The ante-mortem examination takes place in the cattle market when the animals are weighed while they are still the property of the farmers and cattle-rearers and before they have been purchased by the packers or provision dealers. The agents of

FIG. 5.

Scalding hogs.

he latter are consequently always on the look out and call he attention of the Government inspectors to any bad symptom or defect which they may detect. If at this stage the animal is condemned the loss falls on the farmer. If, however, the presence of disease is only discovered when the carcass is examined then the loss falls on the packer who had to buy the animal before he could kill it. So that while the packing-house interest is in favour of strict ante-mortem examination it stands to lose by the post-mortem examination. Nor is this latter easy to carry out considering the sort of superstitious fear that exists in America of anything which might be considered as "interfering with business." The consequence is that there is a staff of officials appointed by the authorities at Washington whose sole business it is to see that nothing shall be placed on the market as food which is not absolutely wholesome. As civil servants and as protectors of the public they should hold the highest position in the stockyards. This is a noble calling and by reason of the useful work which the veterinary surgeons perform and the scientific training which they have received they surely stand immeasurably above mere speculators in hogs' flesh. But there is a singular lack of the sense of dignity in the United States. This came specially under my notice at St. Louis where the grandeur of the World's Fair was largely spoilt by the undignified rowdyism and vulgarity that were allowed to prevail even within its precincts. At the Chicago stockyards I could not but feel scandalised and humiliated when I saw the foul and abominable premises in which the representatives of science, the representatives of the United States of America, the representatives of the majesty of the law, condescended to work daily in the accomplishment of their mission. This mission would be better accomplished if the veterinary surgeons, as members of a liberal profession and as representatives of a great country, refused to work in these noisome places. Such a course would at once stop the present abominations by compelling the hog merchants to reconstruct their premises. It is a very good thing that inspectors are appointed by the authorities at Washington but it would be better still if they were first sent to Berlin to learn not only how a slaughter-house ought to be managed and constructed but also to observe how those who have the honour of being intrusted with a public duty are more respected than business men, however rich.

Slaughtering, it need hardly be said, should be done on the ground, but the ground should be rendered water-tight by a special non-slippery, convex, and elaborately drained paving. The surrounding structure should be built exclusively of iron, glass, or enamelled brick. Of course there should be no upper floor and there should be ventilation above and on both sides That is how slaughter-houses in the technical sense of the term are built. At Chicago there are, I cannot repeat tc [illegible] all. The factories consist of [illegible] which might penetrate throu[illegible] kept clean cannot reach the centre of the buildings. Consequently a large proportion of the work has to be done by artificial light even in the brightest portions of fine summer days. Thus, for instance, I saw bullocks slaughtered in the following manner. The animals are brought up to a huge building which looks more like a lofty prison than a slaughter-house. As they approach the outer wall men strike them on the head with a mallet. Then a sort of wooden partition gives way and lets the half-stunned animals fall into the basement of the building beyond. As they come tumbling in men seize their hind legs, affix ropes, and they are strung up to some machinery above that moves them along with their heads hanging downwards. Sometimes, however, and before this can be done an animal jumps up and rushes about. It has then to be shot at the risk of the bullet striking an onlooker. When I inquired why a leather gear was not affixed to the bullock's head with a nail so placed in it that, however clumsy the stroke given, it would cause the nail to penetrate the brain and instantly

FIG. 6.

Removing hides

kill the animal, I was told that such a process would take far too much time. Indeed, so great is the hurry that the unfortunate animals are frequently not given time to die. First, they are dropped into the building, though some of them may be insufficiently stunned. Then, when strung up, the machinery carries the living animal forwards and men have to run after it to cut its throat, while others follow with great pails to catch the blood; and all this without interrupting the dying animal's journey to the part of the factory where the next process of manufacture begins. Sometimes the cattle are struck down and stunned more quickly than the men can pick them up and cut their throats, so they are left to live some time suspended in the air by their hind feet. The machinery carries forwards the animals that are hooked on to it regardless of their agony. On they go from stage to stage of manufacture and the men have to keep pace with them whether dead or alive. Quickly the throats are cut, no time can be lost to let the animals bleed, a man with a pail must walk by their side to catch the blood. Much of the hot blood is spilt over the man or over the floor; that does not matter so long as a small section of a minute is economised. In a short time the bullock, whether it has bled sufficiently or not, and while still warm, will reach one of the darkest, lowest, and worst ventilated portions of this huge and gloomy building. Here the entrails are taken out. The dirtiest work is done in the closest, the darkest, and the dirtiest place, instead of being carried on in the open air or under such slight shelter as would not prevent the free access of air and sunshine. It would be quite impossible to disinfect such premises. There are innumerable rafters, sharp angles, nooks, and corners where blood, the splashing of offal, and the sputum of tuberculous workers can accumulate for weeks, months, and years. It does not look as if the floors are ever really cleaned, though I am told they are occasionally scrubbed. Nevertheless, it is difficult to believe in any genuine cleanliness, for here is the evidence of the windows about which there can be no doubt and they are heavily caked with dirt. Where are the impermeable walls and floors which every day, and sometimes more than once in the course of the day, should be flushed out with the fire hose and so thoroughly scoured that not a speck of blood, dirt, or dust should remain? Where, again, are the portable fire and boiler which can be wheeled or carried up to any corner of the entire premises and where with hose a jet of steam under pressure can be thrown into the smallest crevice or crack? Thus with superheated steam disinfection is rendered doubly sure. In many towns of Europe where there are not nearly as many animals killed as at Chicago purifying machines of this description are used. Why are they unknown at Chicago? As Chicago is the greatest slaughter-place in the whole world the greatest possible precautions ought to be taken. The reverse, however, is the case and it is safer to buy meat from the small retail municipal slaughter-house of a petty provincial town than from the world-wide provision packers of Chicago.

An official of the Canners' Union assured me that more than two-thirds of the members of his union worked by artificial light. He had not himself seen daylight for many months and so far as the enjoyment of sunshine was concerned they might as well be miners working in a coal-pit. Yet if ever there was an occupation requiring plenty of daylight and fresh air it is that of cleaning, cutting up, preparing, and canning animal food. But the buildings are so large and square in shape that, as already explained, the light from the windows cannot penetrate to the centre; while machinery passing carcasses, furniture, fixtures, and partitions shut out the light from many of the places that it might otherwise reach. Yet it is obvious that work of this description—the manipulation of animal substance intended for food—should be done only in the broadest daylight and in the purest atmosphere. In these dark places the meat falls on the floor and comes in contact with the dirt from the boots of the workers and the bacilli from the sputum of a population among whom pulmonary tuberculosis is more prevalent than among any other section of the inhabitants of Chicago. Close at hand there are closets and they are in some places only a few feet from the food. These closets are at times out of order, deficient, defective, or even entirely devoid of flushing. They are all the more offensive as they are not sufficiently numerous for the large staff of workers who have to use them. This is especially the case in one of the rooms where soup is made for preserving in tins. In one department there were two closets, neither of which could be flushed, provided for 80 women. Little or no thought has been taken as to the welfare of the workers. It was only after much agitation that the work was more evenly distributed by killing during four instead of two days. Then there used to be no provision whatsoever for the workers' meals and they had to eat amid the filth in which they worked. Even to-day and after many protests and agitations there are no proper lavatories for the workers to wash themselves conveniently and to change some of their clothes before they begin handling the food which is sent from Chicago to all parts of the world. Indeed, it will be found that many of the workers hold the food which they produce in wholesome abhorrence. At the same time there is a great deal of bitterness of feeling and a consequent tendency to exaggerate. Besides, it is surprising how ignorant these people are concerning the special laws by which their industry is governed. For instance, I was told that diseased and condemned carcasses which were put in at one end of the destructor to be converted into manure were promptly extracted at the other end and sold as meat. Now, the rules issued by the United States Department of Agriculture, dated June 27th, 1904, give minute details as to what diseases necessitate the destruction of the carcass and article 9 is entitled "Tanking." The carcass destructor in America is called a tank and the legal stipulations are that—

> All condemned carcasses and parts shall be tanked as follows. After the lower opening of the tank has been sealed by an employé of the department the condemned carcasses and parts shall be placed in the rendering tank in the morning and immediately a sufficient force of steam be turned into the tank to destroy effectually the meat for food purposes before the killing for the day is completed; or the condemned portions may be placed in the rendering tank at the close of the day, or when the killing is suspended, and both ends of the tank sealed, after which steam shall be turned into the tank until the meat is destroyed. Wire and lead seals will be provided by the department for sealing tanks.
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> A sufficient quantity of low-grade offal (uteri, floor scrapings, trimmings from gutters' benches, skimmings from catch basins, unemptied intestines, omasa, paunches emptied but not washed, &c.) shall be tanked with all condemned carcasses (except those tanked for lard) to effectually render the ultimate product unfit for human food, or, if such offal cannot be obtained, the carcasses may be thoroughly slashed with a knife, then saturated with kerosene and placed in the tank.
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> The seals of tanks containing condemned material shall be broken by an employé of the department when the tank is emptied during regular hours and at other times satisfactory arrangements for the breaking of such seals shall be made with the inspector in charge.

When only a part of a carcass is condemned no portion of the carcass can be disposed of except in the presence of the Government inspector, so that when stories go round about the selling of diseased meat the persons who tell them are either deliberately inventing or more probably confusing an ordinary cauldron with the destroying tanks. Also I was told that bruised and rejected hams were nevertheless sold and put on the market by cheap butchers; or else the bone may be cut out and the discoloured portion of the flesh near to the bone removed, the rest being utilised. Again, when meat that has been put in brine for pickling is found to smell hollow needles are driven into the flesh and brine is pumped into the body of the meat. This saves the time of penetration and men have assured me that when the meat still retained an unpleasant odour the operation was repeated. Nevertheless, I find some difficulty in believing these stories. They are the tricks of trade of the petty dealer and it is hardly conceivable that a gigantic business would compromise itself for the sake of saving a few shillings' worth of meat. On the other hand, where thousands of pounds are to be economised, there is a deplorable display of unscrupulousness. When a carcass or a portion of a carcass is condemned, in spite of stockyard gossip and scandal, I believe that it is conscientiously destroyed. It would not be worth while to defy the law for such a trifle. But, on the other hand, no proper destructor establishment has been built.

It is obvious that the destructors should be placed in a far-off and isolated corner. Any condemned carcass should at once be removed well away from all the buildings where food is prepared. Nothing of the sort is done. They are kept under the same roof on the same floor where food is being prepared for human consumption. Indeed, worse than this, the diseased carcasses are brought nearest to the windows so that there may be a better light to examine them. But, on the other hand, such air as may gain admittance into the huge building from these windows passes round, over, and between these diseased carcasses before it can reach the moist meat that is being cut up and prepared at a short distance. When, finally, the carcass is taken to the destructor the opening of this tank, at least of the tank which I saw, is inside a large building in the floor and round it many people were working. *The place is dark, wet, and altogether in a most unsuitable condition for the handling of meat.* Nevertheless, not only is human food prepared here but diseased carcasses condemned as unfit for human food are dragged through the compartment. The lid of the destructor is removed within a few feet of meat that is to be eaten. The promiscuity of the two occupations, the examination and destruction of diseased carcasses and the preparing, the cutting up, or the washing of carcasses that are not diseased, is most disgusting and reprehensible. The best destructor I have seen is that of the municipality of Hamburg and it is situated not only outside the town but well away from the slaughter-house.[1] Formerly the destruction of diseased carcasses cost the town of Hamburg a considerable sum. But now the dry brown manure powder into which the carcasses are converted sells so well that there is a profit, even after paying all the working expenses. On the other hand, the interests of the public health are absolutely secured. The progressive energy of the inhabitants of Chicago has been the theme of many eulogies; but why are there no properly installed destructors for dealing with the many thousand diseased carcasses that are yearly condemned in the stockyards?

(To be continued.)

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool School of Tropical Medicine: Visit of the Princess Christian and Mr. Joseph Chamberlain: Departure of the Fourteenth Expedition to the Tropics.

AN interesting address has been arranged by the School of Tropical Medicine to be delivered on Jan. 12th in the small concert room at St. George's Hall by Major Ronald Ross, C.B., late I.M.S., on the subject of the Progress of Tropical Medicine. The Princess Christian and the Right Hon. Joseph Chamberlain, M.P., have accepted the invitation of Sir Alfred Jones, K.C.M.G. (the chairman of the school) to be present on the occasion. Invitations have also been issued to the subscribers to the school. Mr. Chamberlain's presence at the meeting will be gratifying in view of the prominent part played by him in the foundation of the Schools of Tropical Medicine in London and Liverpool. The distinguished visitors will be the guests of the Earl of Derby, K.G., at Knowsley. The Earl and Countess and the Lord Mayor have also promised to attend the lecture. On Dec. 31st, 1904, the s.s. *Sobo* sailed from the Mersey for West Africa and amongst the passengers were Colonel G. M. J. Giles, I.M.S., late sanitary commissioner for the North-West Provinces of India, and Dr. R. E. M'Connell, a young Canadian, both being members of the fourteenth expedition sent out by the Liverpool School of Tropical Medicine for the further investigation of malaria and other tropical diseases. Just before the expedition sailed a message was received from Sir Alfred Jones wishing the members every success. Mr. W. Adamson, the president of the Royal Southern Hospital, and Mr. A. H. Milne, the secretary of the school, were present to bid Colonel Giles and Dr. M'Connell *bon voyage*, and they took their departure amid many good wishes from other friends.

Proposed Closing of Cellar Dwellings in the City: Extraordinary Result of a Town's Meeting.

The health and the parliamentary committees of the city council by unanimous votes had approved of the recommendation of the medical officer of health (Dr. E. W. Hope) to close (by degrees and with due regard to the rehousing of the dispossessed) 2500 out of 3000 cellar dwellings in the city which, in his opinion, were insanitary. The recommendation of both committees was subsequently endorsed by the city council by the large majority of 90 out of 98 members present. Under the Borough Funds Act the approval of a town's meeting was necessary before Parliamentary powers could be sought for the purpose. This and other beneficent sanitary measures were howled down with gibes and jeers by the town's meeting and sanitation in Liverpool received a disagreeable check. Clearly the Borough Funds Act needs amendment; *the decisions of the municipal representatives of the people to appeal to Parliament should not require the approval of a meeting easily packed by interested people.* The chairman of the health committee (Alderman Menlove), in an appeal to the meeting to ratify the vote of the ratepayers' representatives, said that he had a wide experience of cellar dwellings and many of them were not fit to keep a dog in. There was no doubt that many of them were most unwholesome and good dry dwellings must be provided if the rising generation was to grow up in health and strength. Dr. R. Caton and other city councillors also made strong appeals for the ratification of the measure but all to no purpose, the clause being lost by a large majority.

Death of Dr. James Armstrong.

Dr. James Armstrong, formerly of 84, Rodney-street, Liverpool, died suddenly at Plas Bennett, near Denbigh, on Dec. 26th, 1904. Dr. Armstrong retired from practice in Liverpool about two years ago owing to delicate health. He received his medical education at the University of Edinburgh where he graduated as M.B. in 1868 and in the same year obtained the diploma of the Royal College of Surgeons of Edinburgh. He was formerly physician to the Liverpool Infirmary for Children, resigning that post on his election as honorary physician to the Liverpool Lying-in Hospital. He had an extensive midwifery practice and made many contributions to the medical journals on the literature of that subject. He was of a quiet and gentle demeanour and made many friends among the profession in Liverpool where the intelligence of his death was received with manifestations of much sympathy. He was a widower and leaves a son and a daughter.

Jan. 10th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

The Annual Dinner of the Past and Present Students of the School of Medicine.

THE annual dinner of the past and present students of the Leeds School of Medicine which was held recently was an event of unusual importance. Always a popular gathering, well attended, and affording to former students an opportunity of meeting again and renewing acquaintances, it derived an additional interest on this occasion as being the first dinner held since the granting of the University charter. During the last 20 years the Leeds School of Medicine has been officially known as the medical department of the Yorkshire College and it was a comfort to feel that the old term "School of Medicine" could again be used and with strict academic accuracy and not merely by custom as during these 20 years. A "school" of a university is a well-known term; a "school" of a college is at least unfamiliar as a term. Old Leeds men are never tired of saying with justifiable pride that the first year of the new University would have been the twenty-first of the medical department of the Yorkshire College and that it is the seventy-fourth of the Leeds School of Medicine. The chair was occupied by Dr J. B. Hellier and there were present 126 past and present students, including as guests the Vice-Chancellor, Dr. Bodington; the chairman of the Infirmary Board, Mr. Charles Lupton, who has taken such a keen interest in the welfare of the school and of the University as a whole; and representatives of the sister Universities of Manchester and Liverpool. Dr. Hellier proposed the toast of "The Past and Present Students" in a speech full of good sense and humour, and this was replied to by Mr. Coupland and Mr. Nicol. The toast of "The Staff," which was eloquently proposed by Mr. Reed, was appropriately responded to by Dr. E. F. Trevelyan, who has recently retired from the professorship of pathology, and by his successor, Professor A. S. F. Grünbaum, who received a most cordial welcome from all present. In replying to the toast of "The Guests," the Vice-Chancellor referred especially to the very cordial relationship which had always existed between the three colleges of the Victoria University. The relationship between the three sister universities would, he felt sure, be no less cordial, for the discussions which led to the disruption had always been conducted with mutual good feeling. He cordially welcomed the suggestion of the students' inter-university conference for the publication of a students' song-book on the lines already in force in the Scottish universities.

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[1] THE LANCET, July 21st, 1894, p. 158.

National Physique.

In connexion with the question of national physique considerable interest attaches to some figures taken from the annual report of the Leeds recruiting dépôt and published in the *Yorkshire Evening Post*. During the 12 months just ended, while 589 recruits have been accepted for line regiments and 762 for the militia no fewer than 40 per cent. of rejections are registered. During the last three months of 1904 34 candidates who had satisfied the preliminary tests as to stature, chest measurement, &c., were rejected on account of bad teeth, defective eyesight, cardiac mischief, flat foot, and varicose veins. It is stated that the number of rejections on account of bad teeth is considerably higher than in most other large towns. If this is the case it is earnestly to be hoped that the unenviable notoriety of Leeds in this respect may in some measure be lessened by the establishment of the new dental department at the Leeds Public Dispensary, the arrangements for which have for long been matter of careful consideration by the board and which, it is believed, will soon be in full working order.

A Jewish Nursing Home.

An offer was made some time ago by Mr. Alderman Moses of Bradford to contribute £4000 towards the establishment of a Jewish nursing home or hospital in Leeds. The offer was qualified by some conditions which it was thought might hamper its usefulness and it has not as yet been accepted. It is felt by the influential members of the Jewish community that the General Infirmary makes adequate provision for the treatment both of in-patients and of out-patients. Special arrangements were, with the ready consent of the board, made some time ago to meet their views as to the preparation and the cooking of their food and Jewish patients are as freely admitted as others. It is, however, perhaps natural that in a city with a Jewish population of some 15,000 to 20,000 a special effort should be made from among their own body or by their co-religionists in less necessitous districts to provide for the needs of those who are either not ill enough to require admission to the medical wards or are not suffering from affections requiring surgical operation but who, on the other hand, may require good food and skilled nursing in addition to the treatment which they could obtain in the out-patient department.

Jan. 10th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Bristol Ambulance Service.

THE ambulance service in Bristol is now very well organised. During the past year more than 3000 persons received first aid from the members of the Bristol City and Marine Ambulance Corps, a body of volunteers which was established in 1900. Since October, 1903, the corps has been in possession of a fully equipped ambulance wagon which is at the disposal of any injured person free of charge and at any time of the day or night. It is used on an average about five times daily. The corps has lately purchased a brougham ambulance which is frequently used by patients who are able to pay for the service.

Swansea Sewerage Scheme.

The corporation of Swansea has once more met with a rebuff in its attempt to secure the efficient drainage of the lower portion of the borough. The scheme proposed by the corporation included the construction of an outfall sewer at Brynmill and provided for a septic tank for the treatment of the sewage before being discharged into Swansea Bay. The Local Government Board had sanctioned the proposal but the consent of the Board of Trade, which is also necessary, has been withheld in consequence of the report of its commissioner who held an inquiry into the question in September last. The corporation scheme was not supported with any enthusiasm either by the medical officer of health (Mr. Ebenezer Davies) or by the borough engineer.

Death of Dr. William Williams Morgan.

Dr. William Williams Morgan, who died at Newport (Mon.) on Jan. 7th, was one of the oldest medical practitioners in this country. He was born in Merthyr Tydfil in 1809 and after studying at the old Webb-street School and Guy's Hospital he took the diplomas of M.R.C.S. Eng. and L.S.A. in 1835. In 1862 he obtained the degree of M.D. at the University of St. Andrews. With the exception of the few months immediately succeeding his becoming qualified, when he was house surgeon to the Bury Dispensary, he has lived and practised entirely in Newport. For many years he was a member of the town council and was mayor of the borough in 1864. He was the senior borough magistrate and a prominent Freemason, having been admitted into the order so long ago as 1835. He was active in the formation of the two Newport lodges Silurian and Isca, having been the first Master of the latter. It is of interest to note that Dr. Morgan's father lived to the age of 92 years and that he himself was neither a non-smoker nor a total abstainer.

The Unfounded Charge against Dr. Arthur D. Griffiths.

A vote of sympathy with Dr. Arthur D. Griffiths of Bridgend was passed at a joint meeting of the Cardiff Medical Society and the Cardiff division of the British Medical Association held at Cardiff on Jan. 4th. It was also decided at the same meeting to invite subscriptions towards the heavy legal expenses incurred by Dr. Griffiths in successfully refuting the charges brought against him by a female patient, details of which have already appeared in THE LANCET.[1] Dr. A. P. Fiddian, the treasurer of the Cardiff Medical Society, has undertaken to receive the subscriptions.

Ptomaine Poisoning.

During the last week in December, 1904, three children living in one household in Nailsworth, Gloucestershire, died from what has since been shown to be ptomaine poisoning. They were of the ages respectively of six months, two years, and four years, and were all taken ill on the night of Dec. 23rd, the prominent symptoms being vomiting and diarrhœa. The youngest child died on Dec. 25th, the one aged two years on Dec. 27th, and the eldest three days later.

West Wales Sanatorium.

The county councils of Cardigan, Carmarthen, and Pembroke have not yet made any proposals to support the sanatorium for consumptives which is about to be erected for the inhabitants of the three counties. The West Wales branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis is now suggesting that the councils shall undertake the cost of administration, the buildings being handed over by the branch free of debt. It is stated that the amount to be contributed by the councils would be equal to a rate of ¼*d.* in the pound.

The Working of the Midwives Act in Cardiff.

It is considered in many quarters that the principal difficulty in the administration of the Midwives Act will arise in those cases where a nurse is compelled to call in a medical practitioner, for the payment of whose fee no provision has been made by the Act. In order to arrive at some equitable arrangement in the matter a conference was held on Dec. 9th, 1904, between representatives of the Cardiff Medical Society, the Cardiff division of the British Medical Association, and the Cardiff branch of the Queen's Nurses' Institute. At this conference certain suggestions were agreed upon and with slight alterations they were adopted at a joint meeting of the members of the medical society and the division held at Cardiff on Jan. 4th. The proposals are that where the Queen's nurse attends a patient a medical practitioner shall be engaged in every instance when the total weekly income from all sources exceeds 25*s.* in the case of a primipara, a deduction of 1*s.* 6*d.* per child being made in calculating the wage limit in subsequent attendances; the fee of the nurse is to be 10*s.* Where the total weekly income is between 25*s.* and 21*s.* the nurse's fee is to be 10*s.* or 5*s.* where a medical practitioner is engaged; where the income is below 21*s.* a week the nurse's fee is to be 7*s.* 6*d.* or 5*s.* where a medical practitioner is engaged, the destitute poor to be attended by the nurses free of charge. The nurses will be instructed to do all in their power to get the medical fee paid and will advise patients to put money by for this purpose; they will also explain carefully to patients at the time of engagement that a medical practitioner must of necessity be called in under very many contingencies and that it will therefore probably be to their interest to engage one beforehand and thus get the benefit of his services all through their illness. Wherever the total weekly income is under 21*s*. the patient will be advised to procure an order beforehand from the Poor-law authority, if the patient is unwilling to engage a medical practitioner, which order can be used if required. In cases of emergency the nurses are instructed to summon in the first instance the family medical attendant; where there is no family attendant and the probability of payment of a fee is remote the Poor-law medical officer is to be sent for; while in all cases of urgent necessity the nearest medical practitioner is to be called in. The scheme outlined above is to be tried for two years and the two medical societies will appoint at their next meetings representatives to sit as assessors upon the maternity committee of the Queen's Nurses' Institute and to give the committee the benefit of their advice.

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[1] THE LANCET, Dec. 17th, 1904, p. 1733.

Jan. 9th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Visit of Professor G. Sims Woodhead to Belfast.

Professor G. Sims Woodhead of Cambridge visited Belfast last week on the invitation of the North of Ireland branch of the British Medical Temperance Association and gave three addresses. On Thursday afternoon in one of the large halls he delivered, by special request, the Lees-Rapper Lecture on Alcohol and Public Health. The Lord Mayor of Belfast (Sir Otto Jaffe) presided and there was a very large attendance. At the conclusion of the lecture Professor Woodhead was awarded a warm vote of thanks, proposed by Dr. Charles Kevin (president of the North of Ireland branch of the British Medical Temperance Association), and seconded by Professor J. W. Byers. In the evening, at the Ulster Medical Society, Professor Woodhead opened a discussion on the subject of Alcohol as a Protoplasmic Poison. In doing so he referred to the great interest that was now taken in the action of alcohol on the tissues both in disease and in health. In what he had to say he should try to be as moderate as possible and he might state at the outset that convinced as he was on many points there were many on which they would no doubt disagree. However, they were there to get at the root of the matter and not to agree except where they could do so with a good conscience. He first referred to the many experiments that had been carried out with various dilutions on animals of many species and on plants. He then gave a short account of the action of alcohol in different dilutions upon phosphorescent bacilli, taking this organism as a useful type; special stress was laid upon the fact that long before the bacillus was killed its functional activity as a light producer was interfered with. The results of these experiments could easily be recorded as the phosphorescence was sufficiently powerful to allow of photographs being obtained. This action of alcohol upon naked protoplasm had often been referred to as beside the mark, but they must remember that it had been maintained that alcohol was oxidised in the body and in the tissues and if it was oxidised there it must get there in however weak dilutions. The action of alcohol in the production of fatty infiltration and degeneration was then referred to and its action upon the heart, liver, and kidney, especially in so far as we had evidence of any interference with the metabolic oxidation associated with its presence in the tissues. He maintained that the heart was one of the organs on which alcohol exerted some of its most disastrous effects and he for one considered that the use of alcohol in heart cases was far more frequently contra-indicated than indicated and he quoted several authorities in support of his contention. He pointed out that although we had evidence of changes in the nerve cells which appeared to be the direct result of the action of alcohol on the nerve cells and their processes, we too often left out of account the fact that the lower tissues, connective and elastic, were in all probability affected at a much earlier stage than was generally accepted. What was seen in the liver and sometimes in the kidney on an extensive scale might be, and in all probability was, reproduced in a minor degree and perhaps more slowly in the delicate cells of endothelial and connective tissue type in walls of blood-vessels of various sizes. Some of these changes took the form of proliferation and connective tissue formation, usually associated with the degeneration and later calcification of the muscular coat. These changes were due in part to the presence of alcohol which interfered with both anabolism and katabolism, and in part to the storage of waste products which should under ordinary conditions be got rid of. Professor Woodhead then referred to the experiments made on the production of immunity against rabies, tetanus, and anthrax and on the action of the diphtheria bacillus and its poison and the tubercle bacillus upon alcoholised and non-alcoholised animals. He spoke of the action of alcohol as a "retarder" in the process of the production of a condition of immunity or insusceptibility and maintained that any substance that exerted such extraordinary effects should be used with the greatest care and only with the object of obtaining certain definite effects and after a careful balancing of the profit and loss accounts. In the discussion which followed Professor Byers, Professor J. A. Lindsay, Dr. Kevin, Professor T. H. Milroy, Dr. J. Campbell, Dr. A. G. Robb, Mr. A. B. Mitchell, and the President (Dr. W. Calwell) took part. After Professor Woodhead had replied a special vote of thanks was accorded to him on the motion of Professor J. Symington, F.R.S., seconded by Dr. Campbell. On the evening of Friday, Jan. 6th, Professor Woodhead delivered a very interesting address on the Reasons why he was an Abstainer from Alcohol in the Students' Union, Queen's College, Belfast, before the Belfast Medical Students' Association. Dr. J. Lowry, the President, occupied the chair and there was a very large attendance. At the conclusion of the address Professor Milroy proposed, and Professor J. Park, M.A., D.Litt., seconded, a vote of thanks to Professor Woodhead, which was cordially supported by the Lord Mayor of Belfast. Professor Woodhead's visit to Belfast has been a marked success. His extreme fairness in putting forward his views, his evident sincerity, his scientific method of dealing with the questions which he discussed before audiences with very diverse opinions on the subject, and above all his total absence of dogmatism, charmed everyone with whom he was brought in contact, whether they accepted his conclusions or not.

Jan. 10th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Fractures of the Humerus treated with the Heitz-Boyer Apparatus.

AT the meeting of the Society of Surgery held on Dec. 8th, [illegible]

ratus. One patient had had a T-shaped fracture of the lower end of the humerus extending into the joint and the other a fracture of the upper end of the bone with considerable over-riding of the lower fragment. In both cases Hennequin's apparatus, although applied immediately after the injury, had only brought about partial reduction, as was evident by x ray photographs. The application of the Heitz-Boyer apparatus, however, brought about perfect reduction and the bone united in excellent position. The functional use of the limb was perfectly restored in both patients. M. Quénu and M. Broca both gave evidence as to the admirable results which they had obtained with the apparatus in question. M. Lucas-Championnière, however, said that perfect reduction was by no means a *sine quâ n*[illegible]ure good functional results. For [illegible] to bring forward plenty of pati[illegible]dults, in whom simple massage unaccompanied by the use of any apparatus had brought about just as good results as in the patients alluded to by M. Schwartz and M. Quénu.

Graefe's Coin-catcher and Foreign Bodies in the Œsophagus.

At the meeting of the Society of Surgery held on Dec. 21st M. Sebileau showed the œsophagus of a child, aged two and a half years, which exhibited two perforations caused by attempts to extract a sou by means of Graefe's coin-catcher (*panier*). On account of this misfortune a discussion arose as to the advisability of giving up the use of the coin-catcher. M. Félizet did not think that it should be given up but that it was necessary for the operator to be well acquainted with the instrument. He used a sponge mounted on a handle at the same time as the catcher. The sponge dilated the œsophagus and the catcher brought up the foreign body. M. Broca was of the same opinion. He thought that the catcher was an excellent instrument but it should not be employed except for coins. M. Kirmisson said that he considered it preferable to employ a hook in place of the catcher and the hook had given excellent results in his hands and in those of M. Faure. M. Jalaguier sometimes used the catcher and sometimes the hook. Occasionally neither instrument succeeded and when the coin lay near the cardiac end of the œsophagus, as was the case in a child, aged seven years, who had swallowed a sou, and who was under the care of M. Segond, a gastrotomy should be performed. At the following meeting of the society M. Kirmisson reverted to the subject and uttered a protest against the ideas of certain surgeons who argued that they had (in cases of extraction of coins through the mouth) obtained equally good results whatever the instrument they used. His own opinion was that the hook, especially in very young children, had one enormous advantage over the catcher in that its diameter was at least half that of the catcher and this permitted it to pass easily in cases where the catcher containing the coin was likely to engage in the walls of the œsophagus with fatal results.

A Matter of Public Health.

The Council of Hygiene of the Seine has approved an order of the Prefect of Police forbidding the throwing on the pavement of sweetmeats and other comfits in view of the danger to the health of children who may eat such comfits. They are found scattered on the pavement after certain family parties (*cérémonies de famille*). These sugarplums are naturally always soiled by mud or dust and so they are quite capable of serving as vehicles for the germs of transmissible diseases, more especially those of tubercle. The circular of regulations sent out to police commissaries and *officiers de paix* instructs them to deliver a verbal summons to any offender who shall contravene the Prefect's order.

The Escape of Milk by the Ear in a Child suffering from Congenital Deficiency of the Soft Palate.

At the meeting of the Society of Pediatrics held on Dec. 20th, 1904, M. Variot showed a female child, aged three months, suffering from cleft of the soft palate. Nevertheless the child, despite the fact that milk regurgitated from time to time through the nose, was able to take nourishment in a satisfactory manner, but a fortnight before the child was exhibited the mother noticed that whenever she nursed the child a certain quantity of milk escaped through the right ear. On examination there was found to be complete perforation of the right tympanic membrane and M. Le Marc-Hadour, who made an otoscopic examination, thought that the perforation had followed an otitis and was not due to any congenital malformation of the tympanum.

Jan. 10th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Chloride of Sodium and Dropsy.

THE effects of removing chloride of sodium from the diet, to the importance of which in pathological conditions associated with anasarca, &c., attention has been called by Widal and others, have lately been tested by several Italian clinicians. Massalonga and Zambelli, in a communication read before the recent Congress of Internal Medicine confirm what these authors state—namely, that the retention of chloride of sodium has a preponderating share in the genesis of œdema, although it does not always stand in any definite relation to the œdema itself. The most important of the effects produced by it is upon nephritic subjects in whom a few grammes of salt suffice to provoke or to augment œdema, whilst the removal of it from the diet causes the œdema to diminish or to disappear altogether. A suitable diet poor in chloride of sodium was enough in almost every case to better the general condition of the patient, to reduce albuminuria and to stimulate diuresis. But also in dropsy of cardiac origin a salt-free diet is very often of itself sufficient to diminish the œdema, re-establishing the function of the heart and facilitating the action of cardiac tonics where these had not previously proved effectual. Considerable improvement in the grave state of a patient may thus be brought about. In like manner the ascites of hepatic cirrhosis may be reduced with or without diuretics by the same means and even in tuberculous effusions into the peritoneal cavity and sero-fibrinous exudations of the pleura it sometimes, though less frequently, proves of signal service, especially where no fever is present. Cioffi has obtained similar results but enjoins care in prolonging beyond a certain point the salt-free diet as liable to cause grave changes in the kidneys. Experimenting on healthy guinea-pigs he found that after only 24 hours of salt-free diet there appeared in the urine albumin and tube casts in great numbers and that these immediately disappeared when ordinary diet was resumed. On the other hand, by injecting into the veins a small amount of salt solution he was also able to produce a similar result, thus proving that an excess of salt has the same injurious effect as the withdrawal of it, the convoluted tubules in both cases showing almost identical alterations.

The Improvement in the Sanitary Condition of Italy.

The following table is compiled from the "Annuario di Statistica" for 1904 and shows the number of deaths which took place in Italy from infectious diseases in each year from 1887 to 1902 inclusive, only those infectious diseases, however, being selected the notification of which is compulsory—viz., small-pox and varioloid, measles, scarlet fever, diphtheria and croup, typhus and typhoid fevers, puerperal fever, pulmonary tuberculosis, malaria, syphilis, rabies, and malignant pustule:—

Year.	Deaths.	Rate per 1000 inhabitants.	General death-rate per 1000.
1887	170,628	5·78	27·99
1888	152,088	5·12	27·51
1889	129,918	4·34	25·57
1890	116,399	3·86	26·32
1891	119,140	3·92	26·11
1892	105,096	3·44	26·18
1893	105,160	3·42	25·16
1894	96,865	3·33	24·93
1895	97,920	3·14	25·05
1896	93,977	2·99	24·06
1897	82,422	2·61	21·93
1898	81,455	2·56	22 94
1899	84,077	2·62	21·89
1900	90,280	2 80	23 77
1901	80,477	2·48	21·95
1902	76,071	2·32	22·15

In 1902 there were thus 94,557 fewer deaths from that class of disease than in 1887, and reckoning the morbidity at 100 patients for every 12 deaths there would be nearly 800,000 fewer patients ill in the former year than in the latter. If 30 days be allowed for an average illness and convalescence, and 1*s.* 8*d.* per day for the cost of living, then a saving will have been effected during 1902 as compared with 1887 of nearly £2,000,000, in addition to the amount represented by the 94,557 persons who have presumably been rescued from death. The economic value alone of this reduction in the amount of illness and mortality from infectious diseases in Italy is therefore very high. During these years the population, which in 1887 was 29,510,284, increased to 32,704,166 in 1902, whilst, as will be seen from the table, the death-rate per 1000 inhabitants diminished during the same period from 27·99 to 22·15.

Medical Men in the Italian Chamber of Deputies.

In the Parliament which was recently elected and is now sitting there are 22 medical deputies, representing wards in 18 provinces of Italy. The list includes several well-known names, such as Baccelli and Santini (for Rome), Celli (for Cagli), Sanarelli (for Bibbieno), and Rummo (for Benevento).

All but three (Colajanni, Pantano, and Santini) are men in active practice or who occupy university chairs

Jan 7th

BERLIN

(FROM OUR OWN CORRESPONDENT)

Health Cruises

IT will be of interest to some readers of THE LANCET to know that the Hamburg America Steamship Company, which is one of the most important companies of its kind is about to make arrangements which will be appreciated by many of those who go on sea voyages for the benefit of their health The new steamer *First Bismarck* which is to be launched in April, will in some respects be fitted up as a floating sanatorium with every requisite for convalescents and patients who in the opinion of their medical attendants require sea air Cases of infectious disease will be strictly excluded The first trip will be made in the month of May to the Mediterranean A competent medical staff under Professor Schweninger as chief physician will be on board

The Information Bureau at the University of Berlin

An information bureau (Academische Auskunftsstelle) has just been opened in Berlin in connexion with the University and will undertake the same kind of work as that of the Bureau de Renseignem [illegible] ago It will [illegible] and will assis [illegible] stay in [illegible] who w [illegible] The office is in the [illegible] ily Sundays excepted from 10 A M to 1 30 P M and from 6 30 to 7 30 P M During the University vacation the office will not be open in the afternoon Letters of inquiry will also be replied to

Jan 9th

CANADA

(FROM OUR OWN CORRESPONDENT)

Vital Statistics of St John New Brunswick

THERE were 751 deaths in St John, New Brunswick during the year ending Oct 31st 1904 as compared with 777 in the previous year Tuberculosis was responsible for 108 of the number as against 89 cases in 1903 Of the total number who died 376 were males and 375 were females 365 were single and 386 were married The number of deaths at some periods of age was as follows under one year 133 from 70 to 80 years 96, from 60 to 70 years 90 from 50 to 60 years 69, from 40 to 50 years 56, and from 30 to 40 years 46 The report of contagious diseases for the year numbered 246 cases the details being as follows diphtheria 100 cases with 11 deaths, scarlet fever 58 cases with two deaths, measles 67 cases with one death, typhoid fever 20 cases with six deaths, and small pox, one case, with no mortality

Vaccination in Montreal

The medical health officer of Montreal in his report states that of all of the cases of small pox occurring in that city in 1903 not even one person suffered from the disease who had been vaccinated during the past five years One year ago when the official vaccinators were visiting all the schools in order to vaccinate unvaccinated children over 1000 refused to attend school because they had to submit to vaccination This year there is scarcely any opposition On Jan 1st 1903 there were five patients in the Montreal Small pox Hospital and 90 cases were admitted during the year The deaths numbered two and one remained in the hospital at the end of the year The males included 41 adults and 11 minors, the females included 26 adults and 12 minors As already stated there were no cases which had been vaccinated within the past five years but there were 13 cases which had been vaccinated some years ago and there were 77 cases unvaccinated

By laws against Spitting in Montreal

With a view to prevent the dissemination of tubercle bacilli the city council of Montreal has decided to pass the following by law prohibiting spitting in public places "No person shall spit upon the floor of any railway car, street car or other public conveyance or upon the floor of any theatre public building church opera house, music hall or hall used for public meetings railway or steamboat stations, or waiting rooms or other public hall, building room or place or upon any platform surrounding in front of or in the immediate vicinity of any such place or upon any side walk or any covered way within the limits of the city of Montreal

Alexandra Hospital, Montreal

The delay in the construction of the Alexandra Hospital for Contagious Diseases Montreal was the subject of a conference recently between the directors of the institution and the civic hygienic committee The conference was brought about owing to the prevalence of diphtheria in the city and to the fact that the directors of the hospital had undertaken that accommodation should be available on Jan 1st 1905 The delay has been occasioned by the legislature prohibiting the hospital authorities from building on the site selected Another site was procured at a cost of $90 000, but then the directors thought it wise to proceed cautiously until they had sufficient funds in hand They have now $40 000 and the hospital will be proceeded with at once and by September next will be ready for the accommodation of patients Montreal had 87 cases of diphtheria during last November

Toronto Jan 2nd

NEW YORK

(FROM OUR OWN CORRESPONDENT)

The New York Society of Medical Jurisprudence discards the Title of Doctor

THE New York Society of Medical Jurisprudence held its 149th annual meeting at the New York Academy of Medicine on Dec 12th 1904 A motion was proposed and carried unanimously that in all literature of the society the title of physician should henceforth be employed instead of doctor There can be no doubt that the title 'doctor is used far too indiscriminately in the United States and the move on the part of the Society of Medical Jurisprudence is wholly justified by the facts of the case

Dietary in Bellevue Hospital New York

The feeding of the patients in the majority of hospitals is not altogether satisfactory The diet at Bellevue Hospital, New York has for some time been subjected to adverse criticism and it has recently been decided to make a change in this respect A new kitchen system has been installed and is under the direction of a qualified and scientific cook assisted by a competent staff Special dietaries have been introduced for special diseases and in every way, so far as dieting is concerned the interests of the patients will be the first consideration

Proportion of the Sexes in the United States

The United States Census Bureau has just made public a study and analysis of the proportion of the sexes in the United States compiled by Professor W F Willcox of Cornell University and based upon the figures of the twelfth census From these figures the fact is gathered that in the United States there are 1 638 321 more males than females but the proportionate excess of males is less at present than it appeared in the previous census Professor Willcox says The divisions of the United States with the smallest proportion of males are the District of Columbia (47 4 per cent.), Massachusetts (48 7 per cent) and Rhode Island (49 1 per cent) those with the largest are Wyoming (62 9 per cent) and Montana (61 6 per cent) American cities as a rule have more females than male In the 1861 cities, each having in 1900 at least 2500 inhabitants there were 201 959 more females than males In all races and in all parts of the United States there has been a decided increase since 1890 in the proportion of females attending school The death rate of males in the registration area of the United States in 1900 was 19 per 1000 and that of females 16 6 per 1000, the former having a death rate higher by about one seventh than the latter In the 346 registration cities of the United States the death-rate of males was 20·0 and that of females 17·2 per 1000, the male-rate exceeding the female by one-sixth."

Meeting of the American Association for the Advancement of Science.

The fifty-fourth Convocation of the American Association for the Advancement of Science met in Philadelphia on Dec. 27th. All the sessions were held in the buildings of the University of Pennsylvania. Professor Carroll D. Wright retired from the presidency of the association and was succeeded by Professor W. G. Farlow of Harvard. The newly elected vice-presidents are: Professor Alexander Ziwet, University of Michigan; Professor W. F. Magie, Princeton; Professor L. P. Kinnicutt, Worcester Polytechnic Institute; Professor D. S. Jacobus, Stevens Institute; Professor Eugene A. Smith, University of Alabama; Professor C. Hart Merriam, Department of Agriculture, Washington; Professor B. L. Robinson, Harvard; Dr. Walter Hough, National Museum, Washington; Professor M. A. Knapp, chairman of the Inter-State Commerce Commission; and Professor H. P. Bowditch, Harvard. Among papers of interest read at the meeting was one by Dr. Spitzka of Columbia University on different types of the brain. Dr. Spitzka said that judging from the present indications of the formation of the brain in the members of an American family of the Aryan race, the conditions governing the population of the United States seem to have been peculiarly advantageous to the preservation and restoration of the best types, characterised by greater energy, motility, and culture. We may, therefore, thinks Dr. Spitzka, expect to find bigger and better brains in America eventually. Referring to the brains of criminals he ridiculed the idea that the criminal brain was of a decidedly different type from that of an ordinary individual. Many criminals, he said, show not a single anomaly in their physical or mental conformation, while many persons with marked evidences of morphological aberration have never exhibited a criminal tendency. The retiring vice-president of the Chemical Section, Dr. Wilder S. Bancroft, in his address made some remarks on the possibility of the transmutation of elements. He said that the fact that transmutation of the elements has never been observed does not prove that none has taken place. If Lockyer's conclusions as to the state of things in the sun were accepted many of the elements could undoubtedly be broken up if they could be exposed long enough to 6000° Centigrade.

Jan. 4th.

Obituary.

WILLIAM TURNER, M.R.C.S. ENG., L.S.A.

THE recent death of Mr. William Turner of Poole, Dorset, sadly illustrates some of the risks of medical practice. The deceased who was in his sixtieth year, while performing an operation at the Cornelia Hospital, Poole, on Oct. 25th, pricked the first finger of his left hand with the needle which he was using. The finger was immediately washed with an antiseptic solution, but to no purpose, as a medical friend was asked to see him on Oct. 27th on account of the painful state of the finger and arm and the illness continued with various exacerbations and remissions until it terminated fatally on Nov. 25th. At an inquest which was held on Nov. 27th the verdict was to the effect that death was due to blood poisoning and much sympathy for the family was expressed by both the coroner and the jury. Mr. Turner's professional education was received at Guy's Hospital and in 1867 he became qualified as M.R.C.S. Eng. and L.S.A. Soon afterwards he settled in Poole and eventually acquired the practice of the late Mr. Lacey of that town. In 1886 he was appointed a borough magistrate. Among various local positions which he held may be mentioned that of medical officer and public vaccinator of the first district and the workhouse of the Poole union, medical officer of the industrial school, and honorary surgeon of the Cornelia Hospital. He also acted as deputy coroner a few years ago. Mr. Turner took a great interest in Freemasonry. He was a Past Master of the Amity Lodge No. 137 and had held high office in the Provincial Grand Lodge of Dorsetshire. He was also a prominent figure in yachting circles and in former years his yacht gained several prizes; at the time of his death he was chairman of the sailing committee of the Yacht Club and was last year elected chairman of the regatta committee. For several years he was president of the Poole Natural History Club and was also associated with the Dorset Field Club. He has left a widow and a family consisting of five daughters and three sons. The funeral took place on Nov. 29th in Poole Cemetery.

THOMAS MORLEY ROOKE, M.D. LOND.

THE death occurred recently at Bournemouth of Dr. Thomas Morley Rooke. He had been much indisposed for some time and succumbed 24 hours after an operation which was undertaken in order if possible to save his life. Born at York in 1826 he entered as a student at Guy's Hospital, where his remarkable diligence was speedily recognised, and at the University of London, where he graduated as M.B. in 1852, carrying off the "blue riband" of the medical examination world by gaining the gold medal in medicine and the University scholarship. He took the degree of M.D. a year later. Always a hard worker, without adequate holiday, he started practice in London, but indifferent health, followed by hæmorrhage from the lungs, made it advisable for him to take a long sea voyage. After a year's rest he returned quite well and proved himself by his subsequent long life a good example of permanent recovery from a tuberculous lesion. He then commenced practice at Scarborough but an unfortunate *contretemps* made him beat a hasty retreat from this place where there was then thriving a certain "Dr. Rooke," proprietor of much-advertised quack nostrums and editor of a pamphlet called the "Anti-Lancet." The confusion entailed by the presence of two "Dr. Rookes" caused Dr. Morley Rooke so much annoyance that he was glad to exchange for another sphere and he chose Cheltenham. All his life, however, "Dr. Rooke's Anti-Lancet" was a never-failing source of joking with him. He spent 37 years in practice at Cheltenham where he held the office of President of the Gloucestershire branch of the British Medical Association and was consulting physician to the Cobourg Dispensary for Diseases of Women and Children and physician to the Derbyshire General Infirmary. He always kept himself abreast of the times in medical and scientific matters but it was as the best type of family physician that his memory will long be revered in Cheltenham. Though with a constitution never very robust his thoughts were always concentrated on his patients. Ten years ago the state of his health made him relinquish his practice and retire to Bournemouth, where he resided until his death. There he devoted his time and energy in relieving the sufferings of the poor and acted for a time as honorary secretary to the Charity Organisation Society. He was the type of the upright Christian man who delighted in doing good works not for his own soul's sake but for the good and pleasure that it gave to others. As a medical man in Bournemouth writes: "In these latter days his profession can ill spare one whose bearing so well represented the best type of a courtly English gentleman."

ALEXANDER LOCKHART GILLESPIE, M.D. EDIN., F.R.C.P. EDIN., F.R.S. EDIN.

BY the death of Dr. Alexander Lockhart Gillespie Edinburgh has lost one of its younger physicians and one of whom much might have been expected. He died suddenly from heart failure on Dec. 25th, 1904. He was a graduate in medicine of Edinburgh of 1888 and took the doctorate of medicine in 1892, receiving a gold medal for his thesis. In the same year he became a Fellow of the Royal College of Physicians of Edinburgh. He was a member of numerous medical and scientific societies. He came of a medical family, both his father and grandfather having been prominent men in their day. He was himself a man of great ability, of remarkable power of work, and of marked versatility He was the author of a book on "The Natural History of Digestion" and of another on "Modern Gastric Methods." He had contributed many articles to medical societies and to the medical press. In the estimation of his brethren in Edinburgh he held a foremost place amongst the medical song writers of the younger generation. At the time of his death he held the post of medical registrar at the Edinburgh Royal Infirmary. His wife predeceased him and he has left three children.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced: Dr. Alexander Bobroff, professor of surgery in the University of Moscow. He was the author of various surgical works.—Professor Nicolas Sklifosovski, surgeon to the Military Medical Academy in St. Petersburg, who was president of the Organising Committee of the International Congress of Medicine at Moscow.—Dr. P. Q. Brondegeest, lecturer in pharmacology in the University of Utrecht.—Dr. Lecorché, formerly medical officer to the Paris hospitals.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At the primary examination held recently the following candidates passed in the subjects indicated:—

PART I.

Biology.—A. J. V. Matthews, St. Mary's Hospital; V. P. Norman, London Hospital; H. H. Smith, Royal Free Hospital, and J. B. [illegible] Packa- [illegible]

PART II.

[illegible] Ford, [illegible] C C [illegible] spital, [illegible] spital, [illegible] spital; [illegible]

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Erich Abderhalden has been recognised as *privat-docent* of Physiological Chemistry and Dr. Helbron as *privat-docent* of Ophthalmology.—*Bonn:* Dr. Otto Burchardt has been recognised as *privat-docent* of Laryngology and Otology.—*Breslau:* Dr. Paul Jansen, *privat-docent* of Physiology, has been granted the title of Professor.—*Giessen:* Dr. [illegible] recognised as *privat-docent* [illegible] Pathological Anatomy.—*Je* [illegible] has been recognised as *privat-docent* of Surgery.—*Kazan:* Dr. N. Guerken has been promoted to the Professorship of External Pathology. Dr. Levchatkin has been recognised as *privat-docent* of Psychiatry.—*Kiel:* Dr Karl Holzapfel, *privat-docent* of Gynæcology, has been granted the title of Professor.—*Marburg:* Dr. O. Loewi, Director of the Pharmacological Institute, has been granted the title of Professor; Dr. A. Riedlander, First Assistant in the University Gynæcological Clinic, has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Naples:* Dr. Giovanni Galli has been recognised as *privat-docent* of Internal Pathology.—*Pavia:* Dr. Maurizio Ascoli has been recognised as *privat-docent* of Internal Pathology.—*Prague (German University):* Dr. Theodor Petrina, *privat-docent* of Medicine, and Dr. Enoch H. Kisch, *privat-docent* of Balneology, have been promoted to Extraordinary Professorships; Dr. Alfred Kohn has been [illegible] *St. Peters-* [illegible] Chaqovets [illegible] —*Vienna:* Dr. Johann Fein has been recognised as *privat-docent* of Laryngology and Rhinology.—*Zurich:* Dr. Oskar Wild has been recognised as *privat-docent* of Laryngology and Rhinology.

UNIVERSITY OF CAMBRIDGE.—The examiners in State Medicine for the ensuing year are Mr. Purvis, St. John's, Dr. G. H. F. Nuttall, Christ's, Dr. J. F. W. Tatham, Dr. J. Lane Notter, and Dr. R. D. Sweeting.—The examiners in Tropical Medicine and Hygiene are Dr. Nuttall, Sir Patrick Manson, and Professor Ronald Ross.—Mr. R. P. Gregory, demonstrator of botany, has been elected to a Fellowship at St. John's College.—Mr. A. E. Shipley, F.R.S., Christ's, has been elected a member of the Council of the Senate.—Mr. J. C. Willis, Caius, director of the Botanic Gardens, Peradeniya, has been approved for the degree of Doctor of Science.

ROYAL CORNWALL INFIRMARY.—Sir Robert Harvey of Trenowth, Cornwall, has given £1000 to the Royal Cornwall Infirmary, Truro, for the purpose of endowing a bed as a memorial to his wife, the late Lady Harvey.

ADVANCED LECTURES ON PHYSIOLOGY AT UNIVERSITY COLLEGE, LONDON.—A course of ten lectures on Enzymes will be given by Mr. W. M. Bayliss, F.R.S., in the Physiological Theatre, University College, London, on Wednesdays, at 5 P.M., commencing on Wednesday next, Jan. 18th. This course is a continuation of that given in 1904 and in it a selection of typical enzymes, such as invertase, lactase, pepsin, trypsin, lipase, and oxydase, will be discussed. These lectures are open to all internal students of the University of London and also to medical practitioners on presentation of their cards.

METROPOLITAN HOSPITAL SUNDAY FUND.—A meeting of the council was held at the Mansion House on Tuesday, Jan. 10th, the Lord Mayor being in the chair. The committee for general purposes, consisting of the President, Vice-President, and 19 members, was reappointed. In the committee of distribution there were two vacancies, Mr. Herman Hoskier having died and Captain Cundy having retired. In their places the council elected Mr. Felix Schuster and Mr. George Herring, who has during the last five years contributed £65,000 to the Fund. Mr. R. D. Martin, M.P., and Mr. John S. Gilliat were reappointed honorary secretaries, Mr. Charles Chester, honorary solicitor, and Messrs. W. H. Pannell and Co., honorary auditors.

LITERARY INTELLIGENCE.—Messrs. Longmans and Co. have in the press a collection of papers communicated to the Academy [illegible] the subject of t[illegible] book. The work, [illegible] structions for the construction of phosphorescent screens, has been translated into English by M. J. Garcin and the translation has been revised by Professor A. W. Reinold. It is announced that many of Professor Blondlot's observations are of a simple character and may be repeated without special apparatus and that a small phosphorescent screen, suitable for repeating some of the experiments, is attached to the book. This work should be of great interest as the existence of the "n" rays has been denied by a large number of scientific men in this country and on the continent and in the October and November numbers of the *Revue Scientifique* this difference of opinion has been expressed and Professor Blondlot himself has taken a part in the controversy. An interesting synopsis of the situation revealed by the *Revue Scientifique* appeared in the *Literary Digest* published in New York on Dec. 17t[illegible] shortly publish a book by [illegible] L.R.C.P. Lond., consulting [illegible] firmary, entitled "Religion and Health; their Mutual Relationship and Influence."

DONATIONS AND BEQUESTS.—By the will of Mr. S. Charrington, M.P., £500 are bequeathed to the East London Hospital for Children and £500 to the Victoria Park Hospital for Children and £500 yearly for three years to the London Hospital.—Under the will of Mr. Edwin Hunt the West Bromwich Hospital receives £500 and the Guest Hospital at Dudley a like sum.—Dr. Bentham Casaubon Chandler has bequeathed £300 to the National Hospital for the Paralysed and Epileptic and £300 to the Home for Incurables, Clapham.—By the will of Mrs. Ann Jameson £300 will be equally divided among the [illegible] ick Hospital, the Sunder- [illegible] Blind Institution, and the [illegible] Subject to certain legacies [illegible] which has been valued at £4575 2*s.* 4*d.* gross, and £3377 12*s.* 7*d.* net, is left in trust as to tw[illegible] Royal Infirmary and one-third [illegible] —Mr. John Wishart Lyell [illegible] llesex Hospital, to be [illegible] income paid annually to t[illegible] the event of the scholarship passing for a year, the income is to be applied for the general purposes of the hospital.—The Rev. A. Watson has bequeathed £250 to the Radcliffe Infirmary at Oxford; £200 to the Royal Free

Hospital, Gray's-inn-road; £150 to the Kidderminster Infirmary and Children's Hospital; £100 to the Hospital for Sick Children, Great Ormond-street; and £50 to the Wimbledon Cottage Hospital.—Mrs. Emma Elizabeth Temple has under her will bequeathed £2000 to Charing Cross Hospital and like sums to the West London Hospital, Hammersmith, to St. George's Hospital, and to King's College Hospital.

SUPERANNUATION ALLOWANCE —At a meeting of the Helston (Cornwall) board of guardians held on Dec. 31st, 1904, it was unanimously resolved to grant a superannuation allowance of £33 per annum to Mr. W. Wearne, who had recently resigned his appointment of district medical officer after 33 years' service.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—The committee of this hospital has decided to limit to 65 the number of new cases which can be seen in the out-patient department on any one day. This reform, which is taking effect from Jan. 2nd, has been made in response to representations from the medical staff, who pointed out that on certain days it was no uncommon thing for as many as 40, 50, or 60 new cases to be referred for treatment to a single member of the staff and that in such circumstances it was impossible to give proper attention to each case. The necessity for the new regulation has arisen, we are informed, not so much from the excessive number of out-patients applying for treatment in the 12 months as from the fact that the large majority present themselves on Mondays and Tuesdays, thereby crowding the out-patient department and making satisfactory work impossible on those days. The object aimed at is not the diminution of the number of out-patients as a whole but their more even distribution over the week. Patients coming with a recommendation from a medical man will always be seen, notwithstanding the new regulation, while care will also be taken that no hardship is inflicted on patients coming from a considerable distance.

UNIVERSITY OF LEEDS.—The time tables for the March and July examinations in the Faculty of Medicine have been issued. Written examinations begin on March 20th and July 10th and the practical and oral examinations in the case of each follow on the written one. The following appointments to external examinerships have been made by the council:—Medicine: G. Newton Pitt, M.D. Cantab., F.R.C.P. Lond., lecturer on pathology, Guy's Hospital. Surgery: Albert Carless, M.B., M.S. Lond., F.R.C.S. Eng., professor of surgery at King's College, London. Pathology: William Bulloch, M.D. Aberd., lecturer on pathology at London Hospital. Midwifery and Gynæcology: Peter Horrocks, M.D. Lond., F.R.C.P. Lond., obstetric physician to Guy's Hospital. Mental Diseases: G. Newton Pitt, M.D. Cantab., F.R.C.P. Lond. Medical Jurisprudence: Sir Thomas Stevenson, M.D. Lond., F.R.C.P. Lond., senior scientific analyst to the Home Office. Public Health: J. Lane Notter, M.D. Dub., late professor of military hygiene, Netley. Materia Medica: Francis Warner, M.D. Lond., F.R.C.P. Lond., F.R.C.S. Eng., lecturer in the London Hospital Medical College. Anatomy: George Dancer Thane, M.R.C.S. Eng., professor of anatomy at University College, London. Physiology: J. S. Edkins, M.B. Cantab., lecturer on physiology at St. Bartholomew's Hospital. These appointments have been made in accordance with the following regulation—viz., external examiners are appointed at first for one year only but they are eligible for re-election for a further period of two years. They are recommended by the Senate for election by the council in any case in which the board of the faculty concerned shall present a recommendation passed by the board *nemine contradicente* in favour of the appointment of a particular examiner, but in other cases after an advertisement for such examiner shall have appeared in selected newspapers. To meet the immediate requirements of the pathological department a sum of £294 has been placed by the council at the disposal of Professor A. S. F. Grünbaum.

BOOKS, ETC., RECEIVED.

AMERICAN CLIMATOLOGICAL ASSOCIATION (Secretary: Dr. Guy Hinsdale, Hot Springs, Va., U.S.A.).

Transactions of the American Climatological Association for the year 1904. Volume XX. Price not stated.

ASSOCIATION OF AMERICAN PHYSICIANS (Secretary: Dr. Henry Hun, 149, Washington-avenue, Albany, N.Y., U.S.A.).

Transactions of the Association of American Physicians. Nineteenth Session, held at Washington, D.C., May 10th and 11th, 1904. Volume XIX. *Price not stated.*

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden W.C.

A Manual of Toxicology. By Albert H. Brundage, A.M., M.D., Phar.D., Professor of Toxicology and Physiology in the Rhode, Island College of Pharmacy and Allied Sciences. Fourth edition, revised and profusely illustrated. Price 8*s.* 6*d.* net.

BROWNE, T. B., LIMITED, 163, Queen Victoria-street, E.C.

The Advertiser's A B C: The Standard Advertisement Press Directory. 1905 Edition. Price 10*s.* 6*d.*

CLAY, C. J., AND SONS, Ave Maria-lane, E.C.

The Harveian Oration delivered before the Royal College of Physicians on June 21st, 1904: I., I-em-hotep and Ancient Egyptian Medicine; II., *Prevention of Valvular Disease.* By Richard Caton, M.D., F.R.C.P., Emeritus Professor of Physiology, *University of Liverpool; Consulting Physician, Royal* Infirmary. Price not stated.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.

Grundsätze fur den Bau von Krankenhäusern. Von Generalarzt Dr. Thel, Korpsarzt des XI. Armeekorps. (Bibliothek v. Coler, Band 20.) Price M.6.

KIMPTON, HENRY, 13, Furnival-street, Holborn, E.C.

Materia Medica of Vegetable and Animal Origin. With Notes on the Properties, Uses, and Constituents of Crude Drugs. By John Humphrey. *With an Introduction by* E. M. Holmes, F.L.S. (Kimpton's Pocket Text-book Series.) Price 5*s.* net.

KNIGHT, W. J., 147 and 149, High-street, Ventnor. (HENRY FROWDE, London.)

The Life and Times of St. Boniface. By James M. Williamson, M.D. *Price 5s. net.*

LAURIE, T. WERNER, Clifford's Inn, Fleet-street, E.C.

Robert Louis Stevenson: A Record, an Estimate, and a Memorial. By Alexander H. Japp, LL.D, F.R.S.E., Author of "Thoreau: his Life and Aims," &c. With Hitherto unpublished Letters from R. L. Stevenson in Facsimile. Price 6*s.* net.

OFFICE OF "APOLLO'S" MAGAZINE, 1, Vine-street, New Oxford-street, W.C.

Ju-Jitsu: What it really is. The First Complete and Authentic Description of the Japanese Method of Self-defence written out of Japan. By (Wm. Bankier) *"Apollo." Price not stated.*

P. BLAKISTON'S SON AND CO., 1012, Walnut-street, Philadelphia.

A Manual of Fever Nursing. By Reynold Webb Wilcox, M.A., M.D., LL.D., Professor of Medicine in the New York Post-graduate Medical School and Hospital. Price 4*s.* 6*d.* net.

PENTLAND, YOUNG, J., Edinburgh and London.

The Edinburgh Medical Journal. Edited by G. A. Gibson, M.D., F.R.C.P. Ed., and Alexis Thomson, M.D., F.R.C.S. Ed. New Series. Vol. XVI. Price not stated.

REES, HUGH, LIMITED, 124, Pall Mall, S.W.

The Crusade against Phthisis. By A. B. de Guerville. Price 6*d.* net.

SANITARY PUBLISHING CO., LIMITED, 5, Fetter-lane, E.C.

Simple Methods of Testing Sewage Effluents. *For* Works Managers, Surveyors, &c. By George Thudichum, F.I.C., Author of "The Bacterial Treatment of Sewage," &c. *Price* 2*s.* 6*d.* net.

The Sewage Problem: A Review of the Evidence collected by the Royal Commission on Sewage Disposal. By Arthur J. Martin, Assoc.M.Inst.C.E., M.R.San.I. Price 8*s.* 6*d.* net.

Sanitary Law and Practice A Handbook for Students. By W. Robertson, M.D. Glas., D.P.H., Medical Officer of Health, Leith; and Charles Porter, M.D., B.Sc. (Public Health), M.R.C.P. Edin., Member, Honourable Society of the Middle Temple; Lecturer on Bacteriology, University College, Sheffield; Deputy and Assistant Medical Officer of Health, City of Sheffield. Price 10*s.* 6*d.* net.

SAUNDERS, W. B., AND COMPANY, 9, Henrietta-street, Covent Garden, W.C.

Atlas and Epitome of General Pathologic Histology. By Docent Dr. Hermann Dürck of the Pathologic Institute, Munich. Authorised translation from the German. Edited by Ludvig Hektoen, M.D., *Professor of Pathology in Rush Medical College, Chicago.* Price 21*s* net.

SWAN SONNENSCHEIN AND CO., LIMITED, 25, High-street, Bloomsbury, W.C.

The Public *Schools Year Book. With a Select List of* Preparatory Schools. Sixteenth Year of Publication. 1905. Founded by Three Public School Men: Eton, Harrow, Winchester. *Price* 2*s.* 6*d.*

The Schoolmasters' Yearbook and Directory, 1905. A Reference Book of Secondary Education in England and Wales, including Part I., General Information; Part II., Alphabetical Lists of Secondary Schoolmasters and Schools. Third Annual Issue. Price 5*s.* net.

Premature Burial and How it May be Prevented. With Special Reference to Trance, Catalepsy, and Other Forms of Suspended Animation. By William Tebb, F.R.G.S., Corresponding Member of the Royal Academy of Medical Sciences, Palermo, and Col Edward Perry Vollum, M D, late Medical Inspector, U.S Army. Second edition, by Walter R. Hadwen, M.D, L.R C.P. Lond, M R C S Eng, L.S.A. Lond Price 6s net.

WRIGHT, JOHN, AND CO, Bristol. (SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO, LIMITED, London)

[illegible] "Herbal Simples" (of Edible Parts) [illegible] place of Drugs from the [illegible] thor of "Herbal Simples," [illegible]" &c. Price 9s [illegible].

Appointments.

Succe[illegible] Public Institutions, [illegible] this column, are [illegible] ected to the Sub [illegible] morning of each [illegible]

BALLANTYNE, THOMAS, M.B, Ch B Glasg, has been appointed Senior House Surgeon at the Blackburn and East Lancashire Infirmary

BENNETT, J. M, L R C P I, L.S A, has been appointed Certifying Surgeon under the Factory Act for the Ruddington District of the county of Nottingham

CLAPP, GEORGE TUCKER, M B Cantab M R C S, has been appointed Medical Officer to the Exeter Post-office Staff

COOPER C T, M.B Melb, has been appointed Medical Officer and Public Vaccinator, New Glenelly, South Australia.

CORNER, EDRED M, M B Camb, F.R C S, has been appointed Con- [illegible]

Co[illegible] R C S Eng, [illegible] Surgeon to [illegible]

GRIBBLE, J. E, L.R C P., L.R.C.S, L.F.P.S Glasg, has been appointed Medical Officer for Port Wakefield, South Australia.

LEES, HAROLD C, M.R C S, L.R C.P. Lond, M B, B S Lond, has been appointed Junior House Surgeon at the Blackburn and East Lancashire Infirmary.

MACKENZIE, H. VALENTINE, M D, C M Edin, has been appointed Honorary Ophthalmic Surgeon to the Moretonhampstead (Devon) Cottage Hospital

MARTIN, JAMES, L.R C P. & S Edin, has been appointed a Public Vaccinator for the District of Middlemarch, New Zealand

PATERSON, ALEXANDER, M D, Ch M Edin, has been appointed Public Vaccinator for the District of Christchurch, New Zealand.

POWELL, H. A., M.B, Ch B, has been appointed Medical Officer to the Kadina Corporation and Wallaroo Mines, South Australia

SOUTER, J F, M.B, Ch M. Aberd, has been appointed Medical Officer at East Torrens, South Australia

WATERFIELD, N. E M B, B S Lond., F.R.C S Eng, has been appointed an Inspector (supernumerary) under the Sudan Government.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARMY MEDICAL SERVICE, 68, Victoria street, London, S W.—Examination of candidates for not less than 25 commissions in the Royal Army Medical Corps.

ASHTON UNDER LYNE, DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Resident House Surgeon Salary £120 per annum, with board, washing, and lodging

BOLTON INFIRMARY AND DISPENSARY.—Junior House Surgeon Salary £100 per annum, with apartments, board, and attendance

BOWDON, CHESHIRE, MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Resident Medical Officer Salary £100 per annum, with board apartments, and washing

CAMBERWELL, BRUNSWICK SQUARE INFIRMARY—As[illegible]ant Medical Officer Salary £110 per annum, increasing to £120, with apartments, board, and washing.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn road, W C House Surgeon, non resident. Honorarium at rate of 40 guineas a year Also Honorary Second Assistant Anæsthetist.

CHELSEA HOSPITAL FOR WOMEN, Fulham road, S.W—Anæsthetist. Also Clinical Assistant for three months

CHESTER GENERAL INFIRMARY—House Surgeon. Salary £100 per annum, with residence and maintenance

COUNTY ASYLUM, Rainhill, near Liverpool—Assistant Medical Officer, unmarried. Salary £150 per annum, increasing to £350, with apartments, board, attendance, and washing

COVENTRY AND WARWICKSHIRE HOSPITAL.—Assistant House Surgeon Salary £60 per annum, with rooms, board, washing, and attendance.

DERBY, DERBYSHIRE HOSPITAL FOR WOMEN—Honorary Surgeon

DUDLEY DISPENSARY—Resident Medical Officer. Salary £150, with house, coal, gas, and water

FARRINGDON DISPENSARY AND GENERAL LYING IN CHARITY, 17, Bartlett's Buildings, Holborn circus, E C—Honorary Dental Surgeon

FRENCH HOSPITAL AND DISPENSARY, 172, Shaftesbury avenue, W.C—Assistant Resident Medical Officer, unmarried Honorarium £40, with full board

[illegible] for Sanitary [illegible] two years [illegible] tant Medical [illegible] ard, lodging, [illegible]

[illegible] r, Brompton. [illegible]

[illegible] DISEASES OF THE NERVOUS SYSTEM—Resident Medical Officer for six months Salary at rate of £50 a year, with board and washing

Hos[illegible] W C [illegible]

Hu[illegible]

Ing[illegible]

[illegible] elly hill, near [illegible] Salary £150 [illegible]

[illegible] Salary £200 [illegible]

[illegible] r.—Honorary Medical Officer

METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL, Grafton street, Fitzroy square, W—Anæsthetist

[illegible] Medical Officer Salary [illegible]

[illegible] Salary [illegible]

NEW HOSPITAL FOR WOMEN—Clinical Assistants (female) Also Assistant Anæsthetist

NEW ZEALAND, UNIVERSITY OF OTAGO—Professor of Physiology. Salary £600, with half of class fees

RANGOON, DUFFERIN MATERNITY HOSPITAL.—Resident Lady Doctor [illegible] Rs 400, rising to Rs 500, with house, [illegible]

[illegible] OF ENGLAND—Two Members of the [illegible]

[illegible] HOSPITAL, City road, E C—Assistant Surgeon

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone road, N.W.—Clinical Assistants

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Surgeon, also Junior House Surgeon Salaries £100 and £60 per a[illegible] with rooms board and washing

TOTTENHAM [illegible] sician. Also Path[illegible]

VICTORIA H[illegible] S W.—House Su[illegible] board and lodging

WANGFORD RURAL DISTRICT—Medical Officer of Health Salary at rate of £60 a year

WINCHESTER, ROYAL HANTS COUNTY HOSPITAL.—Honorary Surgeon-in Ordinary

THE Chief Inspector of Factories, Home Office, S W, [illegible] notice of vacancies as Certifying Surgeon[illegible] Wokingham, in the county of Ber[illegible] Devon, at Mitcheldean, in the [illegible] Newport, in the county of Mayo.

Births, Marriages, and Deaths.

BIRTHS.

ARMOUR.—On Jan 6th, at Harley street, W, the wife of Donald John Armour, M B, F R C S, of a daughter

GUNN—On Jan 6th, at Great Bolton street, Blackburn, the wife of [illegible]

MAC[illegible]

MARRIAGE.

[illegible] Bayswater, William [illegible] Eng, to Gladys [illegible] r of King William's [illegible]

DEATHS

BELLIS—On Jan 4th, suddenly, at [illegible] London, W, Edward Bellis [illegible] late of 81, Holland Park avenue,

BLACKETT On Jan 5th at Cam[illegible] Murray [illegible] ey John [illegible] Cubulus

N.B—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A PECULIAR FEATURE OF THE RECENT FOG.

To the Editors of THE LANCET.

SIRS,—*Re* "A Peculiar Feature of the Recent Fog" in THE LANCET of Jan. 7th, p. 43, I beg to state that during the last fog I observed the same feature in the flames of the gas stoves in our office in the City as well as in those of the kitchen gas stove in my residence in Balham. The Bunsen flames showed a most intense yellow colour, the intensity varying during the day. Therefore I do not consider that the phenomenon arose from any mechanical scattering of sodium salts but it seems more likely that the presence of small particles of sea-water caused it.

I may mention, as possibly bearing on this subject, that once I tried to ascertain the quantity of sea salt suspended in the air on the German Isle of Sylt. The air showed that distinct "smell and taste of sea salt" and the spectroscope proved distinctly the presence of sodium which turned the blue Bunsen flame into yellow, but my then very simple means of analysis failed entirely to prove the presence of weighable parts of NaCl.

I am, Sirs, yours faithfully,
Upper Thames-street, E.C., Jan. 7th, 1905. E. FERNER.

To the Editors of THE LANCET.

SIRS,—Might not the yellow colouration of the flames of the gas in your offices be due to the fact that during the fog there was frost and that many of the cleansing authorities in London used salt in the streets to break up the ice which had formed on the roads? The atmosphere must have been impregnated with saline particles which would later, when dissipated, be brought into contact with the flame.

I am, Sirs, yours faithfully,
Trafalgar-square, W.C., Jan. 7th, 1905. A. G. BATEMAN.

THE EFFECT OF SNUFF ON THE ACTION OF THE HEART.

To the Editors of THE LANCET.

SIRS,—Can any of your readers refer me to any literature on the above subject or give me any trustworthy information as to what (if any) action snuff has on the heart? I have a patient, aged 68 years, who is suffering from flatulent dyspepsia and threatened heart failure. He uses about one ounce of snuff weekly. Is this habit injurious and should the snuff be forbidden? Thanking you in anticipation,

I am, Sirs, yours faithfully,
Hull, Jan. 9th, 1905. JAS. SAVEGE, M.D. Aberd.

A REPUDIATION.

To the Editors of THE LANCET.

SIRS,—A portion of the daily press having copied the reports of some of my cases which were published in last month's issue of the *British Journal of Dermatology*, I should esteem it a favour if you would allow me to state it was done without my knowledge or consent.

I am, Sirs, yours faithfully,
Harley-street, W., Jan. 3rd, 1905. T. J. P. HARTIGAN.

ANTI-NICOTINE TOBACCO.

To the Editors of THE LANCET.

SIRS,—Can any of your readers inform me of an anti-nicotine tobacco and what firm manufactures it?

I am, Sirs, yours faithfully,
Jan. 9th, 1905. H. D.

⁂ We have no knowledge of an "anti-nicotine tobacco" for pipes or cigarettes but it is just possible that such an article is made. There are cigars on the market from which a large fraction of the nicotine has been extracted but we have no experience of their qualities.—ED. L.

TUBERCULO-ALBIN.

To the Editors of THE LANCET.

SIRS,—It may be of interest to you to know that at the request of a number of patients who wanted to test its value upon themselves I gave tuberculo-albin a fair trial in six cases over two years ago. In no case did it appear to produce any benefit and in some instances it appeared to aggravate the symptoms. I have unfortunately still a quantity of the material beside me which I bought at that time, as far as I can remember, at a cost of 10*s*. an ounce and except for the glass stoppers and the bottles themselves consider the possession valueless.

I am, Sirs, yours faithfully,
Jan. 2nd, 1905. D. L.

◆

R. R. R.—The law is thus stated in Whitehead's "Church Law," second edition, at p. 179: "The duties of ministers and registrars are practically confined to enforcing the observance of the proper legal forms and ceremonies, but at the same time they are liable to punishment for performing the ceremony, knowing that the parties or one of them is either unable or unwilling to enter into the contract." An insane person cannot enter into the contract of marriage but it is not easy to imagine a case in which it could be proved that one of the parties was incapacitated at the time to the extent recognised by the law and that the clergyman or the registrar knew it. The exaction of any penalty, therefore, from the clergyman or the registrar must be extremely rare and we are not aware of any instance having occurred to which we can refer our correspondent. The difficulty of establishing the absence of intelligent consent to the contract of marriage was shown in the case of Scott *v.* Sebright and in that in which the Earl of Durham endeavoured to have his marriage pronounced void. Both these trials took place more or less recently and were reported at length in the newspapers.

Dict.—We do not possess the information which, we think, could only be obtained from the well-known manufacturers of various specialities.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 [illegible] M.), London Throat (9.30 A.M.), Royal Ea[illegible] .M. and 2.30 P.M.), Throat, Golden-squa[illegible] (2 P.M.), Chelsea (2 P.M.), Central Lon[illegible]

WEDNESDAY (18th).—[illegible] University College (2 P.M.), Royal Free [illegible] M.), Charing Cross (3 P.M.), St. Thoma[illegible] .), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (19th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's [illegible]aring Cross (3 P.M.), St. George's [illegible]ary's (2 P.M.), Ophthalmic (10 A.[illegible]), Gt. Northern Central (2.30 P.[illegible]ndon Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.).

SATURDAY (21st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.). St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (17th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Mr. W. C. C. Pakes and Mr. F. H. Joseph: A Note on the Use of Acid Media in the Isolation of B. Pestis.—Mr. F. H. Joseph: Fugent—a New Stain.—Mr. G. MacDonald: On the Development and Course of the Opsonins in Cases of Acute Lobar Pneumonia.—Dr. W. Bulloch: The Variations in the Opsonic Index in Cases of Tuberculosis.

MEDICO LEGAL SOCIETY (Rooms of the Royal Asiatic Society, 22, Albemarle-street, W.).—8 P.M. Dr. J. G. Garson: A Case of Disputed Fracture of the Clavicle. Demonstration:—Dr. J. G. Garson: The Development of Invisible Finger-prints. Discussion on the Law relating to the Criminal Responsibility of the Insane (opened by Mr. A. D. Cowburn).

ROYAL STATISTICAL SOCIETY (9, [illegible] Strand, W.C.)—5 P.M. Paper:—Dr. R. Dudfield [illegible] of the Methods of Recording and Publi[illegible]ng on Public Health, with Suggestions for the Improvement of such Methods.

WEDNESDAY (18th).—SOCIETY OF ARTS (John-street, Adelphi, W.C.)—8 P.M. Paper:—Capt. L. James: Wireless Telegraphy and War Correspondence.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—5.30 P.M. Paper:—Dr. C. W. Buckley (Buxton): Climatology from a Medical Standpoint.

ROYAL [illegible] of Civil Engineers, Great [illegible] 7.30 P.M. Ordinary Meeti[illegible] Election of Officers and Council for the ensuing year. Address :—The President (Capt. D. Wilson Barker): The Connexion of Meteorology with other Sciences.

FRIDAY (20th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-street, W.).—5.30 P.M. Cases and Specimens will be shown by Dr. W. H. Kelson, Dr. A. Morison, Dr. L. Guthrie, Mr. G. Pernet, Mr. F. Jaffrey, Mr. D. Armour, Dr. E. Pritchard, Dr. J. G. Emanuel, and Dr. G. Carpenter. Paper :—Mr. D. Drew: On a Case of Vesical, Ureteral, and Renal Calculus in a Child.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (16th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. T. C. Fox: Clinique. [illegible] Surgery of Simple [illegible] al, Hammersmith- [illegible] Various Diseases. [illegible] (Tottenham Hos- [illegible]

[illegible] nic [illegible] que. [illegible] ent [illegible] ry, [illegible] ties [illegible] by [illegible]) —

WEDNESDAY (18th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22 [illegible] Clinique. [illegible] especially [illegible]

POST-GRADU[illegible] road, W.).—5 P.M. Dr. Beddard: Practical Medicine.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration :—Mr. Nourse: Nasal and Aural Accessory Sinuses.

[illegible]

FRIDAY (20th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. StClair Thomson: Clinique. (Throat.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. S. Taylor: Treatment of Various Diseases

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle street, W.)—9 P.M. Prof. Sir James Dewar: New Low Temperature Phenomena.

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MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1904, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 12th, 1905.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain fall	Solar Radia in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Jan. 6	29 63	W	0 19	57	55	42	44	45	Raining
" 7	30·06	N.W.	0·02	58	54	42	49	52	Cloudy
" 8	30 29	W.	..	70	52	48	47	49	Cloudy
" 9	29·91	S.W.	..	53	53	48	48	51	Cloudy
" 10	30 47	N W	0 13	52	43	37	36	39	Cloudy
" 11	30 22	S W.	...	63	49	38	41	43	Fine
" 12	30 06	N.W.	...	65	47	41	39	41	Fine

During the week marked copies of the following newspapers have been received:—*Bath Weekly Argus, Glasgow Evening Times, Leeds Mercury, Cork Constitution Surrey Advertiser, Westminster Gazette, Sussex* [illegible] *Post, Notts Guardian, Dublin* [illegible] *Mercury, Sanitary Record,* [illegible] *Journal, The Scotsman, Highland News, St. Petersburg Medicinische Wochenschrift, Evening News, Morning Leader, Manchester Courier, &c.*

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An Address

ENTITLED

SOME THOUGHTS ON CONVULSIONS DURING INFANCY AND CHILDHOOD.

Delivered before the Fylde Medical Society on Nov. 29th, 1904,

BY HENRY ASHBY, M.D. LOND., F.R.C.P. LOND.,
LECTURER ON DISEASES OF CHILDREN, VICTORIA UNIVERSITY.

GENTLEMEN,—I am sorry to confess that I have nothing new or novel to offer you in my address to-night. But I will not pretend to apologise for discussing a subject familiar to every practitioner; the common things of this life are the most important and the common phases of disease are no exception. Movement enters largely into the life of everything that breathes; we are constantly doing something; our muscles are ever on the alert—are relaxing or contracting for the performance of some definite end. Coördinated movements are rendered possible by highly organised nerve centres which, on the one hand, receive impressions from the different sense organs of the body and, on the other hand, send out stimuli by a system of relays to the muscles. The nerve cells store energy ready to be released on call which, passing along the motor paths, evoke the muscular contractions. For the orderly progression of events the nerve cells must be in a normal or stable condition; the movements, whether reflex, instinctive, or voluntary, are all carried out in an orderly and coördinated manner.

In certain morbid states of the nerve cells there is an excessive sensitiveness to impressions or a deficient inhibition and the nerve centres appear to be at the mercy of every chance stimulus which comes along the afferent channels. Then order departs and chaos reigns; uncontrolled nerve discharges take place, giving rise to erratic movements, accompanied by a complete or partial loss of consciousness. In other words, there is a nerve storm which may be local or general and affect both motor and sensory centres. All through infancy the nerve centres are more susceptible to reflex stimulation, or perhaps we should say less under control than in later life, when the higher or inhibitory centres have become developed. The infant readily breaks out into tears, it is easily startled and angered, vomits from slight causes, and its temperature runs up with little reason. This instability or defective power of resistance to stimulation differs greatly in different individuals and certainly runs in families in the same way as epilepsy and insanity. Some infants, in spite of well-marked exciting causes, never suffer from convulsions, while others suffer whenever the digestion goes wrong. Neurotic women are very apt to have infants who suffer from convulsions. Comby relates how a woman who suffered from hystero-epilepsy lost five children from convulsions and a sixth also suffered. This hereditary disposition to convulsions is probably the most important factor with which we have to deal. But a disposition to convulsions may be not only hereditary but acquired, though in any given case both factors may be present. Rickets undoubtedly predisposes to convulsions; perhaps we ought to say that chronic indigestion, with the absorption of toxins into the blood, gives rise both to the bone changes seen in rickets and also renders the nerve centres unstable and ready to discharge from slight stimuli. It is certain that not every rickety child suffers from convulsions but a large proportion of children who suffer from convulsions between the ages of five months and two years are rickety. Given a maximum of hereditary or acquired disposition a minimum of stimulus will give rise to convulsions; or, on the other hand, a minimum of disposition requires a maximum of stimulation to produce the same effect.

Having laid some stress on the predisposing causes of convulsions let us consider the exciting causes or those which immediately precede the attacks. We may divide these for the sake of convenience into three or four groups. *Reflex*, in which the stimulus proceeds from the gastro-intestinal tract as in griping and colic, from the respiratory tract as in whooping-cough or bronchitis, from the internal ear, from the nose or mouth as in painful dentition. *Toxic*, as in the early stage of measles or influenza. *Central*, as in meningitis or syphilis of the brain. *Epileptiform*, when no cause can be found and often associated with signs of belated intelligence. We must, however, remember that often there is no well-marked difference between predisposing and exciting causes or between those which we might classify as central and reflex. It will be convenient to discuss some groups which in practice are fairly common.

Let us then first refer to the convulsions which are not uncommon in the newly born. With regard to their origin let me quote Sir William Gowers.[1] "During the first few days of life convulsions are not uncommon, but they probably always depend on direct injury to the brain during the progress of birth." And again, Spratling writes:[2] "It is a well-known fact that during the first two months of life reflex action is insufficiently developed and convulsions which appear at that time are almost always primarily cerebral and due to hæmorrhage." I cannot agree with these statements. I do not doubt that convulsions due to brain injury may take place in the newly born but I cannot think they are common; I believe they are much more commonly the result of gastro-intestinal disturbances due to artificial feeding and in some instances to epilepsy, the result of intra-uterine brain degeneration or disease.

The convulsions of the newly born are most common in infants who are artificially fed from the first and who are given diluted cow's milk which sets up flatulence and green curdy stools. There are clonic convulsions of the limbs, twitching of the eyelids, eyes, and face, dilated pupils, duskiness, drowsiness, and some fever. The fact that the convulsions are more or less one-sided does not by any means signify that they are not reflex. Any paresis would, of course, suggest organic disease but a slight hemiplegia may follow severe convulsive attacks and disappear in a few days or weeks. The fits may recur from hour to hour and the exhaustion may be extreme. In many cases, as I have already said, the abdomen is distended with gas, there is more or less griping, the stools are unhealthy, and the nates become more or less excoriated. Probably the starting point in these cases is an inflamed and overactive colon; possibly the absorption of toxins may have some influence on the nerve centres. We must bear in mind also that apart from the difficulty that some newly born infants have in digesting cow's milk there is during artificial feeding a greater risk of infection by the mouth than when the infant is fed from the breast. The same hands that attend to the mother's diapers and the infant's napkins prepare the food and feed the infant; the nurse often puts the teat of the feeding-bottle in her mouth before feeding. The newly born infant is very intolerant of infection by the mouth and colitis, fever, erythema, and convulsions result. How careless nurses are in many respects must be apparent to all. I often notice when an infant is brought to me that the *feeding-bottle containing the baby's food is carefully* wrapped up in a spare diaper, the latter being handy in case of necessity and at the same time fulfils the useful purpose of keeping the bottle warm. Surely no well-trained nurse would be guilty of such an abomination.

My own belief certainly is that convulsions occurring in the newly born, especially if the infant is being artificially fed, are usually reflex or, at any rate, not due to any brain injury. The short-cut cure in such cases is a wet nurse; failing this raw asses milk or whey made from clean, fresh cow's milk diluted with a solution of milk sugar; and if possible the services of a capable trained nurse should be acquired. In some instances convulsions in the newly born are due to ante-natal causes. Let me illustrate this by a case from my notes and one which is not altogether uncommon. "The patient had an easy birth; he belonged to a neurotic family of seven and came 14 years after the last child; convulsions of a mild type began three days after birth; he was breast fed for eight months; he had no indigestion but the fits recurred from time to time. He walked at two years old. When seven years of age he still suffered from slight fits; head measured 18¼ inches only; he has a high arched palate; he is babyish and mischievous and can only say a word or two but can understand a good deal, but he is clearly imbecile." It is pretty certain that this is not a case of birth injury but of defective development of brain during intra-uterine life, resulting in imbecility and epilepsy. It is possible that such cases are syphilitic but of this there was no evidence in the above case.

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[1] Diseases of the Nervous System, p. 713.

[2] Epilepsy and its Treatment, p. 75.

Let us turn now to the period of dentition which is in the estimation of the public the period *par excellence* for fits. In the language of the out-patient room: "He is plagued with his teeth"; "I have lost four children with teething fits"; "*He has fits such as all children have with teething.*" But the alienist is hardly less emphatic in his estimation of the importance of the period of dentition in causing convulsions. In a recent work I read the following: "It has long been the writer's belief that *dentition when severe and acting on an organism that bears the impress of transmitted weakness of a necessary kind* plays an important part in the production of epilepsy in early life." Another celebrated alienist writes: "I have seen the convulsions of dentition followed by a prolonged delirium ending in idiocy, or in true epilepsy or insanity of adolescence." Surely, as far as dentition is concerned, there is a great deal of exaggeration here and a suggestion of the arrangement by which the tail wags the dog. The period of dentition covers most of the first two years of life; during this time some tooth or other is being cut, or the gums are swelling in anticipation of their eruption. You cannot see lumps of curd or grape skins in the stomach and you forget to put your hand on the abdomen and feel for a griping colon, but you can see the swollen gums or the edge of an incisor tooth and if an explanation of the fit is necessary dentition is there as a very present help in time of trouble. Everyone knows the discomfort and irritability caused by sore gums and stomatitis but when I am told that dentition plays an important rôle in producing epilepsy and insanity I dissent. By far the commonest exciting cause of reflex convulsions is gastro-intestinal disturbance, accompanied by colic and griping, due in many cases at least to overfeeding with cow's milk. The decomposition of the curd plays an important part; the stools are pasty, lumpy, and foul-smelling. In other cases bronchial or naso-pharyngeal catarrh or middle-ear suppuration may be the exciting cause.

One type of reflex convulsions occurring during early life which claims our attention on account of its frequency and importance is spasm affecting the muscles of the glottis and respiration. Child-crowing, as it is called, or laryngismus, is practically always associated with rickets and especially affects infants from the age of four or five months till the end of the second year. Adduction of the cords is easily produced during childhood. The infant cries from slight causes and the cords are approximated for the purpose. Watch an infant under chloroform for an operation; if the operation is commenced before the infant is deeply under the anæsthetic directly the knife cuts the skin there is a noisy inspiration from spasm of the adductors. The same thing happens when vomiting or retching is imminent. Normally the adductors are inhibited during inspiration but the wounded cutaneous nerves cause reflex spasm of the adductors which is, perhaps, a sort of contribution towards a cry. A similar adductor spasm is produced in animals by galvanising the central end of the superior laryngeal nerve and also the splanchnics; Horsley and Semon have shown that stimulation of the base of the left third frontal convolution in the monkey produces adductor spasm and expiratory efforts.

Assuming there is in rickets what Dr. J. F. Goodhart would call an "imbecile respiratory centre," or, in other words, a condition of unstable equilibrium, there is a reflex spasm of the adductors of the cords from slight causes. Among these causes we may mention emotion, such as anger, irritation of the fauces, as in catarrh, and discomfort or pain in the gastro-intestinal tract. We say of an individual in a highly emotional state that he was speechless from anger; the violent effort made to speak prevents the deep inspiration from being taken which is a necessary preliminary for a violent declamation. Watch an attack of laryngismus in an infant. He has an irritable temper, easily provoked; something goes amiss; he gives a series of cries to express dissent; then comes the attempt to make a very deep inspiration in order to give still more emphatic vent to his feelings but he is in too great a hurry to make himself heard and respiration is arrested in what physiologists call "expiratory standstill." Vigorous but futile efforts are made to inspire, while the face works; presently a condition of semi-asphyxia intervenes which inhibits the emotional disturbance and expiratory spasm and air is drawn into the lungs with a crowing sound. Other attacks follow till the child falls asleep. In the slighter attacks there is partial spasm only and the child crows from time to time, or the crowing is continuous both during the day and during sleep. In some cases of laryngismus there is an association of tetany, the overflow of energy passing into the muscles of the limbs and giving rise to continuous spasm. Let us remember there are other forms of laryngeal spasm besides laryngismus in association with rickets. The congenital stridor of young infants is, I believe, a reflex spasm. In croup and whooping-cough a similar spasm occurs.

Convulsions in some instances are of cerebral origin, being due to some form of brain irritation. Among these causes may be meningitis, encephalitis, thrombosis, hæmorrhage, tumours, and syphilis. In meningitis the fits may occur at quite the initial stage or towards the end of the case and herald the fatal termination. In the former case the diagnosis may be difficult. The question will present itself, Are the convulsions reflex from the alimentary canal or are they due to some commencing organic disease of the brain such as meningitis? I doubt if the nature of the fits themselves will lend much assistance in the diagnosis, as both reflex and fits secondary to some brain irritation may be more or less one-sided and accompanied by a temporary retraction of the head and coma. In fact, we may have the same type of fit whether there is an early meningitis or tumour, or a toxic condition of blood with or without reflex irritation.

There is, however, one type of convulsion occurring during infancy which is distinctly of the Jacksonian type and that is a syphilitic softening of the cortex of the brain. An infant a few months old who has suffered from coryza, erythema, and epiphysitis begins to suffer from slight one-sided convulsions; there is a slight series of twitchings of an arm or leg which frequently recur. There is a momentary loss of consciousness or only a dazed look. Later the twitchings may affect the opposite side and then gradually a contracture of the flexures of the arm and leg first affected takes place and the infant shows signs of less and less intelligence. The post-mortem examination shows a patchy softening of the grey matter of the cortex with degeneration of the arteries. Sclerosis seems to follow the softening. Frequently recurring slight fits without apparent cause during infancy suggest epilepsy associated with more or less imbecility or mental feebleness. The convulsions may be so slight as to be overlooked or may pass as "faints." But as time goes on it becomes only too clear that the mental powers are not developing at the normal rate. The infant takes no notice of his friends, or he is constantly screaming and giving the unfortunate mother no rest day or night; later he is mischievous and passionate. Slight general convulsions which frequently recur without apparent cause and with signs of delayed intelligence are of the worst possible augury with regard to the child's future. This combination of imbecility with fits would seem to point to some failure of development taking place during ante-natal life which interferes with the higher centres and renders the nerve cells unstable.

Where does the dividing line come in between infantile or reflex convulsions and epilepsy? Between a temporary condition of unstable nerve cells and a more permanent condition of instability? In the majority of cases of infantile convulsions, especially those which are associated with rickets, the tendency to convulsions becomes less and less as the child becomes older and finally they cease to recur. On the other hand, we find perhaps 10 per cent. or more of those who suffer from epilepsy in later life have suffered from infantile convulsions. Then there are a certain number of cases, especially in children from three years to seven years old, in which the diagnosis is uncertain as to whether they are reflex or are true epilepsy. If we can clearly recognise some definite reflex cause such as worms, dyspepsia, or a febrile attack as the exciting cause, we may have good reason to look forward hopefully to the future. The convulsions may be reflex occurring in a neurotic child and they may probably cease to occur as the nervous system becomes more robust and less easily influenced by eccentric stimulation. If the attacks recur without obvious cause and especially if there is any mental peculiarity about the child the prognosis is much more grave. In any case when fits occur in early or late childhood they must be taken as evidence of a neurotic constitution which will require judicious handling all through early life.

So far we have been discussing attacks of convulsions which, however much they may threaten life during the actual attack, pass off and leave no temporary or permanent disability. There are, however, certain attacks which are clearly very serious in their nature and when the storm has passed away it is found that a certain amount of wreckage remains. In many cases it is certain that severe damage has been done, but it may be impossible to say how or what. We ask ourselves, Have the convulsions been toxic?—as, for instance, when they occur in the early stage of measles,—Has a meningeal of multiple bleeding *taken place which has damaged some nerve paths or centres?* In other words, has the lesion been a consequence of the fit? On the other hand, has there been a thrombosis or focal encephalitis which has given rise to both the convulsions and the paralysis which is left? In some instances at least there is post-mortem evidence of multiple hæmorrhages which suggest venous engorgement secondary to the convulsion and it seems probable that in some cases this is the true explanation. But, on the other hand, we find an anterior poliomyelitis and also convulsions and a hemiplegia of cerebral origin occurring in the course of measles, and one is tempted with the suggestion that in one case there is a focal inflammation of the grey matter of the cord and in the *other case a focal inflammation of the grey matter of* the cortex.

In these serious attacks of convulsions there is usually more or less high fever, perhaps 104° or 105° F., one convulsive seizure is followed by another, perhaps for many hours, and is followed by deep coma which lasts from 24 hours to a week or even more. This state closely resembles the status epilepticus of adults and has been called the status eclampticus. Doubtless such attacks have done duty on various occasions for "brain fever." Some of these attacks come on during whooping-cough, measles, or other infective diseases. Hemiplegia is one of the most important complications of this state; the paralysis may not be noticed till after the convulsions have passed away. In some cases it is slight and temporary; in others it is severe and remains for life and the paralysed limbs become spastic. In the latter case there is often feeble-mindedness and sometimes post-hemiplegic epilepsy. Among the feeble-minded children brought up for examination at the special schools in Manchester 10 per cent. had hemiplegia dating from attacks of infantile convulsions. But apart from any paralysis a serious convulsion may leave behind it a condition of the *mental powers altered much for the worse.* Whether this is the result of the nerve storm or owes its origin to some cause such as encephalitis is uncertain. Let us take the following case as an illustration.

The patient was a boy, aged four years. The family history was good. He learned to walk at 17 months and talked at two years. He was a boy of normal intelligence till he had measles at three and a half years of age. He was suddenly seized with convulsions and high fever and was in *deep coma for two days, the rash of measles appearing* on the third [illegible] blind for a few [illegible] months after h [illegible] vulsions his temperament has changed; from being an easily managed boy he is now irritable and difficult to manage. He is very babyish for his age, is mischievous and destructive, and his attention is constantly wandering.

This is, perhaps, not an uncommon type of case; there are a *series of fits followed by coma*; when the patient recovers consciousness it becomes clear that some damage has been done to the highest level centres; but what the nature of the damage it is not easy to say. In not a rare class of case the child recovers completely from the status eclampticus except that for many weeks he is blind. In epilepsy visual auræ are not uncommon, the patient sees *flashes of light* or there is sudden darkness before the fit supervenes. In rare epileptic seizures the sudden and temporary *loss of sight is the only phenomenon* which takes place. Very possibly the accounts handed down to us from past ages of people being suddenly smitten with blindness were cases of epilepsy. Dr. W. W. Ireland speaks of a boy who used to say that at the onset of a fit his "e'en gang black." It seems likely that the visual area of the cortex is involved in the discharge and a state of exhaustion remains. Let me quote the following case.

The patient was *aged one year. The child had severe* whooping-cough for a *week or ten days*, when he was seized with general convulsions lasting for several hours; these were followed by deep coma for 12 hours. When I saw him with Mr. J. H. Hacking he was collapsed and insensible, with contracted *pupils and a temperature of from* 101° *to* 102° F. He gradually recovered consciousness but remained drowsy for some days, then it was noticed that he could hear what was going on, as, for instance, the preparation of his meals, but could not see. When I saw him again some two months after the fits he was bright and lively but was blind. The pupils acted to light and were normal; the optic discs were also normal. He could sit up, chirp and crow, and say "dada" and "mamma," he could not see his bottle, but when it was put into his hands he grasped it and *carried it to his mouth. He took no notice of a bright* electric light brought near to his face. From this time he gradually improved and between three and four months after the attack he could see as well as ever. I have never seen a case in which permanent loss of sight followed convulsions. In these cases the pupils are active and normal, which would suggest that the lesion or failure of function is higher up than the pupil reflex centre.

Rare cases have been described in which there was an attack of convulsions followed by coma and when consciousness was regained it was found that the patient was deaf. This was so in the following case.

The patient was a girl, aged eight years. Before the *attack she was a* bright, intelligent girl in the second standard at school. One hot day in July, 1904, after returning from school she was seized with convulsions and high fever. The convulsions lasted for seven hours; she was comatose for more than a week. After regaining consciousness she was drowsy for some days and found to be completely deaf. According to her mother's account there was no discharge from the ears or any pain at any time. She could not hear a word but answered written questions in a low voice. Examined by Mr. F. H. Westmacott three months after the attack he reported that she could hear the tuning-fork held in contact with the skull but not when held close to her ears. There was a perforation of one drum but no discharge; the membranes were thickened and drawn inwards and the ossicles were fixed. What lesion had taken place during the acute attack it is difficult to say—possibly an acute inflammation of the labyrinth and middle ear without pus. Five months after she was *still* completely deaf and waiting for admission to a school for the deaf and dumb.

In some cases a temporary aphasia is left after a severe series of convulsions, either with or without being associated with hemiplegia. In one case coming under my observation a boy, aged two and a half years, had a series of severe convulsions in the course of whooping-cough, which was followed by aphasia which lasted two months. There was no deafness but he answered by gesture and pushed his plate when he wanted more to eat. During this period he was heard to talk once or twice in his sleep. When once he began to say a word or two he quickly regained his old power of chattering and no difficulty of speech remained. I have related these cases as I was anxious to call attention *to the alarming* complications which at times accompany severe convulsions. The onset is sudden and the fits are severe and follow one another rapidly. Then comes the comatose stage which is often prolonged for a week or more. In some of these cases death takes place and nothing is found post mortem, at least to the naked eye, but a *very wet* brain and fluid in the *lateral ventricles Presumably the* effused fluid is secondary to the congestion of the vessels, the result of the severe convulsions. In other cases recovery takes place slowly without a [illegible] I have already pointed out th [illegible] which complications remain [illegible] fit has passed away is uncertain. Post-mortem examinations are badly wanted and a very complete histological examination of the brain is required.

To attempt to discuss the treatment of convulsions would mean *discussing the* treatment of the many diseases or conditions with which convulsions are associated. This I will *not attempt* but will be content with making a few remarks. As far as the acute stages of tonic and clonic spasms are concerned we shall find subcutaneous injections of morphine the most powerful remedy for quickly allaying the irritability of [illegible] ments. [illegible] mus is [illegible] six months old, may be given one-fortieth of a grain and an infant one year old a twentieth subcutaneously. Avoid the use of morphine in wasted and feeble infants and also in newly born or very young subjects. Inhalation of chloroform is another quickly acting remedy but its action soon ceases when withdrawn. Chloral given by the rectum is slower in action but its effect is more durable. Four or five grains of chloral dissolved in water or in egg-and-milk mixture may be given to an infant aged from six months to a year. The bromides are too slow in action to be of any use during the fits but later mixed bromides may be given to prevent their recurrence. It is wise in all cases to give calomel by the mouth if the patient can swallow to clear away any foul curd or irritating matter in the intestines.

What can be done to prevent the continued and dangerous irritability of the nerve centres? I have at times seen infants with simple laryngismus inclosed in steam tents, in hot stuffy rooms, where no outside air has been admitted for weeks. We shall all agree that instead of being kept in a used-up hot-house atmosphere they ought to have been enjoying the breezes on the sea shore. What we want is a hardening and bracing up of the nervous centres and an improved condition of health. For this purpose a hot-house atmosphere is the worst possible. No doubt too great changes of temperature are not to be recommended all at once, especially in those cases where laryngismus is associated with laryngeal or bronchial catarrh. Give the child a warm bath every morning and then sponge or douche him with cold salt water, taking care to rub dry and get a reaction. Give him more and more fresh air every day and get him off to the seaside as soon as possible. The success which has attended the open-air treatment of the pneumonias, of whooping-cough and measles should open our eyes to what can be done in this direction in other diseases, such as the functional diseases of the nervous system, during early life. In all forms of convulsions, especially those associated with rickets, open-air treatment is likely to be successful. There can be no difficulty in summer in keeping the infant out all day and supplying him with fresh air freely at night. In colder weather great attention should be paid to the clothing, keeping the feet warm, and sheltering from high and blustering winds. If these matters are attended to let the patient be outside in the coldest weather. The diet must be carefully regulated; infants suffering from convulsions are often given too much milk, their stools are foul and pale; intestinal intoxication plays an important rôle alike in rickets, convulsions, and epilepsy.

What are we to advise with regard to the fits of older children, whether admittedly epileptic or belonging to a borderland class, which we call "reflex fits," but with a certain mental reservation? Diet is of great importance and a careful consideration of the idiosyncrasies of the individual. Speaking generally, a mixed diet, moderate in amount, avoiding overfilling the stomach and overworking the digestive organs, will answer best in the long run. To forbid meat and to allow the child to take large quantities of starches and sugar is bad policy. Heavy meals of oatmeal porridge, rice pudding, and bread-and-butter are likely to lead to intestinal fermentation and distension of the abdominal organs with gases. It is well in the first place to cut down the starches by forbidding porridges and puddings and only small quantities of bread-and-butter. Cocoa, with egg and toast for breakfast; a reasonable quantity of beef or mutton or poultry for dinner with cooked vegetables and stewed fruits; and cocoa, toast, and treacle or honey for tea. Some children are given too much milk; mothers will boast that by hook or by crook they get into their children a quart of milk a day in addition to their meals and expect to be commended for their motherly instincts. Then they say that the child has lost his appetite and meat essences and raw beef juice are given at odd times; if these fail to cure the child they suggest a tonic and port wine at 11 in the morning. All these maternal insanities have to be combated, a carefully selected and frugal diet has to be prescribed, some cascara in divided doses or a saline mineral water, to secure regular and fairly free evacuation of the bowels.

Then there remains the important question of school which is so often put to us by parents. Probably the answer is expected, "On no account let the child do any lessons but let him 'run wild' for six months." If "running wild" means involuntary idleness, an aimless and empty existence without discipline and control, and a more than ever concentration on self, then "running wild" is the worst possible treatment for fits. By all means arrange for many hours in the open air but find objects of interest, outdoor work, and outdoor play. Then consecrate some part of the day, be it only a couple of hours, to some indoor employment. There is no real fear of overworking juvenile brains if the subject matter is not concerned with desks and books but is made interesting and the employment or lessons are short and varied and intervals of outdoor relaxation are frequent. The child is a social animal and the society of other children, if well under control, has a powerful influence for good and the more neurotic the child the more need is there for his contact with others. To allow the neurotic child to feel that he is the first to be considered, to let him think that every little ache, every little disappointment, and every discomfort are sore trials is to be doing all that can be done to blight his future. Give him daily employment, everything well within his powers, and look for accurate performance. Defer if you will all abstract learning till a later day, but find for him an active and occupied life; lend him a firm hand that may help to forge and strengthen the links of voluntary power and self-control which will prove important factors in preventive medicine and save many a sorrow.

THE PRINCIPLES OF TREATMENT OF PNEUMONIA.[1]

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INTRODUCTION.

THIS advocacy of an active treatment for pneumonia may be an unnecessary pleading with some. If so they are the exception. The present fashion is rather the other way, and patients are lucky who may find in the body of the profession some of that hopefulness too foreign to its teachings. My theme is: "*Non nocere, sed agere.*" Our hope lies in the fact that pneumonia is not a fulminant disease killing the patient on the first or even the second day but later, if fatal. Our opportunity is to utilise that precious interval of safety and to strike early and strongly. The weapons are those of nature, provided by the heart and the lymphatic circulation, and such simple and safe remedies as may oppose the coagulation of fibrin and encourage its reabsorption. This is the general plan which I must endeavour briefly to describe.

THE PRESENT SITUATION.

Not very long ago an important debate was held in the United States on the relative value of medication by tonics or by vascular depressants. That any doubt should exist upon so fundamental a question describes the therapeutic position and our own. But the familiar request, "Give us the treatment of pneumonia" cannot be gratified in a few words. There is no single treatment for the disease, but only individual treatments for the sufferers—a reservation which must apply to any suggestions laid before you to-day.

Only two months ago my senior consulting colleague, Sir Henry Pitman, now in his ninety-seventh year, who retired from the active staff of St. George's Hospital before I was born, was telling me in his firm clear voice, "We used to bleed them in those days and they got well." Bleeding was, however, only part of the treatment. We seem to have lost the old art of treating pneumonia; we have not at present developed any new one and we are now largely living in the future hope of an antidote and of a preventive. It is true that here and there tradition has preserved in old medical families much of that which was good in the old-time treatment, and, again, a few men of exceptional clinical instinct and enterprise have struck out new lines for themselves with encouraging results, but the representative body of medicine has been under a spell and its oracles are dumb.

THERAPEUTIC INACTIVITY AND ITS CAUSES: IS IT JUSTIFIABLE?

On one point only I do not hesitate to be dogmatic. In presence of pneumonia we should be "up and doing." Hopefulness is essential to our usefulness and a passive attitude is hardly consistent with our recent advances in pathology and pharmacology. The therapeutic paralysis which had crept over medicine early in the last century was an after-wave of the destructive scepticism of the eighteenth century. As a fact, medicine and therapeutics were ill prepared then for the ordeal of critical analysis or to supply experimental evidence, and further, havoc was worked by the statistical method, which was applied prematurely to clinical questions from a growing desire for mathematical proofs. The calculating machine was right but what of the facts? C[illegible] as that pne[illegible] that all forms of treatment are useless or bad, and that the best course is "no treatment." To save appearances the mischievous euphemism "expectant treatment" was invented and it usurped the place of a precept. We have witnessed its paralysing influence in phthisis, in typhoid fever, and almost to the present day in pneumonia where the figures are alleged to show a fairly uniform death-rate under all varieties of therapeutic conditions. Were this allegation admissible there would be no object in my further addressing you. But it shall not pass unchallenged. In the first place the cases grouped together are of absolutely different kinds. Pneumonias supervening in exhausted vitality from extreme age, chronic diseases or intoxications, &c., are a *modus moriendi* and are inadmissible as tests for the value of remedies. Others are, owing to the relative mildness of the attack or to the superior stamina of the subjects, capable of spontaneous recovery without, or even in spite of, any interference. These, too, are not available as tests.

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[1] An address delivered at Ramsgate on Dec. 1st, 1904, before the Isle of Thanet Division of the East Kent Branch of the British Medical Association.

Moreover, even in the remaining group which is the real field for therapeutic usefulness there are two unknown quantities varying with the individual—the relative virulence and amount of the infection and the innate power of resistance variously modified; and these were often the deciding factors when our treatment had been credited with success or failure. *Further doubts also arise from our clinical* limitations. We have known remedies to be triumphantly reinstated in modern therapeutics which had previously been rejected as inefficient because then employed in cases, in doses, or in circumstances which rendered them inoperative. The effect of these influences, and above all the conflicting and too often discouraging results of individual practice, has been to puzzle and to cramp our recognised teachings till therapeutic confidence and discrimination have almost disappeared in our generation, whilst the fatality of the disease continues its appeal.

Meanwhile the "specifics," of which there is a perennial supply from abroad, have not obtained a foothold in this country, for the good news that "pneumonia is under control" has not yet been flashed round the world. The same also applies to the only definite plan of treatment which now obtains a large following, that of raising the vital functions by peripheral stimulations. You have all heard, and some of you may have practical experience, of these bathings (only admissible in the case of children), spongings, cold packings, affusions, alternating cold and hot applications, and other devices for which doubtless there is much to be said. But this Spartan method claims so much time and energy as practically to exclude other treatment more suited to the urgencies of the hour. Very serious, too, is the responsibility of going counter to nature's prayer for rest. And how difficult to apportion the stress of this responsible treatment to the requirement and to the capabilities of each case! In short, I cannot regard this as our final therapeutic formula for pneumonia.

To recapitulate. Our present position is one of perplexing uncertainty: *ex cathedrâ* no strong line of treatment nor any guidance as to the value of the various opposing suggestions; on the other hand, definite forms of treatment are recommended by small minorities, viz.: (1) by individual believers in some specific remedy, and (2) by the supporters of plans of management, such as (*a*) the antiphlogistic or depressing plan, (*b*) the tonic plan, (*c*) the complete rest and feeding plan, and (*d*) the stimulating and rousing plan. The result as regards practice is that the bulk of the profession deem it wise to remain neutral and the patients bear the consequences. This is why, so late in the history of pneumonia I venture to invite you to join me in searching out the principles of its treatment. I propose to sketch the line which I am now following in connexion with a case as an illustration. Taken alone it can prove nothing, for all cases differ. But other cases, perhaps many of them, may closely resemble this one and might be equally benefited by the same measures.

THE MARCH OF THE DISEASE.

Pneumonia is known to be only one of the possible manifestations of a more or less general infection. Departures from the classical types had long ago been noticed in which was described a period of incubation lasting a week or more. The actual invasion may occur elsewhere before striking at the lung, or rarely the lung may escape almost entirely and the diplococcus may expend its virulence upon other parts, particularly the serous membranes and the joints. The mysteries enacted within the lung are in a great measure hidden from us. The rigor and attendant collapse may be regarded as a violent shock to the medulla through its afferent nerves, or perhaps as an invasion of its tissues. So great a commotion could not be the deed of one or of a thousand microbes; the rigor has therefore the significance of the time signal of the exploding effect upon the nervous system or of the entrance into the blood of a charge which had for some time been accumulating somewhere at the periphery, in the tonsils, the lungs, or elsewhere. Henceforth the lungs are at the mercy of the enemy, and yet not in their entirety, for there is significance in the following facts: (1) that in their greater part they remain free from invasion; (2) that the invasion is not only *not general* but *not even multiple* in either lung though it may occur in both; and (3) that a large area is affected at once and that the secondary infections which may occur are commonly continuous (as though by extension) with the main lesion. All this, as well as the rigor itself which is suggestive of some embolism, points to a definitely local invasion and to a lodgment of infective material, more probably in the air tract or blood-vessels than in the lymphatics.

We cannot stop to consider the serial evolution in the lung of the several morbid stages which are sometimes displayed post mortem when a progressive invasion ends in that wholesale phagocytic disaster and annihilation known as "grey hepatisation." Red hepatisations, airless congestions verging on consolidation, [illegible] sticky semi-œdematous c[illegible] [illegible]r lesion. I mention them in illus[illegible] are noted in our clinical signs. That the main consolidation is a regional reaction to the original lodgment is rendered probable by the post-mortem appearances described But this too liberal provision by nature to lock up the invaders is in itself a danger. As pointed out by my friend Dr. Andrew H. Smith of New York, the extensive effusion of fibrin is really a "breeding ground" for the diplococci, and this enormous supply of pabulum is the explanation for the overwhelming amount of poison manufactured by them in the lung and thrown into the circulation. According to this view the coagulation of the fibrin is *the danger*, and this should be borne in mind in our treatment.

THE CLINICAL STAGES.

The rigor constitutes a serviceable time-mark; but the following events are not to be registered so definitely and are perhaps not identically timed in all cases. Tubular breathing becomes audible earlier in some, later in others, but seldom before the lapse of 36 hours, and then rapidly increases in intensity and extent. During the interval there is a characteristic suppression of the vesicular and bronchiolar respiratory murmur over the affected area, which in the absence of any bronchitis carries with it the interpretation, also supported by the appearance of rusty expectoration, that the congestion is already so heavy as to impede the elastic function of the alveoli and partly to obstruct the entrance of air. Capillary oozing, which now sets in more freely, probably relieves the local turgor and the wall tension to the extent of restoring some vesicular respiration of a modified type. The advent of the fine inspiratory crepitation informs us that the part is not consolidated but that exudation of plasma has begun and that it has not yet filled the alveoli. Its continuance in some cases side by side with tubular breathing is usually regarded as evidence of a progressive extension of the pneumonia. But in some cases we might draw the happier inference that the plasma has remained in a semi-fluid state and does not yet completely plug the air cells.

Another important inference also arises. Fine crepitation tells that at that stage the corresponding bronchioles are not sealed, though they may become sealed subsequently. And I may in passing draw your attention to the fact that neither during its effusion nor during its reabsorption does any of the plasma dilute the tenacious hyaline mucus which appears to be derived exclusively from the congested bronchioles. It almost seems as though the spongy tissue were in a retentive attitude or its abnormal contents too sticky for ready expulsion. This stagnation *in profundis* in spite of open ways is still more striking in connexion with the looser and larger bubblings of crepitatio redux. The cases of persistent fine crepitation on the one hand, and on the other the much more unusual cases where even medium-sized bronchi are plugged by overbrimming exudation, serve to demonstrate that the degree of the exudative process and perhaps its quality may vary widely.

Let us bear in mind these successive changes corresponding to the five clinical stages of (1) invasion, (2) congestion, (3) exudation, (4) consolidation, and (5) resolution. I was almost passing over the highly suggestive phenomena of crisis, not so abrupt as the initial rigor, and yet sufficiently sudden and rapid as to remind us of a vascular if not of a vaso-motor event on a large scale. The warm sweat of recovery, conceivably excited by the products of the ripening intra-alveolar fibrin, just as the cold sweat of grey hepatisation is determined by the massive outpouring of the toxins, however it may otherwise work, certainly operates towards temporarily reducing the vascular fulness and stagnation. Within a few hours congealed life is started afresh into activity and the shrinking fibrin releases its pressure upon the collapsed or obstructed blood capillaries. Circulation is restored and the rest is a huge phagocytic banquet. There are other sides to the clinical picture—the cardiac, the hepatic, and the renal, but I must pass on to our chief subject.

THE VARIOUS ASPECTS OF TREATMENT.

(*a*) If we could, we should prefer to forestall the disease; this in the future will become the preventive treatment by immunisation. (*b*) If we knew, we should stop the invasion at its onset, by the wholesale poisoning of the micro-organisms. But meanwhile during the remaining interval of our ignorance the mortality is but slightly diminished by (*c*) the restorative and (*d*) the symptomatic treatment, the need for which will never cease. We want something more, (*e*) a curative, or at least palliative, treatment on the best rational lines. This we can study to-day in the brighter light of modern pathology.

The definite objects before us are: (1) To arrest the morbid process, by other abortive measures than the missing antitoxin; (2) to restrict the invading host, though we cannot stop it; (3) to destroy or to neutralise the poison by the vital energies; and (4) to hasten its elimination by every possible help. The individual means to these ends may be inadequate at first, or even mistaken, but the plan is good and the policy sound. Bear with me, then, if I should delay you with details almost trivial or with suggestions less practical than those which I hope you will yourselves offer.

THE PRINCIPLES OF ACTION.

1. *Prompt and assiduous treatment.*—Nowhere is this more vital. In all pneumonia the opportunity for curative treatment is brief and occurs early; all the rest is mere work of rescue and success is a question of vitality. So rapid is the march of events that our treatment has to be watched and varied almost constantly. We have counted the days in the pathological process; much more essential still that we should count the days of treatment. Nay, during the first day it is necessary to count the hours, whilst each hour has its changing indications. Lasting supplies of any one medicine are not needed. What is then wanted is the physician's almost constant attendance to observe, to judge, and to act.

2. *Decisive and, if possible, abortive measures.*—Happily during that period a safe opportunity exists for the application of adequately active measures which if delayed could neither be tolerated nor possess the same efficacy. In the worst infections and in all devitalised subjects this early chance is the last chance. All disease has a functional stage; the local mechanisms are then working badly, but still they are working, and conceivably they may be made to work better and, if so, yet better still in an upward progression. Not so once local paralysis has set in. This use of the term "functional" is, I admit, rather free, but it is practically descriptive of the conditions. In the early congestive stage the ways are still open and things are moving still, if only they could be made to move again quickly and in the right way. To induce them to move is the work of the earliest and probably least difficult stage of treatment. To soften thickening exudations and to promote their absorption when liquefied is the urgent indication at the next stage of the disease.

3. *Revulsion*, or the abrupt check of the congestion and incipient exudation, is a possibility not to be given up and supported by some strange facts. I may remind you that surgical treatment has been tried by isolated observers in the shape of acupuncture of the pneumonic lobe of the lung with averred favourable effects, probably worked through the nervous system. On the other hand, there may be such remedies as vascular revulsants which may abruptly check the congestion and the exudation. My former experience of the remarkably rapid effect of bulky intravenous injections of attenuated solutions of silver albuminate (protargol), which has been confirmed by the subsequent experience of others, among whom may be mentioned Professor Netter of Paris, is suggestive in this direction. But we are not dealing now with any such heroic methods but with simpler ones such as may be applicable in any cases if only taken in time. We should not forget that revulsants are not necessarily violent measures; in pneumonia none such is admissible. Cutaneous counter-irritation, blistering, and suitable internal remedies, although of the nature of lighter touches in treatment, may give vaso-motor visceral effects not less decided than those witnessed in some other acute affections. The entire treatment which I have to recommend for the first few hours might in a broad sense be included under revulsion, but it belongs largely also to the following headings.

4. *Defibrination.*—As to the danger which lies in the fibrin, the fact that patients die because they have failed to reabsorb it is enough to point to the necessity of preventing its deposition. The most effectual way, that of completely stopping its supplies, is not, of course, available. This would mean either largely draining the blood away or depriving the blood of its fibrin factor supplies. An attenuation of both these impossible methods is really that which seems to afford the best promise of success. To discourage the local consolidation by diminishing the general supply of the fibrin factors is the end towards which our treatment and diet are made to converge.

5. *The removal of obstructions.*—This is the soul of our tactics. The greater part of our plan of campaign might be described as the carrying out of the principle of clearance and unblocking. The local stagnation of blood and lymph in the lobe affected, whether entirely vaso-paralytic or associated with some fine structural changes, is the first and most important of the obstructions to be dealt with. Short of the acupuncture referred to we cannot treat it locally. A less direct but manifestly active method is that by general vascular depletion and this will presently be referred to as one of our chief resources.

Derivation by the primæ viæ is another and much less expensive form of relief to the circulation. The value of reducing the vascular contents through the bowel cannot be over-estimated and is probably not despised by any clinicians as an instalment of active treatment. The way out must be widely opened and widely used, and a steady lymphatic stream outwards (from the tissues into the veins) kept up not only by the bowel but by the other emunctories, the kidneys and the skin. Diaphoresis and diuresis are scarcely second in importance to catharsis; but we hear less of their being called to the aid of the pneumonic patient. This form of treatment, if applied *à outrance*, might almost compel the reabsorption of any absorbable exudate. But without resorting to extremes we should make an energetic attempt to secure a fair instalment of the desired result.

Diet has an important influence as an aid or a hindrance. Whilst we are endeavouring to unblock the lung by reducing the general bulk and richness of the blood and emptying the lymphatics, the attempt to introduce highly nutritious supplies in constant relays is not theoretically consistent. From a practical aspect it can be shown to be mistaken, as it is liable through almost inevitable fermentative distensions to set up more vascular and lymphatic obstruction than all our measures could avail to relieve. Temporary starvation on a thin fluid diet is the only practical plan for the early stage.

Acceleration of the lymph circulation by cardiac stimulation.—"Take care of the right heart and the left heart will take care of itself" is a maxim recently urged in my lectures upon the Principles of Heart Treatment at the Medical Graduates' College and Polyclinic, the importance of which is brought home to us in pneumonia where the right heart is put to the test Heart treatment may be regarded as the major part of the treatment of pneumonia. The heart is not only the main factor in the resistance of the patient; it is also the chief agent in giving efficiency to our cathartics, to our diuretics, and to our diaphoretics for the work of elimination and reabsorption. Hence the importance of at once lightening its burden and nursing its energy.

AN ILLUSTRATIVE CASE.

Before entering into the details of treatment, I will place before you the brief notes of a case of recovery from double pneumonia of some severity which seems to bear out the view that there may be some use in active treatment, complete defervescence having occurred on the morning of the sixth day and lysis having previously set in on the morning of the fifth day.

The patient, aged 28 years, single, formerly a private in the Queen's Bays and now a fishmonger, was admitted on June 29th, 1904 into St. George's [illegible]
the course o [illegible]
[illegible] s with cough and
[illegible] with high fever
[illegible] th day after his
[illegible] lasting five days
[illegible] body weight was
[illegible] fallen to 10 stones
[illegible] the events were as
[illegible]

First day of the attack, June 28th—Rose at 6 A.M. feeling well Sudden rigor at 8 A.M. lasting half an hour. Pain at right lateral base, vomited; went to his work but felt chilly all day with anorexia and [illegible]
[illegible] it to work, but could
[illegible] to the hospital Sym
[illegible] is, but much distress of
[illegible] ed cough, a good deal of right basic
[illegible] with limitation of movement On
[illegible] at right infrascapular, with some
[illegible] nchi Heart sounds
[illegible] l sound accentuated
[illegible] four ounces daily
[illegible] ions, no salt Pre
[illegible] re an hour later
[illegible] cet, ℨ ii, sp amm
[illegible] th pip, ad ℥ i It
mist Of this six doses were taken every two hours, then one dose every four hours Hirudines vi, pectori applic., the leeches to be applied to the painful region of the chest Pulv. Doveri gr x, hora somni sum (was not required) The patient to be sponged if the [illegible]
[illegible] ring the night
[illegible] in this morning
[illegible] iction heard but
[illegible] bular expiration
[illegible] se dulness and
[illegible] pula to axillary
[illegible] the same area.
[illegible] he yelks in gin
[illegible] th wash Oil of
jasmin for the nostrils. Oxygen inhalation continuously per nasum Same mixture 5 P.M., Inject morph acet gr ⅙, subcut.

Fifth day July 2nd—Patient much better, no severe pain Bronchitic sounds heard down left back Right lung gives same signs as yesterday but fewer redux crepitations Mouth better Breath less offensive The sputum less rusty, contains the pneumococcus with other organisms In the course of the day the temperature fell steadily Treatment no change 1 30 A.M., hst morphia statim, 10 30 A.M., rep hst morph. Diet 1 30 A.M., peptonised milk instead of whey, Brand's essence, brandy three ounces daily, omit lemon, lime water one-fifth in the milk

Sixth day [illegible]
[illegible] . Morph gr ¼
[illegible] Two eggs, two
[illegible] it and is quite
[illegible] sputum is no
[illegible] more rhonchi
[illegible] x crepitation as
[illegible] p, one egg, no
[illegible] and ordinary diet, with extras, were allowed on July 7th)
[illegible]
perature; more dulness at the right base, which was aspirated without any result Left lung normal A limited pneumothorax was found next day over the lower half of the right chest. This gave rise to no marked symptoms and patient was discharged on July 19th recovered.

REPORT ON THE URINARY CHLORIDES BY MR P. A HAYNE, HOUSE PHYSICIAN.

June 30th (third day of illness three days before crisis)—Specific gravity 1020 No albumin Chlorides: abundant curdy ppt, no diminution Diet "no salt."

July 1st (fourth day of illness two days before crisis)—Specific gravity 1020 No albumin Chlorides abundant fine granular ppt, [illegible]
yesterday "No salt

July 3rd (sixth day of illness day of crisis)—Specific gravity 1020 No albumin. Chlorides less abundant granular ppt, translucent "No salt"[2]

July 4th (seventh day of illness)—Specific gravity 1020 No albumin Chlorides marked diminution since yesterday. Transparent as well as translucent ppt "No salt"

July 5th (eighth day of illness)—Specific gravity 1020 No albumin Chlorides more diminished than yesterday. Ppt very transparent opacity. "No salt"

July 6th (ninth day of illness)—Specific gravity 1020 No albumin Chlorides increased since yesterday Ppt translucent, not transparent. "No salt"

July 7th (tenth day of illness)—*Specimen passed at 6 P.M after having salt for tea at 4 P.M* Specific gravity 1020 No albumin Chlorides same as yesterday "Salt given"

July 8th (eleventh day of illness)—Specific gravity 1020 No albumin. Chlorides much increased flocculent ppt "Salt given"

July 9th (twelfth day of illness)—Specific gravity 1020 No albumin Chlorides normal in amount "Salt given"

REMARKS ON THE CASE

Independently of the effects which seemed to result from treatment this case had features of interest of its own, such as (1) the unusual supervention of delirium on the sixth day during completed defervescence, associated with the history of a former attack of pneumonia with late delirium; and (2) the occurrence of limited pneumothorax after a negative paracentesis at the base for late symptoms of pleuritic effusion. To the treatment, so far as common observation avails, may be attributed at least a share in the following results 1. The short duration of the attack. 2 The early appearance of redux crepitations (fourth day) 3 The presence of watery mucous expectoration on the third day and of some mucus on the fifth day (day of lysis) and the presence of typical rusty expectoration for two days only (fourth and fifth days), though slight tinging of the sputum had been observed on the second day, cough and expectoration finally ceasing on the sixth day. 4 Manifest improvement in the patient's condition after the first day's treatment 5 Complete defervescence (after the lysis) on the fifth day although tubular respiration persisted at both bases until the fifteenth day and rather later than this at the right base, where a recrudescence of dulness occurred without any pyrexia on the thirteenth day, for which the negative aspiration was made. 6 Relatively prolonged absence of chlorides from the urine and their abundant return as soon as salt was supplied in the diet (seventh day) The chief neglected opportunity appears to have been that of better supply of sleep Had this been obtained the delirium might perhaps have been avoided. In other respects the treatment was fairly satisfactory in its general lines and admirably carried out by my excellent house physician, Mr. P A Hayne

THE PRACTICAL DETAILS IN THE APPLICATION OF THE PRINCIPLES OF TREATMENT

First aid.—For the shock of the invasion immediate recumbency, warmth, and a small dose of ether or brandy with hot water are indispensable, and some soothing draught is most desirable, such as ammonium bromide with aromatic spirit of ammonia and from five to ten drops of solution of morphine in chloroform water to prepare the patient by rest for the active measures which cannot be delayed. A dose of calomel is to be administered at once and to be followed half an hour or an hour later with a senna draught.

Cardiac treatment is our next thought Arrangements must be made for the immediate supply of oxygen, which is needed for continuous administration If oxygen is worth administering in desperate states and to the dying why should it be neglected as a profitable adjunct to the active measures of the early stage? Its continuous administration would be a valuable help to the heart against the fatigue inseparable from them It has over the continuous administration of alcohol the advantage of being harmless and of not complicating the alimentary situation There is an apparent contradiction in the two recommendations to diminish the number of the oxygen carriers by leeching and to supply oxygen artificially. But I need not stop to explain that both for lung and heart relief these are converging lines. In connexion with oxygen a practical point is to avoid the glass funnel which has been so generally recommended, as it is the most unsuitable of appliances. The "mask" works better in preventing diffusion of the oxygen away from the patient but it is intolerable to him. The best means is to place the end of the tube itself between the lips or immediately in front of the mouth, or preferably to use Mr. George Stoker's excellent plan of a soft indiarubber nostril-piece which is self-retaining and convenient.

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[2] No sleep for 36 hours During the morning the patient was somewhat delirious, this increased during the afternoon (the patient endeavouring to get out of bed) and evening until he fell asleep at 9 30 P.M

Bleeding or leeching.—Pneumonia is *par excellence* the field for discussion of the merits of bleeding. But I can only allude to the fundamental question as to whether the bulk and the quality of blood which are needed in the full activity of health are in themselves, or are not, an encumbrance in the prostration of the functions by acute diseases, because this bears closely on the question as to when to bleed. Clinical observation bears out, I think, the ancient belief; but whereas our predecessors both starved the blood and drained it some of the modern teaching urges us to withdraw blood on the one hand and to promote blood making by assiduous feeding on the other. The pain often severely felt on the side of the lesion is relieved so invariably by leeching that the most timid will feel justified in prescribing the latter, particularly as the relief is usually permanent, unlike that from the application of ice or of fomentations. Under the convenient excuse of relieving the pain something more has then been done for the patient beyond the mere soothing of nerve endings. So much impressed am I with this advantage that I make leeching a routine of treatment quite apart from the question of pain. The stronger measure of bleeding from the vein may be required in some cases but it is a more serious undertaking in the sick room and viewed all round is not, perhaps, so desirable as leeching, which is less likely to raise any objection. I rather doubt whether it should be resorted to after consolidation has occurred except as a desperate remedy —a "measure of rescue" from imminent heart failure. The pneumonic patient may well spare a little blood at first; he certainly cannot spare much during his deepening prostration. In this matter, as in others, let us remember to discriminate between the "clinical days" of pneumonia. That which is good or bad on the one day may be just the reverse for the other day. For the present my own position is that abstraction of blood, preferably by leeching, is of great value and of value in proportion to the early date of its employment before the deposition of fibrin. Its function should be to cure rather than to resuscitate, and any loss which it may entail should be inflicted not upon the advanced stages of exhaustion but upon scarcely yet diminished reserves of health. Therefore do not delay making the needful preparations for the application of leeches.

Sweating, already invited by some of the previous measures, might be promoted more actively by a hot-air bath confined to the lower extremities or by De Lancey Rochester's device of a hot mustard foot-bath administered in bed; but internal medication can do what is wanted without any unnecessary fatigue to the patient, and we now come to the question of medication. Its chief aims are diaphoresis, diuresis, antifibrinosis, and absorption. These may be combined in the mixture, which is to be repeated every hour or even every half hour at first to insure rapidly the results in view. I have given antimonial wine, aconite, and green hellebore with none but good results, but simpler remedies may be good enough for our purpose. Leaving aside all so-called vascular depressants and even citrate of potash I now trust to the free use of the ammonium citrate which fulfils concurrently another good purpose. Sweet spirit of nitre may be added to the mixture and the sweating is to be encouraged by warm beverages and one or two doses of gin.

Diuresis.—This object is well served by the agents just mentioned. I doubt whether any stronger ones are needed. As a fact renal permeability is not conspicuously reduced by pneumonia. Our object is gained if plenty of fluid can be passed through the blood and excreted by the skin and by the kidneys without the complication of many drugs. I prefer at present to avoid any possible risks from the use of digitalis and the depressing effects which may attach to the nitrate and to the acetate of potassium. But I am inclined to give further trial to divided doses of calomel, less perhaps on account of its diuretic action than for the sake of its beneficial effect upon absorption.

from fortifying it by the addition of white of egg. As soon as progression towards recovery is established food comes in as the best and only necessary medicine.

Dechloridation.—Under the heading of diet also comes the question of the supply or withdrawal of the chlorides in the food. It has been held that the disappearance of the chlorides from the urine was in part due to their being detained in the fibrin; this if correct would open a question as to the relative value of two opposite lines of diet. First, whether the solidification of the fibrin would be impaired by our diminishing the supply of salt; and, secondly, whether a plentiful supply of salt might not be the means of providing a useful constituent to the blood and restoring the urinary chlorides, and of benefiting the patient whatever the effect on the consolidation might be. For a reply to this question I have not sufficient clinical experience. In this case the practically complete withdrawal of salt from the diet did not seem to interfere with satisfactory improvement, but in other cases I have obtained results even more striking without dechloridation.

Sleep, &c.—After this active work of the first day rest is well earned, though the patient may probably feel relieved rather than fatigued. Just as the first day presents no major risks of heart failure, neither is the first night unsafe for a soothing draught of morphine. The bowels have been relieved; the ways are open. No harm is likely to accrue from the dose and the patient will probably wake with manifest signs of improvement. During the second day the same medicine may be continued. Three grains of quinine in pill or powder will be a useful addition to each dose. Four ounces of alcohol, or perhaps six, will be required but the diet cannot be much increased. The whites of two or three eggs can be added to the whey and the yelks beaten up with gin or brandy. A quarter of a pound of sugar should also be given in the whey. A sleeping draught may be required if the patient is restless. On the third day [illegible]

latter, support is now becoming the main indication. The heart must be fed as well as stimulated. We must make sure that the food is such as will be absorbed. Raw meat juice, strong gravy, maltine, or predigested foods and eggs beaten up should be substituted for the whey, and good milk given in tea or thickened with cocoa. Oxygen must be continued and strychnine frequently injected in anxious cases. In the safe cases the latter may be included in a fresh mixture with carminatives, and iodide of potassium and quinine should also be administered.

Secondary depletion.—The worst cases may not respond to any of these efforts and a second leeching or even a venesection may be indicated. As a preliminary to the latter two single doses of digitalis (tincture and infusion) might be given at an interval of two hours and the venesection immediately preceded by a ten minim dose of a 1 in 1000 solution of adrenalin under the skin.

The further treatment of cases cannot be detailed profitably, as they all diverge more and more. Let me point, however, to the advantage of variety in the stimulant, as I recommend its continuance whilst pyrexia lasts. The "gin always" or the "brandy" may be *ad nauseam.* According to taste or to habit whisky or rum, but specially champagne, port wine, or burgundy may be substituted, at least as an occasional change. The virtues of red wines, particularly when administered hot and with plenty of sugar, are too much neglected in pneumonia which is not a dyspeptic affection. As already hinted, lemons are quite in line with our treatment; I regard them as most valuable in the early stages in the shape of hot lemonade, particularly when their outer glandular layer is also made to yield its precious contents.

VITAL STATISTICS OF THE COUNTY OF DURHAM.—The principal vital statistics obtained in the administrative county of Durham for the year 1904 have just been issued in a concise tabular form by Dr. T. Eustace Hill, the county medical officer of health. For purposes of comparison the corresponding figures for 1903 and for the ten years 1894–1903 are shown in parallel columns. The estimated population for 1904 was 801,100; the birth-rate was 35·6 per 1000; the general death-rate was 18·3 per 1000; the zymotic death-rate was 2·59 per 1000; and the infantile mortality-rate was 162 per 1000 births. Small-pox showed an increased prevalence, the mortality per 1000 of the population being five times as much in 1904 as the average for the ten years 1894–1903.

SOME CLINICAL USES OF IODIC ACID AND THE IODATES.

By WILLIAM MACKIE, M.A., M.D., D.P.H. ABERD.,
LATE PHYSICIAN AND SURGEON TO DR. GRAY'S HOSPITAL, ELGIN.

A FEW years ago I directed attention to some of the surgical and medical uses of calcium iodate.[1] In the interval I have continued to use it both in hospital and in private practice and the results which have since been obtained only serve to substantiate the promise it then gave. Before going on to consider iodic acid and the other iodates it may be useful to summarise the uses to which the calcium salt has up to the present been put.

Its application in fine powder to all cicatrising surfaces—such as after the curetting of scrofulous glands, excision of dead bone, to all incised, lacerated, or contused wounds, and particularly in the case of septic and suppurating wounds—gives excellent results. To leg ulcers it may be applied in ointment spread on lint in strength of from 10 to 20 grains to the ounce of vaseline or other unoxidisable excipient. Out of a large number of cases so treated only once has there been complaint of smarting in the case of male patients, perhaps twice or thrice in the case of female patients, but in no case even where smarting was complained of was any injury done to the tissues. On the other hand, the ulcer was in every case much improved by the application and healing generally took place with unexpected rapidity. Only once has it been applied to a burn in the acute stage when its use was attended with such excessive smarting that it was promptly discontinued. It has never been tried again. Even here it produced no irritation of the tissues. It has now been used in a considerable number of major amputations and excisions of the breasts where it has been applied at the operation in a 3 per cent. gauze. At subsequent dressings irrigation with the warm saturated solution, with or without dusting of the surfaces with the powder according to discretion, and again covering with iodate gauze has been the routine practice. The results have been all that could be desired. Some of the cases were very unpromising but I shall give details of only one which may be taken as a fair example of the power of calcium iodate in preventing sepsis.

A chronic alcoholic, aged 72 years, was admitted into hospital at midnight in a state of intoxication with a compound fracture about four inches below the tuberosity of the tibia. The upper fragment projected through a large ragged wound. Under an anæsthetic the fragments were easily brought into their natural relations, but the soft parts could not be made to meet over them in consequence of evident loss of tissue. The leg was put up on a back splint and at once incased in plaster of Paris with an opening in front opposite the wound for dressing. On the next day, partly from the history given by the patient and partly from inspection of the parts, it was ascertained that there had been an extensive surface of bare and presumably dead bone before the accident and that in this condition it had existed f[illegible] position— [illegible] it was res[illegible] irrigated [illegible] the fine powder being subsequently "showered" in, and for the eight succeeding weeks during which the limb was kept on the splint not a single divergence from a strictly normal temperature was observed. When the splint was removed at the end of that time it was found that there had not been the slightest attempt at union. Amputation was accordingly resolved on and was made through the knee-joint by Stephen Smith's method. The internal condyle of the femur was found to be diseased and was accordingly removed. The case, which was dressed as before described, gave no trouble except for a considerable serous oozing from the wound during the first few days and healed perfectly.

In the case of smaller amputations, such as of fingers or toes, it has been frequently observed that after a liberal use of the powder, repeated two or three times at consecutive dressings, healing takes place under a dry scab without the necessity of further protective dressing. The same remark applies to incised wounds. In not a single case out of a large number of hand injuries received in all conditions of filth has ever the shadow of sepsis been seen where calcium iodate has been used.

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[1] See THE LANCET, Dec. 29th, 1900, p. 1867.

The warm saturated solution has been largely used as a vaginal douche, and here its deodorant, antiseptic, and astringent effects have probably all, in varying degree in different cases, contributed to the satisfactory results obtained. Perhaps the best—but at the same time not quite unexpected—results have attended its use as a bladder irrigant. For this purpose the warm solution may be used up to the point of saturation. No untoward effects have been observed and a permanent cure has been obtained in a proportion of the cases after a single irrigation. The case of tuberculous bladder which was referred to in a previous paper has been kept under observation since the date of the last irrigation, August 5th, 1900. There has been no recurrence and in the interval not even a suspicious symptom. In another case where tubercle bacilli along with multitudes of colon bacilli were found in the urinary deposits, and where there was a continuous high temperature with general symptoms of some gravity, the warm iodate solution was also used several times. The bladder condition was for the time being complicated with pregnancy, but the patient—now two and a half years after—seems to be in a fair state of health, and the symptoms at least for the present in abeyance. While this case was under treatment it was incidentally observed that a solution of 1 in 1150 inhibited the movements of the colon bacillus.

It was for long in daily use as a mouth wash and gargle, for which purposes it was found eminently efficient as well as cleanly, but latterly, as will be noted, iodic acid has usurped its place in this respect. The saturated solution has also been used as an irrigant in empyema of the chest.

I have also been informed by a dentist of large experience that he has used it for all the purposes for which iodoform or its substitutes are generally used in dentistry and that it is particularly efficient when applied for pyorrhœa alveolaris for which it may be ordered as a dentifrice of the undiluted powder.

It has been found to be all but a specific—in ointment 10 grains to the ounce—for the eczema capitis and other eczemas of infants. As might be expected, the eczema may recur on disuse of the ointment but it always yields to a fresh application. In local eczemas of adults it has also been found of value in some cases, in others not, but it would be difficult to draw any clinical distinction between the cases in which it is and which it is not likely to do good, though I have thought that a specific origin counted for something in a number of the cases. In otorrhœa it is very useful as an irrigant, for which it may be used up to full saturation. It has been used for hypodermic injection into tuberculous joints, after the manner of iodoform emulsion, in only one case—a knee-joint in a boy, aged seven years, who had night starting and elevated temperature. There was bogginess on each of the patellar tendons. About half a drachm of an emulsion (three drachms of calcium iodate to the ounce of glycerine) was injected on two occasions. The temperature became normal, night starting disappeared, and there was at least temporary improvement. In another chronic knee case, probably also tuberculous, in a man, aged 51 years, pus was evacuated by incision and drainage. This was followed by the use of emulsion of the strength indicated. Healing had taken place at the end of five weeks. Injection of emulsion in similar strength was also adopted as the routine treatment in a case of hip-joint disease in a fragile boy, aged seven years—so fragile, indeed, as to preclude the advisability of radical measures—where there existed two large sinuses leading down to dead bone. Whether the treatment contributed in any way to the result may be left an open question, but the sinuses have long healed and the boy is now well and ambulant. Two drachms of emulsion were also on one occasion injected into an abscess cavity of the lung with apparent temporary amelioration of the symptoms.

Medicinally further evidence of its efficiency as a gastro-intestinal antiseptic has been obtained. In a very small proportion of cases it has been found to disagree but the symptoms have not gone beyond a slight temporary discomfort. So far it has only been used in one case of typhoid fever, but in that the results were such as to encourage further trial. The patient was a young woman, aged 20 years, in the middle of the third week of the disease. The morning temperature at the time of the first exhibition of calcium iodate was 102° F. It was ordered in half-ounce doses of the saturated solution diluted with water to be given twice daily and was quickly increased to one and a half ounces three times a day diluted as before. On the second day after its use the diarrhœa, which had been copious, ceased, the temperature began to come down, and on the fifth morning it had reached normal and never rose again. No unpleasant symptoms were observed, though the medicine was continued in the larger dose for a fortnight after a normal temperature was reached. The patient then said that there was a slight metallic taste in her mouth but made no complaint. I may say that I now order iodic acid in place of the iodate for internal use and I should also do so—and have done so—in typhoid fever if I considered any medication on antiseptic lines necessary in that disease.

From a purely economic point of view it may be mentioned that calcium-iodate is produced at two-thirds the price of iodoform.

The success that has attended the use of calcium iodate for the purposes I have noted led me at a later date to try the mother acid—iodic acid—in hopes of attaining even still better results. Generally, it may be said that the acid possesses all the properties of the salt in an enhanced degree. Iodic acid has been used on the continent in solid form or in strong solution as a caustic. It was also at one time thought of as an iodoform substitute but in undiluted powder it was found much too irritant for that. It has, so far as I am aware, never been used for any of the purposes noted below. As regards inhibitory power on the growth of micro-organisms I estimate that as at least three times that of the calcium salt. The following experiment will indicate its power in this direction. Four quantities of the same sample of urine had added to them on March 22nd iodic acid in the following proportions: (*a*) 1 in 25,000, (*b*) 1 in 9000, (*c*) 1 in 4500, and (*d*) 1 in 2500. These along with a control were exposed in unsterilised test-tubes to the atmosphere of the laboratory with the following results: (*a*) began to show signs of decomposition on April 16th, the control having begun to smell badly on the fourth day after exposure; (*b*) showed a few fungoid balls in the mucus at the bottom of the tube on May 22nd, but there was no smell: it had decomposed by June 19th; (*c*) is described as still sweet and clear on July 21st, but some fungoid growth had appeared by August 4th: while (*d*) remained perfectly sweet and clear up to Feb. 15th of the following year, when a single clump of fungoid growth was first observed in the mucus at the bottom but the supernatant urine was still perfectly sweet and clear at the end of the year on March 25th.

In addition to its power as an antiseptic it was found to possess remarkable—in my experience unique—powers as a deodorant and use has mainly been made of it in this direction. With potassium permanganate it compares more than favourably, its power being roughly estimated as three while permanganate is two for equal weights of the salts. It has also been found of service as a deodorant where permanganate quite failed, probably because the chemical action of the two substances is not identical. Iodic acid has the additional advantage of not staining the hands or the tissues, while it is, of course, a much stronger antiseptic than permanganate. Among the uses to which it has been put the following may be briefly enumerated: 1. As an irrigant in the case of a burn in an epileptic female, aged 77 years. The burn was extensive, reaching from above the knee to the ankle and round half the circumference of the limb. On admission it was found put up in a Carron-oil dressing which had not been changed for several days and was in consequence very offensive. There was also deep and extensive sloughing. Iodic acid of the strength of 1 in 500 was used for irrigation and the surface was afterwards dressed with lint wrung out of the solution. The fœtor was discharged at once and no complaint was made of smarting. 2. As an irrigant in ozæna. 3. Also for the same purpose in a patient of filthy habits who had infected an amputation wound of the thigh with the colon bacillus. 4. For placing in the recipient vessel in the case of a most offensive urine—without exception the vilest ever experienced—in the case of an old man who had long led a catheter life. 5. As an irrigant in empyema of the chest, also in strength 1 in 500. 6. Lint wrung out of 1 in 500 solution was used in the first instance as an application to clean and to deodorise two very offensive leg ulcers in an ataxic female, aged 75 years, and proving efficient and non-irritant was continued till perfect healing had taken place. 7. In same strength as a mouth wash in a case of recurrent and inoperable epithelioma of the mouth and cheek. 8. As a vaginal douche in a case of inoperable cancer of the uterus and vagina. In all of these cases the solution of 1 in 500 proved efficient beyond expectation. As regards the last two cases no one knowing the fœtor attending such cases would probably believe without trial that the results obtained were possible. For months both were kept perfectly free from the slightest indication of fœtor. 9. During a year's experience in the local Fever Hospital iodic acid was the all but exclusive substance, in strengths up to 1 in 300, used for applications to the throat in diphtheria and scarlet fever, while it was in general use as a mouth wash in 1 in 500 and was found particularly useful for the latter purpose in cases of typhoid fever. 10. Internally I have frequently ordered a drachm of 1 in 100 freely diluted with the happiest results for gastro-intestinal sepsis or fermentation. For this purpose I consider it to be a more elegant prescription than the ordering of one or two drops of tincture of iodine in solution. No untoward symptoms have been recorded after its use. 11. It was given internally in two cases of typhoid fever. Both were of exceptional severity but it was credited with checking excessive diarrhœa in one of them after other treatment had failed. The case, however, which was complicated with multiple abscesses all over the body, eventually proved fatal. 12. The last two operations which I performed in Dr. Gray's Hospital—an amputation of an arm through the upper third of the humerus and an excision of a breast—were carried through on antiseptic lines with iodic acid for the whole technique, for disinfecting the skin, the instruments, &c., and for irrigation at subsequent dressings, calcium iodate gauze being used as before. The results were unexceptional.

The iodate of zinc has also been used. It is soluble at ordinary temperatures to slightly over 2 per cent. and contains about 61 per cent. of available iodine. I have found it useful where a stronger solution of calcium iodate than the natural insolubility of that salt admits of being prepared appeared to be indicated and it has been used in various strengths up to full saturation in the following cases: (1) for injecting chronic sinuses left after curetting tuberculous glands; (2) in the same way in disease of phalanges and metacarpal [illegible] (3) for disinfecting the [illegible] suppurating glands of the [illegible] abscess cavity of the p[illegible] offensive otorrhœa up to t[illegible] the results were excellent in all I may say that I was particularly pleased with its action under (2) and (5).

Subiodate of bismuth has also been used. The samples prepared by me, as well as those prepared for me, showed about 48 per cent. of available iodine. It is a very fine white powder in consistency very like the carbonate of the same base. It has been used with unexpected, but perhaps not always permanent, results in lupus. Three cases in all have been treated.

The first case was that of a female, aged 28 years, who had had lupus since nine years of age. The parts affected were both cheeks, the upper lip, and both alæ nasi. The anterior nares were occluded from cicatricial contraction. There was a discrete patch of the size of half a crown under the chin. The case had been repeatedly curetted in Dr. Gray's and other hospitals—14 times in all, she said. She was admitted on Feb. 11th, 1901, and the treatment, which was at first purely tentative, consisted in the removal of all crusts and dusting the surface with either calcium iodate or bismuth subiodate. A comparative test was made between the two substances, calcium iodate being applied to the general surface of the cheeks and upper lip and the bismuth salt to the patch below the chin. It was soon observed that the latter gave the better result and the calcium salt was thenceforward entirely discarded. On March 12th, in order to accelerate the action, a general curetting was done under [illegible] iodate was con-[illegible] of treatment was [illegible] every other day, the surface was irrigated with a solution of iodic acid (1 in 500), and while still wet it was dusted over with the subiodate. From time to time, as seemed to be indicated, small corners of the affected area were curetted under chloretone and probably the whole surface would in time be gone over in this way. At the end of ten weeks from the date of admission she left the hospital with the whole surface healed over. The disease was well in hand some weeks before this but the patient was kept longer in hospital for the purpose of opening out and keeping dilated the anterior nares. It is understood that recurrence took place about two years afterwards, which was certainly the longest period of remission since the start of the disease.

The second case was also that of a female, aged 40 years, who had been the victim of lupus for ten years. Curetting with various subsequent applications had been made on several previous occasions and for a time I believe she had thyroid extract with apparently temporary benefit. She was admitted on May 20th, 1901. She left the hospital on June 29th. No general curetting was done in this case but the piecemeal curetting under chloretone was carried out as before. She left us to undergo the Finsen treatment at the London Hospital. On her return after five months' treatment she was seen by me, but beyond the fact that the skin was whiter, as would naturally be expected, there was little advance on the condition in which she left us.

The third case was that of a boy, aged 15 years, who showed a spot of about the size of a crownpiece on one cheek. When he left the hospital at the end of six weeks it was entirely healed. It is not known whether there has been any return.

In a very chronic skin affection of the face in a female, aged 35 years, which was probably of the nature of lupus erythematosus and which had resisted various applications, bismuth subiodate ointment, 20 grains to the ounce, was also found to have a very beneficial effect.

The subiodate has also been used as a dusting powder in a fairly large numb[illegible]ulous glands. In the less [illegible] scab was found to be the [illegible] I think less frequently, has also been noted where calcium iodate was applied. After a fairly extended trial in such cases I am inclined to prefer the bismuth salt, though results are certainly good with either.

No irritant or other unpleasant effects have at any time been observed after its use.

Mercuric iodate has been used on the continent but so far as I know exclusively for the hypodermic medication of syphilis. It contains about 46 per cent. of available iodine. This salt is likely to prove a general antiseptic of equal efficiency with the perchloride or iodide. With common salt it is soluble up to 2 per cent. or more. This would facilitate its use as a general antiseptic as it would make a supply easily portable in concentrated solution. It has the advantage over the perchloride of containing weight for weight something less than half as much mercury and of striking as an antiseptic with both ions of the salt. Comparative tests also show that it deposits mercury less readily on steel or metal instruments than the perchloride, its power being exerted rather in the direction of oxidation of the steel than of deposit of mercury. Further, what deposit does take place is readily wiped off. The following tests of its restraining power were made. 0·020 gramme of the salt was placed in 100 cubic centimetres (1 in 5000) of unsterilised, undiluted, ascitic fluid in an unsterilised flask. It readily dissolved on shaking. Along with a control it was then freely exposed to the air. The former had decomposed by the end of a week, while the fluid to which the iodate had been added continued sweet and limpid up to the end of the fifth week. With 0·030 gramme in 300 cubic centimetres (1 in 10,000) in like manner it did not begin to decompose till the middle of the fourth week. Iodic acid in the proportion of 1 in 1000 gave a result similar to the stronger solution, from which it may be inferred that mercuric iodate shows roughly five times the restraining power of the mother acid.

Mercuric iodate has been put to the following clinical uses. A man, aged 28 years, was admitted into hospital with a pronounced sycosis over all the hairy parts of his face but the right cheek was very much worse than the left. Before admission he had been treated with all sorts of applications, calcium iodate in ointment among the number. His teeth, which were carious to a degree, had all been extracted without result. On admission mercuric iodate in 20 grains to the ounce of chrisma was ordered for application to the right cheek which, as stated, was by far the worse, and unguentum vaselinum plumbicum to the left, the beard being kept closely shaved. By the end of a month the difference in the effect of the two applications had become so marked that the patient begged to be allowed to apply the mercury iodate to both cheeks which was accordingly done with complete cure in ten weeks from the start of the treatment. There has been no recurrence.

In eight consecutive cases of tinea barbæ, some of them very bad, an ointment of the same strength was ordered and has given most gratifying results. Several of them yielded after two or three applications of the ointment. All of them vanished with what for the disease in question would be considered quite surprising rapidity. From its solubility in presence of sodium chloride one would infer considerable penetrating power and to this in part the results obtained are probably due.

On the whole it may be said that iodic acid and the iodates come quite up to the expectation formed of them on theoretical grounds and actual trial shows that they may be made of extensive clinical use.

Elgin.

EXPERIENCES WITH IODOFORM BONE PLUGGING.[1]

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THE material which is used for bone plugging (*Iodoformknochenplombe* as it is called) consists of a mixture of 60 parts of the finest pulverised iodoform and 40 parts each of spermaceti and oil of sesame—a compound which at the ordinary temperature of a room forms a stiff yellow mass. At 50° C. (112° F.) the substance becomes fluid, and on allowing it to stand and cool the oily constituents separate above whilst the heavier iodoform sinks to the bottom. In order to obtain a homogeneous emulsion, the substance, after being melted by warming, must subsequently be well shaken up and then it is ready for use. Hence, for this object, it is necessary that the vessel containing the "plugging" be not quite filled, as then shaking up the contents would be practically impossible. Wide cylindrical glass tubes, in other words large test tubes, the orifices of which are closed with glass or rubber stoppers, proved to be best adapted for this purpose. Filled to about two-thirds they can be kept in stock any length of time in a convenient form.

When Professor Moorhof commenced his studies and researches on bone cavities five years ago,[2] an iodoform paste of the consistency of putty was used, but soon the conclusion was reached that to achieve success a hermetical and perfect filling of the cavity was essential, and this desideratum could only be attained by pouring in a fluid substance which solidifies *in situ*. The solid mass must be in contact with, and adhere to, every portion of the walls, penetrating every fissure and interstice, filling the cavity completely. Hence it is a *sine quâ non* that the cavity should be dry. Blood or fluid used for syringing would prevent the intimate apposition of the "plugging" with the walls. *Mutatis mutandis*, therefore, the rules for stopping teeth apply here, only the shape of the cavity is of no consequence. For drying the bone cavities hot air is employed and applied with the drying instrument of proved value which Dr. Silbermack[3] has described.

As it is obvious that every surgeon has not electrical power at his disposal, a very simple contrivance has been devised by means of which sterile, cold dry air can be blown into the cavity. Ordinary air is driven by means of a double rubber bag or bellows—in the latter case manipulated by the foot—through formalin solution and then through calcium chloride. After syringing out the cavity with a 1 per cent. formalin solution the drying should be continued until the wet glistening walls appear dull, a proof of their freedom from moisture. Chisels of various form and size, bone forceps, and sharp spoons are employed for the removal of the bony walls; if electrical power can be commanded rotation saws and drills, such as Dr. Silbermack has specified, are recommended.

It is an absolute *sine quâ non* that the walls of the cavity to be plugged should contain no diseased tissue and should be perfectly aseptic. Whereas the last stated postulate is never attainable with certainty through antiseptic measures and only a relative asepticity of the wound can be anticipated from any precautions adopted, the injunction is given to plug only such cavities as have had their walls freshly excavated under antiseptic precautions immediately before the filling or the plugging.

The plugging material which is poured in—it is recommended to pour slowly—sets *in situ* in a few minutes; the superficial soft parts can then be united after a previous complete arrest of all bleeding by ligation. No especial drainage is required, for well-plugged and filled cavities obviously neither bleed nor discharge. Existing fistulous tracts in the covering soft parts amply suffice for the escape of the insignificant amount of lymph which the soft parts secrete; if no sinuses are present it is sufficient if the sutures are not inserted close together; the scanty secretion leaks away freely through the interspaces. If one cannot be persuaded to dispense with drainage no tubes at least should be used; a narrow thin strip of oiled silk folded fanwise may be inserted between the lips of the wound. The protective dressing should not be regarded as a pressure pad; circulatory disturbances ought to be avoided.

The secretion of the wound is invariably of a "lymphoid" character and corresponds to the number and extent of divided lymphatic vessels. In a case of sequestrectomy of the tibia in which the periosteal skin-flap had grown adherent to the floor of the matrix by primary intention a form of lymphoid tumour appeared in the third week. The softs parts over the site of the plugged cavity were raised as a fluctuating swelling. The painlessness and the lack of local inflammatory symptoms and of any rise of temperature suggested the above diagnosis. A small incision was made and serum escaped. The gradual elimination of the plugging material, associated with large defects of the skin, is also accompanied by serous, never by purulent secretion, assuming naturally that the after-treatment is aseptic.

The iodoform bone plugging or filling substance, which name many consider denotes it more correctly, has only a provisional sojourn in the wound cavity; it may be either pressed up and expelled by the new connective formation, which brings about the final obliteration of the cavity as the latter grows into the mass; or it may be absorbed and consumed if no channel of escape exists, owing to a primary healing of the intervening superficial soft parts. In the latter event iodine can be demonstrated in the urine during the course of the healing of the wound. Hence it follows that the absorption of the filling substance by the granulations naturally takes place extremely slowly and constitutes the reason why there is no danger of intoxication, for such an event can only ensue through the sudden absorption of considerable quantities by the organism; the large size and extent of the wound cavity are therefore no contra-indication to plugging or filling. Iodoform bone plugging thus protects the granulations from septic disintegration, which must necessarily occur with the persistence of the cavity and be maintained as the suppuration. The "locum-tenens" preserves the entire granulation; nothing thereof is lost and organic restoration is accomplished more speedily and completely. Defects in the bone disappear and the normal shape and size of the bone are restored in a given time. Concerning the question as to in what way—viewed from a histological standpoint—the plugged cavity becomes filled up with bone tissue: first, the close examination of the skiagrams is able to throw some light; and secondly, the circumstance that the filling substance is gradually absorbed. The latter event can only occur through the action of granulations; consequently granulations must first sprout from the walls of the cavity. The production and gradual growth of bone tissue are effected by a primary formation of new connective tissue. Subsequently definitive osteoid tissue is formed from this by the deposition of lime salts. Hence, in a skiagram the immediate neighbourhood of the disappearing plugging material appears lighter in colour, resembling a halo. This lighter zone grows gradually darker, the transformation advancing with the new bone formation, so that in the course of time the bone shadow extends uniformly throughout the area. The restoration of the bone is then accomplished. It has been derived from granulation tissue by the secondary deposit of lime in an originally connective-tissue base, simulating therefore the phases in the formation of callus. The question has, however, no practical importance; its only interest lies in the fact that a new formation of bone tissue generally ensues after the introduction of the iodoform filling substance and that this fact has been clearly established and can at any time be checked by the use of the Roentgen rays In this connexion Dr Silbermack has made extensive investigations with animals since the beginning of 1903, the result of which he will duly publish

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[1] Deutsche Zeitschrift fur Chirurgie, Band lxvi., S. 689, 1904.

[2] S. Hackmann: Wiener Klinische Wochenschrift, 1901, p. 537.

[3] Deutsche Zeitschrift fur Chirurgie, Band lxvi., S. 589.

By means of the Roentgen rays the decrease of the plugging material can always be verified, this proceeds hand in hand with t

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variable and

cubical extent of the cavity For example no trace of the plugging material which was used to fill a necrosis cavity in a tibia approximately of the size of a hen s egg, was discernible in a skiagram after the lapse of a year The bone had regained its normal shape The patient was discharged *fit for work six weeks after the* operation with a completely healed wound in the soft parts

Should defects remain in the superficial soft parts after the operation either at the site of an old cicatrix which has contracted or in the situation of a former sinus—in short if *the closure of the* wound is not perfect—it is found that a portion of the filling substance is extruded by the granulations and cast off in the shape of small fragments To all intents and purposes however, the outcome is the same whether the whole is absorbed or is partly absorbed and partly eliminated the material performs the function of a "locum tenens" preventing suppuration and loss of the granulations, it persists until the organic restoration of the cavity is accomplished, whereby healing proceeds more simply and pleasantly for the patient and decidedly quicker

Ill effects of the operation, such as intolerance of the plugging and a subsequent necessity for its removal Professor Moorhof has never witnessed and his experience extends over some 220 cases Similarly, he has never seen symptoms of iodism or the so called "cures with sinus formation which are really no cures at all but are only "whited sepulchres in the depths of which the process of *disease smoulders and after a longer or shorter interval* awakes afresh During the first day or two after the operation an increased frequency of pulse and a slight rise of temperature are sometimes observed which as a rule completely subside on the third day

At the commencement of his studies Professor Moorhof employed iodoform plugging solely for the filling of cavities in bone, subsequently, however, he extended its application also to cavities the walls of which were not exclusively constituted of bony substance but were bounded after the removal of smaller bones partly by soft parts partly by bone, cartilage &c, as for example, the cavity resulting from extirpation of the calcaneum, after resection of the wrist, &c—invariably with the same gratifying result If one stops to consider that the iodoform bone plugging is only enlisted to serve as a temporary stop gap and solely for the obliteration of the dead space then the justification for the procedure will be appreciated and understood The indications for the use of the plugging are therefore of tolerably wide latitude and their number is by no means exhausted

The principal class for plugging comprises the common osteomyelitic affections and tuberculous disease of the articulations and bones The acute *osteomyelitis* occurring in young individuals and ushered in with severe symptoms which most commonly begins at the epiphyseal end of the diaphysis and pursues its course with violent local septic and general symptoms is obviously not suitable for the operation since asepsis is unattainable Here one rests content

soft parts exposure of the

subsequent removal of the

with antiseptics and the

with free drainage It is only the chronic cases of circumscribed osteomyelitis which are adapted for plugging as for example the strictly limited osteomyelitis granulosa which in certain circumstances gives rise to an encapsuled abscess in the bone—a condition but rarely found with us Another chronic condition where plugging is indicated is when a cavity is formed as the result of acute necrosis

The operation for necrosis is conducted in the following manner The affected limb—as a matter of fact most frequently the lower extremity—is first maintained in an elevated position for some minutes when an Esmarch's rubber band is applied on the proximal side The preliminary elevation should deplete the extremity as far as possible of blood If this precaution is neglected and the band is applied without *previous elevation of* the limb drops of venous blood exude for a considerable time from the Haversian canals of the cavity after the excavation has been prepared—a troublesome circumstance which delays the introduction of the plugging Limbs well depleted before applying the constricting band scarcely ever manifest these undesirable "*stillicidium e parietibus*" But there are cases in which the application of the tourniquet is *impracticable*, for instance foci of disease in the trochanter the neck of the humerus the ilium or the thoracic skeleton The arrest of bleeding is then very tedious and often requires great patience. Peroxide of hydrogen (from 3 to 5 per cent) and pressure tampons are employed in these cases, stronger solutions of peroxide cauterise and do not work better or quicker Adrenalin may also be tried The focus of disease in the bone must be exposed to the greatest possible extent in order that the operation may be conducted with precision and ease

In the leg particularly for the tibia, almost exclusively curved incisions are made, which define a flap with the base directed to the inner or outer side This long periosteal skin flap is detached and raised directly from the bone, including the whole width of the anterior surface, in such a manner as to expose its entire aspect The openings of the sinuses are for the present not interfered with and the corresponding defects in the skin are raised with the flaps, here the knife may assist the elevator *The cloacal canals in the periosteal* bone are disregarded but perhaps may be used for probing Exposure of the cavity in the bone is effected independently of them by the removal of a correspondingly large segment of the anterior wall This section of the bone is readily accomplished with a rotatory electric saw, more slowly with chisels especially if eburnation is present When the disease is sufficiently exposed any sequestra present are removed and the whole of the granulations and purulent substance in the cavity are carefully scraped away with sharp spoons until nothing more meets the eye than smooth hard bone Care should be taken that concealed recesses in the walls of the cavity are not overlooked Finally, a hollow chisel as a gouge was often employed, better still and more effective is the use of a stout olive shaped burr, rotated electrically

In cases of necrosis of the femur the exposure of the bone is effected by means of a large skin muscle periosteal flap which is cut from the outer side of the thigh with its base upwards and its breadth corresponding to half the circumference The lower rounded margin of this extensive flap must be carefully planned with respect to the limits of the suprapatellar bursa The rectus femoris is partially, and the vastus externus is completely, divided the biceps remaining intact the incision courses along the anterior border of the latter muscle This broad and necessarily long, bulky flap is elevated together with the periosteum from the bone which is laid bare throughout its greater extent The cloacal aperture as is well known is most commonly located on the posterior aspect of the femur No attention is paid to it at this stage but a large window is sawn or chiselled out of the cortex of the external surface of the bone Free access is now afforded to the cavity which is thoroughly cleaned out and new walls are fashioned When the

it often necessitates

spoons inside the

cavities frequently

nger It demands patience and perseverance and the operation should be performed quietly and carefully When this task has been conscientiously performed and the cavity has been well syringed out and dried the plugging or filling may now be proceeded with The patient lies in the horizontal position the wide aperture of the cavity being situated in the external wall of the cortex The cavity itself extends upwards to a varying height towards the healthy marrow and descends on the other

As it is essential to ol

plugging material each co

turn be so disposed that the fluid mass can flow in as the

first tilted well

r

to hang down

o

now situated

undermost and the material can be readily poured in completely filling the whole lower segment It is now necessary to wait for some minutes with the patient held in this awkward posture until the filling substance is firmly set

The position of the leg is now reversed and the limb is elevated, so that what was the upper recess is now the lower; this is then filled. After a repetition of the delay to allow this material to set the filling of the cavity is completed with the limb on its side in the horizontal position. The everted, bulky, skin-muscle-periosteal flap is sutured in its original position again and heals readily by primary intention. Before suturing the flap in position all existing sinus tracts are thoroughly curetted and then left to serve for drainage. The extremity is next freely surrounded with dressings and the constricting rubber band which has remained applied until this stage is removed. Secondary hæmorrhage has never been met with. The dressing is left intact for at least a week and is usually taken down on the tenth day, when the sutures in the soft parts are removed. Subsequent dressings are also changed at weekly intervals. *Mutatis mutandis*, the same method of operation is applicable to tuberculous osteomyelitis, including the cases of affected phalanges. These are often completely extirpated, the periosteum alone being preserved and the resulting cavity plugged.

A special section is required for that disease which is of such frequent occurrence among the affections of joints—namely, tuberculous arthritis—with or without associated caries. Professor Moorhof maintains the view that tuberculosis of a joint should be dealt with by operation as soon as the diagnosis is clearly established, irrespective of the age of the patient. The so-called conservative treatment with retentive apparatus, venous congestion, injections into the joint, &c., is so much loss of time and ought only to be appealed to if the patients or their relatives refuse operative interference. Local tuberculous disease is well recognised to be capable of causing general infection. Why, then, leave in the body a source of an ever-possible extension or at least of deleterious influence on the organism? Spontaneo cure—that is, a cure effected without operative interferen is a very tedious business and often beyond the means poorer classes. After years of treatment joints of ostensibly heal, frequently with deformities and co and tolerably often with a legacy of sinuses. several cases of children with apparently heal knee-joints it has been necessary to operat undergone many years of treatment—th system of the limb atrophied, the knee and the joint partially dislocated, some externally rotated. Resection had to be pe cases to straighten the otherwise useless e encapsulated caseous deposits were found, somet condyles of the femur, sometimes in the head of ia and in the patella; and furthermore, tuberculous remnants of the capsule in the midst of the cicatrised and obliterated suprapatellar bursa. Is one, therefore, correct in speaking of healed tuberculosis of the knee-joint in such cases?—and such conditions are not unseldom found; yet these cases are numbered among the apparently successful cures, often merely because no sinuses exist. Is not any accidental injury capable of rupturing the encapsuled infectious deposit and occasioning a general infection of the body, or at least a local relapse? Every tuberculosis deposit in the organism is potentially evil; its removal is accordingly imperative, and should be effected with the same conscientious thoroughness that is displayed in the extirpation of a malignant growth. All morbid tissue must be eliminated and no vestige of it should be left behind in the field of operation to which the eye and hand can obtain access and exterminate.

But the affected limb must be considered also with a view to its future utility and in children, therefore, the epiphyseal cartilage should be preserved in order that the integrity of growth should remain unimpaired. Resection of a joint should only be undertaken if all these prescribed conditions are conscientiously borne in mind and respected. The greatest pains should be bestowed on the thorough extirpation of tuberculous deposits which are invariably present in the joint capsule, the ligaments, and their surroundings. It does not suffice to remove the soft fungoid granulations by simple curetting; as much as possible of the whole capsule must be extirpated in continuity by means of scissors and scalpel and no remnants left—just as one has thoroughly to remove tuberculous tendon sheaths and synovial pouches. Iodoform certainly possesses anti-tuberculous properties, as oorhof maintained 20 go; but a know-

The foregoing represents Professor Moorhof's view upon the true conservative treatment, for this alone in advanced cases is capable of preserving the patient from the subsequent necessity of a mutilative operation, the loss of a limb, general infection of the organism, and marasmus.

OPERATIONS RECOMMENDED.

For the surgical removal of tuberculous disease in a joint the most important factor is the freest possible exposure of the field of operation. Hence those methods of operation or lines of incision are the best which accord most completely with this postulate. One should never work in the dark; all diseased tissue must be thoroughly extirpated to obtain a satisfactory result.

Wrist-joint.—The hand, having been first disinfected and rendered anæmic with bandage and tourniquet, rests secured with its palmar surface on a firm support. A large dorsal skin flap is then marked out with the base directed towards the wrist; the free border of the flap, which is cut with a somewhat convex margin, embraces the whole width of the dorsum and extends as far as the bases of the metacarpals. This large flap with parallel margins is dissected up from the subjacent tendon sheaths and turned back on the forearm, double ligatures being applied to the superficial veins as they are divided. The individual tendon sheaths are next laid open and the tend are exposed. These should be separated one after a order to render the deeper-seated parts accessibl lls of the posterior tendon sheaths, which ergone tuberculous degeneration, are syst by means of scissors and rat-to rsal surfaces of the carpal bones parately seized with a stout bone a pair of curved sharp scissors, e latter into the interstices. In this the carpus are successively removed f the pisiform and os magnum, the always, and the latter if possible, pre- of the tendons remain untouched. If one other of the extensor tendons should be injured it must epaired by subsequent tendon suturing. After the removal six or seven of the carpal bones access is obtained to the palmar segment of the capsule of the joint, which when found to be affected with tubercle is thoroughly extirpated. If the bases of the metacarpals prove to be carious the diseased ends are resected; if a tuberculous deposit is discovered in the epiphysis of the radius it is cut out from the surrounding healthy bone. When the part has been washed clean with formalin solution and the cavity in the soft parts has been dried the hand is approximated to the forearm, placed in slight dorsal flexion, and the somewhat diminished gap is filled with plugging material. This is poured in between the temporarily separated tendons and the skin flap is sutured in position. Pre-existing sinus openings serve after careful curetting for the escape of the scanty secretion of the wound. Thin, bluish, undermined skin is best removed if feasible. In the absence of sinuses a thin strip of oiled silk may be inserted quite lightly on one or both sides of the flap. Starch bandages, reinforced with narrow strips of thin veneered wood, secure the immobilisation of the hand in slight dorsal flexion. The first dressing usually is done from ten to 14 days afterwards. Preservation and retention of individual carpal bones are not recommended when the disease is at all extensive. If this is done very often foci of disease are left behind in the interstices of the little joints, which, as we know, intercommunicate, and hence the occurrence of relapses and the so-called "healing with sinus formation."

The results of total resection of the wrist-joint, performed according to the above-described technique, are excellent. Although somewhat shortened a moveable and comparatively good useful hand remains. Care should be taken that the posterior annular ligament is preserved as it secures the extensor movements of the fingers. By this method I have succeeded in retaining useful hands, even when the bases of the metacarpals were affected by caries and the tuberculous process already established between the palmar tendons. These are tedious operations truly but are rewarded by preservation of the function of the fingers.

Elbow-joint.—In resection of the elbow-joint on account of tuberculous disease the method of Victor von Bruno is used with provisional sawing through and eversion of the olecranon in the flap. This method alone affords satisfactory access to the interior of the articulation. A transverse

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[1] Deutsche rgie, Band lx
[2] S. Hackma nische Wochensch
[3] Deutsche schrift fur Chirurgie, Band

incision is made across the back of the ar [illegible]
hood of the radio-humeral joint until [illegible]
the olecranon is reached; perpendicul [illegible]
incision is made along the olecranon, wl [illegible]
by the saw and the detached portion [illegible]
without severing its connexion with the triceps tendon; a slice of bone is sawn off the ulna and the head of the radius. The ulna nerve is isolated without opening its sheath. The con- [illegible]
an arched form in order to include the deeper fossæ, thus making the section concave when looked at from the front. Next, careful extirpation of the capsule is pursued and if a rupture has occurred the tuberculous tissue must be followed into the upper arm or the forearm. Care must be taken to remove the granulation tissue which usually surrounds the neck of the radius. Finally, any further foci of disease are removed w [illegible]
humerus and then come
in the bones with the
been dried as completely
substance has set a smal
each deposit as a protection, which is covered with dry gauze and held securely applied by the assistant. The upper cartilaginous portion of the olecranon, which in most *cases is found to be carious, is then sawn off. Next,* Esmarch's bandage is relaxed, the bleeding arrested by ligation, the pieces of oiled silk removed, the temporarily dislocated olecranon wired, and the wound closed by sutures,
[illegible] l on the inner side. The dressing
[illegible] n of the elbow almost at right
[illegible] reinforced with strips of wood.
[illegible] after 12 or 14 days, sutures and
drain being removed. Passive movements are then begun. The bone suture has never caused me any anxiety; the silver wire becomes incorporated quietly and remains visible in skiagrams. As the aim is to obtain a new joint at the elbow one need not be too exact in the amount of bone removed and immobilisation of the resected joint must not be protracted too long. Only the first dressing at the operation fixes the elbow, the second and following should merely serve to cover and to protect the wound, and ought not to interfere with movements. In consequence of the difficulties attending the filling of the cavity, resulting from resection of this articulation, Professor Moorhof contented himself with merely rubbing boiled iodoform power over its walls.

Shoulder-joint.—Since in tuberculous disease of the shoulder-joint the thorough extirpation of the diseased capsule and possibly affected bursæ in connexion with it, is of prime importance, the customary long anterior in-
[illegible] nded; decidedly preferable
[illegible] flap. After displacing the
[illegible] end of the bone is sawn off
[illegible] e extirpation of the capsule
[illegible] up with plugging material,
[illegible] o his side. A short drain is
[illegible] refully sutured in position.
[illegible] operation described in the
following text, and which is regarded as typical, has given complete satisfaction in 15 cases; it affords the widest accessibility to the foci of disease which it is possible to obtain and transforms, with a little practice, the otherwise difficult operation into a comparatively easy and safe one.

[illegible]

bends in a wide arch
and is conducted ba
point behind the other malleolus; at the inner and outer malleolus the incision is made above the course of the posterior tibial artery and the peroneal tendons respe [illegible]
The broad and convex flap thus marked out is raise [illegible]
the extensor tendons for a short distance and the she [illegible]
the latter are opened. The whole of the exposed [illegible]
[illegible] long
[illegible] ides

[illegible] middle. In the
[illegible] *from the neigh-*
[illegible] the foot and its
[illegible] are applied, and
[illegible] n the superficial
fascia have previously been secured and ligatured. The entire soft parts of the dorsum are now dissected up along the astragalus and thrown back centrally in the form of a flap. During this step the anterior wall of the capsule of the ankle-joint is usually severed, as the dissection proceeds backwards, the joint being opened. The lateral ligaments are then divided, internally the deltoid ligament, externally the three bands which extend from the outer malleolus to the astragalus and the os calcis; the foot in consequence hangs quite loosely, the whole astragalus facing the sitting operator. The opening of the astragalo-navicular joint comes next and the astragalus is excised by a few snips of the scissors. Extirpation of the posterior wall of the capsule is readily effected after the removal of the astragalus but care must be taken to avoid severing the tibialis posticus tendon, likewise the tendons of the peronei should not be injured. Excision of the tuberculous tissue in the sinus tarsi completes the operation. After the cavity has been syringed out and dried the foot is approximated to the empty socket formed by the lower ends of the tibia and the fibula and the intervening gap is filled up with *plugging material; the ends of the tendons are afterwards* re-united by using the silk check-threads. The skin is drawn together by sutures, a short drain is introduced if no sinus openings exist, the dressing being applied and retained with starch bandages in which strips of wood are incorporated. In order to prevent the escape of the fluid plugging material through the lateral angles of the wound it is advisable to close them beforehand with a few sutures. Accordingly stitches are first inserted in the submalleolar regions and then, *after turning the flap back and temporarily* separating the sutured tendons, the material is poured into the cavity, allowed to set, and the closure of the wound is subsequently effected.

The astragalus is removed in all circumstances, otherwise thorough extirpation of the capsule would be impracticable: a *sine quâ non* for success. In one case, for example, after the completion of this step it was found that the os calcis was also diseased. It was necessary therefore to proceed with the excavation of the calcaneum *from above until only* a thin shell of the cortex remained. Primary healing and gradual regeneration of the calcaneum ensued, despite the presence of the plugging substance. In another case, a carious focus was found in the lower epiphysis of the tibia which was extirpated and plugged. In all the 15 cases operated upon, up to the present, healing has occurred with useful extremities and, moreover, with the formation of a new joint, hence with moveable feet. The shortening amounted to some two centimetres. Concerning the treatment of caries of the tarsal bones situated in front of the line of the mid-tarsal joint the method employed is the same with the only modification that the base of the flap is displaced further forward and its free border extends as far as the posterior third of the metatarsal bones.

Knee-joint.—In the operation of resection of the knee-joint so frequently undertaken the transverse incision across the patella and section of the latter devised by von Volkmann are employed. A short *incision is first made which* penetrates to the patella and corresponds to its transverse median diameter; this is then prolonged on both sides in a wide arch to the upper contour of the condyles of the femur. The patella is divided by the saw and both halves are everted in the flaps after division of the capsule and lateral ligaments. The upper half of the bone is now retracted by means of a sharp bone hook and the entire suprapatellar
bursa is thereupon dissected awa
tendon and inner surface of the
[illegible] forceps and scissor
[illegible] of all tuberculous tissue, so
[illegible] operation. No vestige of it
[illegible] ndons and muscular fibres
ought to be visible. If a rupture of the bursa has already
[illegible] upper part and the tuberculous process has
[illegible] cular tissue, the original incision
[illegible] he infiltrated parts dissected away
[illegible] *from the healthy surroundings.*
[illegible] abscess into the popliteal space
and its [illegible] e muscles of the calf may prove a
very disagreeable complication, yet with patience and

circumspection even this difficulty may be overcome. Accompanying sinuses may be excised. Attention is next directed to the lower segment of the patella; this is drawn downwards and the lower and anterior portion of the capsule is dissected away until healthy tissue is reached. The joint is now bent and the crucial ligaments are divided. The division of the latter is effected by directing the knife towards the inner condylar notch in order to avoid wounding the popliteal vessels inadvertently. The joint now gapes and an excellent view can be obtained of the diseased posterior wall of the capsule and the articular cartilages of the bones which usually exhibit areas of erosion.

Professor Moorhof then proceeds according to the following rule, which is applied in all cases to children—to adults if the bones do not appear much altered—viz., to perform the operation with a stout knife and to remove therewith the cartilage piecemeal from the end of the tibia and the femur. If one or more tuberculous deposits are found in the femur or head of the tibia, as is so frequently the case, they must be cut out of the healthy bone—a mere curetting with spoons does not suffice—and then filled with plugging material. In adults with extensive destruction of the bones concavo-convex slices are sawn off from the ends of both components of the joint, as Helferich recommends, but with children the saw is never used, since the integrity of the epiphyseal cartilage is of vital necessity for unstunted growth. The posterior wall next receives attention and is extirpated as far as possible entire; here, again, the dissection should be persevered with until healthy tissue appears in order to insure the removal of all disease. This excision of the posterior capsular wall is very circumspectly carried out with scissors and rat-toothed forceps and requires a practised hand in view of the fact that the popliteal vessels, particularly the artery, lie immediately behind the diseased capsular wall. Attention is also directed to the niches behind the condyles and the tent-like diverticula of the capsule in this situation, which must be systematically extirpated, as they invariably conceal masses of tuberculous tissue. In adults the saw is employed and it is advisable to remove only thin sections of bone with a sharp fret saw, concave on the tibia, convex to the end of the femur, accord-to Helferich's method. There is no advantage in sawing off thick slices of bone; it is only detrimental to the patient by producing greater shortening of the limb and by retarding or completely arresting the bony growth.

After a final inspection of the whole field of operation the wound is syringed out with formalin solution and deposits of plugging material are introduced and protected with oiled silk, the tourniquet is released and the bleeding is arrested by ligation. The halves of the patella, having been denuded of their cartilaginous surfaces by the saw, are brought into apposition by a catgut suture which unites the para-capsular soft parts; the wound is drained through the angles. Before the insertion of this suture the plugging material is poured into the gap between the tibia and the femur. The cavity resulting from the extirpation of the supra-patellar bursa is rubbed over with some iodoform powder and the drains are inserted into it. Sutures, or Michel's clamps, complete the operation. The preservation of the dorsal halves of the patella primarily fulfils a cosmetic purpose, in that it prevents the otherwise characteristic indrawing; but it also serves as a buttress of bone which lies perpendicular to the resected joint surface, and acts to a limited degree as a check against a later genu recurvatum and secondary contraction. The patella should only be completely excised if it is quite carious.

Formerly silver wire was used to unite the segments of the patella; then a thread of catgut was wound around them. Now sutures are passed through the thin prepatellar layers—viz., the aponeurotic expansion of the quadriceps tendon and the periosteum. This suffices as the bony segments are subject to no tension. Pegging of the resected articular ends has never been resorted to; it is quite unnecessary if the saw is used sparingly or a cartilage knife is exclusively employed for the resection. The securing of the ends of the resected joint is effected by a splint. This consists of a hollow trough of wood or celluloid rendered aseptic, and of such a length that it extends from beyond the middle of the posterior surface of the thigh on the one hand to the middle of the calf on the other. The trough is padded with the requisite amount of sterile cotton and gauze and applied to the under surface of the limb as soon as this is ready for dressing. By padding the splint accordingly complete extension or any desired angular position of the ends can be obtained. The leg is then secured to the splint with sterile gauze rolls. This constitutes the "inner dressing." Finally, the whole extremity, from the hip to the toes, is wrapped in a large sterile quilt of wood wool and the "outer dressing," consisting of starched bandages and strips of wood, is fixed in position over it.

If the progress of the wound is aseptic the first dressing commonly remains *in situ* three weeks. The change is readily and painlessly effected by cutting the outer bandage with a small knife and turning it back. The gauze rolls are then snipped through with a pair of scissors and the resected region is laid bare. The drains and sutures may now be removed. Then a fresh splint, padded and ready, is promptly substituted as the old one is removed. The patient scarcely notices the exchange of splints when it is conducted properly, even if the dressing requires to be changed before the third week.

Hip-joint.—The joint is exposed from the posterior side by means of Textor's incision, the capsule opened, and the head dislocated and sawn off through the neck. The healthy acetabulum is then filled with plugging material. The case pursues a perfectly aseptic course. All personal experience[4] is lacking in cases of coxitis tuberculosa, as material of this nature is not obtainable. No doubt, however, can be entertained that the plugging will prove of service in these cases.

The face.—Lately the application of iodoform bone-plugging has been extended to the filling of bone cavities in the facial skeleton—certainly the first cases to receive this kind of treatment. They comprise four cases of dental cyst and two of empyema of the antrum of Highmore. In two instances the dental cysts were situated in the superior maxilla. The first case of dental cyst was explored from the exterior after splitting the cheek by Langenbeck's semi-lunar incision, as the diagnosis appeared uncertain, and the possibility of its being a sarcoma could not be excluded. The exposed anterior wall of the antrum was removed above the reflection of the buccal mucous membrane without opening into the mouth and the cyst wall was carefully extirpated. After the cavity had been well dried it was filled up with "bone plugging" and the wound in the cheek was sutured. Perfect healing by primary intention resulted. A dental cyst in the mandible was also explored from the exterior by division of the soft parts on to the body of the bone. After elevation of the periosteum an incision was made through the thinned external wall of the cavity, which corresponded in size to a goose's egg. In the interior of this the naked roots of the last molar tooth, which was somewhat dislocated in its socket, were found to be projecting. The tooth had to be extracted, whereby the former exclusion of the cyst cavity from the interior of the mouth was lost and an open communication established in the alveolus. After extirpation of the cyst wall and drying the cavity the communicating canal was temporarily stopped with a finger and the cavity filled. As soon as the plugging material had set the external wound was closed with sutures. Healing by primary intention followed. When the patient's mouth was open the bulging inner wall of the former cyst could be discerned and on the apex of this was situated an aperture of about the size of a hemp seed through which the stiff yellow "plugging" protruded. By degrees the internal prominence of the mandible subsided, and the patient left the ward four weeks later devoid of symptoms and with a normally shaped lower jaw.

After the experience gained from this case—viz., that a communication between a plugged cavity in the maxilla and the mouth did not militate in any way against the final success of the operation—a second case of cyst in the lower jaw was operated upon. This was of about the size of a large plum and extended from the lateral incisor to the second bicuspid. The cyst was exposed, not from the exterior but by retracting the lower lip from the gum. A transverse incision was first made into the gum, corresponding in length to the tumour and near to the reflection of the mucous membrane on to the lower lip; the gum, together with the periosteum, was next elevated from the thin papery outer wall of the cyst, the latter was incised, and the greater part of it was removed. Extirpation of the thickened cystic membrane proved very difficult owing to the existence of diverticula between the bare roots of the teeth and the task of separating these from the whole row of loose teeth, extending from the lateral incisor to the first molar occupied a considerable time. By the intelligent coöperation of the patient, who had not been anæsthetised, in adjusting the position of her head and body, perfect success attended the introduction of the filling substance. After the plugging had set the wound in the gum was sewn up with fine catgut. Apart from a slight swelling of the same side of the face no symptoms were noticed. The case followed an afebrile course and closure of the wound was successful. On the third day the patient left the ward. 14 days later she presented herself in the out-patient department; no swelling was visible and the teeth were set decidedly firmer. She expressed herself highly contented with the operation.

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[4] Of Professor Moorhof.

The second case of empyema of the antrum was also dealt with from the mouth, without general narcosis and with the aid of some cocaine and adrenalin. The second molar tooth was lacking; through a defect in the alveolar process the sound could be passed into the maxillary sinus, causing some discharge of pus. On irrigation none of the syringing solution escaped from the nostril. The gum was incised transversely, somewhat below the line of reflection of the mucous membrane, the parts along the canine fossa were raised, and a portion of the anterior bony wall of the sinus, [illegible] gth and breadth to a ter- [illegible], was removed. To effect [illegible] employed to make a breach in the wall and the resulting aperture was subsequently enlarged by means of bone forceps. The investing mucous membrane was now extirpated with the aid of a forehead mirror. On the completion of this troublesome step and it being ascertained by means of the eye and finger that bare bone alone was present, the cavity was filled by tilting the patient's head into a suitable position. Catgut sutures, closely inserted, were employed to unite the gum as soon as consolidation had taken place. Before the introduction of the plugging a small strip of iodoform gauze was inserted into the socket of the tooth and this was subsequently left *in situ*. The course was afebrile and there was slight swelling of the affected side of the face which lasted three days. The patient was discharged on the fourth day. On examination with the Roentgen rays a deep shadow was manifest throughout the whole extent of the antral cavity. The lightly inserted strip of gauze which served as a temporary plug for the socket of the tooth was withdrawn on the third day and the filling substance henceforward remained, not only in communication with the mouth but also with the nasal fossa. In spite of this, however, the material remained intact and performed its function as a "locum-tenens" without producing any disturbance. When one considers how difficult [illegible]

Cysts of the maxillæ are bone cavities arising in consequence of pathological changes; there appears, however, to be no doubt that such spaces may become completely obliterated by the gradual approximation of the expanded, shell-like, bony walls. It is another question with an empyema of [illegible] bliterated in the same way, [illegible] l pre existing cavity the [illegible] s become diseased through inflammation? Perhaps in a year the question may be settled. For the present it is sufficient for the patient in so far that he can be relieved of his troublesome symptoms in a few days [illegible] nd the complicated [illegible] ntinuing for years, [illegible] is, and remains, [illegible] no disagreeable odour is communicated to the expired air.[3]

The mediastinum.—Before concluding mention must be made of a case in which, willy nilly, Professor Moorhof had to resort to plugging and it is adduced as evidence of the extraordinary toleration of the plugging material by the organism in general. It concerns the plugging of a mediastinum. A 14-year-old girl was recommended to Professor Moorhof from a college in Bohemia. On examination she presented nearly in the middle of the sternum a crateriform ulcer of a tuberculous nature which secreted an abundant discharge; a second ulcerating sinus opening of a similar character was located in the suprasternal fossa immediately above the manubrium sterni. Both led down into the mediastinum. It was decided to operate on this case in spite of the existence of intercurrent bilateral affection of the apices, because evening fever was present and the complete loss of appetite and the copious secretion were undermining her strength. At the outset certainly the case was not deemed to be so difficult as it eventually proved. It was hoped that the disease had originated in the bony skeleton—namely, the sternum—inasmuch as a scar was present on the fourth right rib, which imparted the information that at some time previously the rib itself had been scraped out, [illegible] tending from [illegible] ings of the si [illegible] o the anterior mediastinum was obtained by this means. The whole mediastinal cavity was found to be filled with broken-down caseous masses which had displaced the right pleura and pericardium and penetrated to a "frightful depth." The débris was first carefully removed with an ordinary blunt spoon and a deep cavity larger than a man's fist was thereby excavated. The heart and pericardium were thrust to the left; on the right side the pleura stretched back to the root of the lung, on which a large vessel, possibly the superior vena cava, could be seen pulsating. But this was not all; above and below the root of the lung a fistula was found which delved into the posterior mediastinum. After the removal of the caseous masses both diverticula happily proved to be blind. The pleura and pericardium were manifestly thickened and covered with a friable grey pyogenic membrane. No further doubt remained, however, judging from the appalling conditions present, that the mediastinal complications arose, not from the thoracic skeleton but from broken-down tuberculous bronchial glands. With the aid of a sharp spoon the membrane was cautiously peeled off and on the completion of this a very large and extremely dilated cavity stood revealed the right wall of which was formed by the thickened and rigid pleura, the left by the displaced pericardium; below its lower wall was constituted by the diaphragm and towards the neck it was limited by the lower border of the thyroid gland. What was to be done? There was the copious secretion from the imperfectly removed pyogenic membrane to be apprehended and still more the inevitable decomposition of the wound secretion in the secondary recesses around the root of the lung, hence sepsis and erosion of the vessels. In this predicament the entire cavity was filled with plugging, confiding in the well-tried properties of iodoform. So large was the cavity, however, that more than 200 grammes of the material were utilised and still an interval nearly one centimetre in depth to the level of the sternum remained to be filled.

The result was astonishing. The evening fever ceased, the appetite returned, the nights were good, and the patient quitted her bed on the seventh day and went into the garden. After the dressing was changed on the second day the secretion from the wound became moderate and merely necessitated a fresh dressing every fourth day. The plugging was slowly eliminated and whilst immediately after the operation it did not reach the level of the skin, on the eighth day it protruded through it and was superficially exposed. In 14 days the patient felt quite well and wished to return home, so she left the sanatorium and returned to Bohemia in charge of her mother. The local practitioner had the kindness to keep Professor Moorhof posted concerning the progress of the patient. Some days after their arrival home, on May [illegible] been performed on [illegible] which suddenly deve [illegible] ck of asphyxia. The latter, after lasting about a quarter of an hour, ceased with complete restoration to the normal condition. [illegible] ing day. [illegible] and this [illegible] patient to enjoy a quiet night with undisturbed sleep. Nevertheless, it reappeared during the next forenoon and subsequently the attacks recurred two or three times daily with truly disquieting symptoms. Narcotics procured no relief. Hitherto the dressings had been changed only every four days; now, however, as a mucous discharge was also [illegible] escaped during respiration through the lower wound with an audible sound. No portions of the plugging material had

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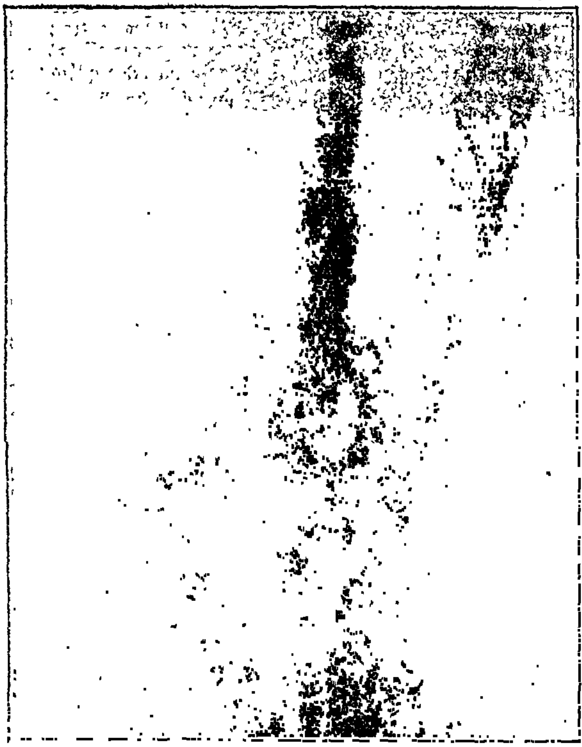
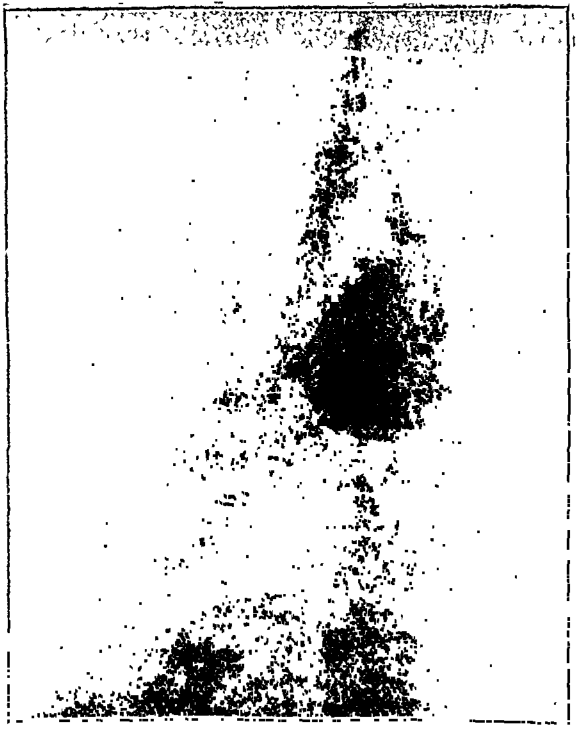
[3] Since [illegible]

FIG. 1.



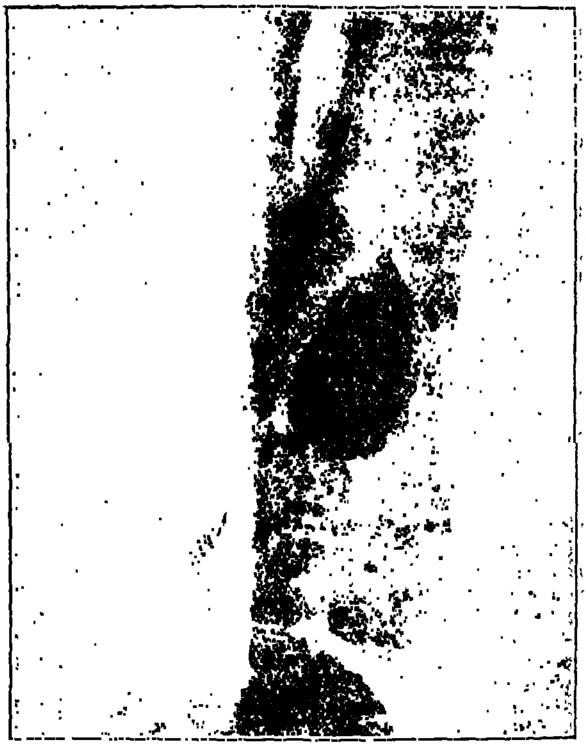
Before operation.

FIG. 2.



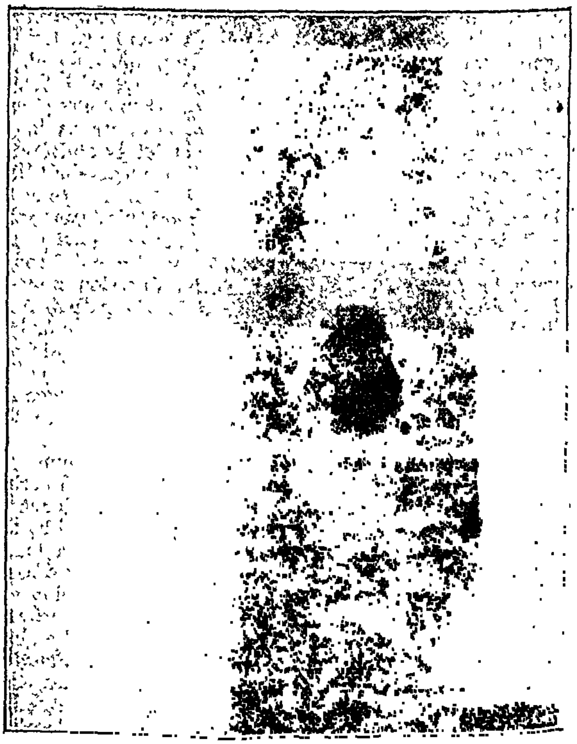
Two weeks after operation.

FIG. 3.



Five weeks after operation.

FIG. 4.

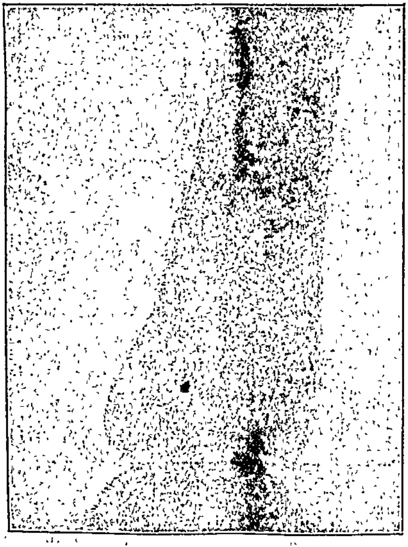


Twelve weeks after operation.

been coughed up at this time. The sputum was only moderate in quantity and consisted of tenacious transparent mucus. The pulse was accelerated (up to 160). No fever was present. On the morning of June 5th an attack again supervened, during which the face became œdematous and markedly cyanotic. The girl succumbed on June 7th to the progressive increase of these symptoms. The plugging also in this instance acted as a "locum-tenens," but that it could effect a cure in such a hopeless case no one for an instant ventured to believe. Enough that it was tolerated and that sepsis was prevented.

Appended to the above in the original monograph is a compilation of the histories of all the cases operated upon by Professor von Mosetig Moorhof. The collection comprises some 79 cases of osteomyelitis, 108 cases of tuberculous disease, two orthopædic cases, two fillings of the antrum of Highmore, and four of dental cysts. Professor Moorhof states, in conclusion, that in no single instance has he to report a failure. From this appendix one case has been selected which has immediate reference to the illustrative reproductions of skiagrams. (Figs. 1, 2, 3, 4, and 5.)

FIG. 5.



Thirty-three weeks after operation.

The patient was a stonemason, aged 28 years. In July, 1902, he had an abscess on the lower part of the right leg which was incised. At the end of October a fistula formed with copious secretion. When seen on Nov. 22nd the region over the internal malleolus was swollen; a sinus was present leading down to raw bone. A diagnosis of osteomyelitis tibiæ was made. On Dec. 5th erasion was performed with subsequent plugging of a cavity in the tibia of the size of a hen's egg. On Dec. 14th the dressings were changed. The wound healed by first intention. The patient was discharged healed on March 11th, 1903.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.—At a stated meeting of the Royal College of Physicians of Ireland held on Jan. 13th the following candidates were admitted to the Membership of the College: Edward J. M. Watson, M.D. Dub., and T. Gillman Moorhead, M.D. Dub. At the previous meeting of the College held on Jan. 6th Lieutenant-Colonel F. O. Reeves, I.M.S., was admitted to the Membership.

A CASE OF ACUTE LEUKÆMIA,

WITH REMARKS ON ITS CLINICAL FEATURES AND DIAGNOSIS.

BY W. MITCHELL STEVENS, M.D. LOND., M.R.C.P. LOND.,
FELLOW OF UNIVERSITY COLLEGE, LONDON; ASSISTANT PHYSICIAN AND PATHOLOGIST TO THE CARDIFF INFIRMARY.

CASES of acute leukæmia which are usually of the lymphatic type are especially prone to occur in young subjects and they are of much clinical interest as the difficulties in diagnosis may be very great. The case which I am about to record occurred some months ago in the practice of my friend, Mr. F. Temple Morris, to whose kindness I am indebted for seeing it.

The patient, a boy, aged 17 years, complained of general weakness, slight headache, loss of appetite, and painful priapism. The family history was good. The lad himself had enjoyed excellent health until his present illness which commenced one week before sending for his medical attendant with the above-mentioned symptoms. Six months previously the patient had fractured his thigh but he had rapidly recovered from this accident. When first seen on the eighth day of his illness he showed marked pallor and weakness; the temperature was 102° F., the pulse was 84, and the respirations were 24, and a careful physical examination failed to discover anything except very marked and continuous priapism. On the tenth day of illness the blood was tested for Widal's reaction with a negative result. On the thirteenth day of illness I saw the patient in consultation with Mr. Temple Morris and his condition was as follows. He was dull, apathetic, and irritable and complained of headache, weakness, loss of appetite, and great pain in the penis, with difficulty in passing his urine. He was pale, prostrated, and wasted. His temperature was continuously raised and varied irregularly between 100° and 103°, the pulse was 98 and regular though weak, and the respirations were 26 The skin was dry and sweatings were absent and a careful inspection showed a few small hæmorrhagic spots on both flanks. There was no glandular enlargement. The appetite was very poor but there were no gastro-intestinal symptoms and the bowels were regular and the stools were normal. The tongue was clean though dry, the gums were normal, there was no abdominal distension or tenderness, the liver was not palpable, but the spleen was slightly enlarged but not tender. The heart and lungs were normal, as was the urine. The penis showed marked priapism which condition was continuous and painful. A blood examination showed red corpuscles 1,620,000 per cubic millimetre and leucocytes 920,000 per cubic millimetre and it was found that the excess of leucocytes was due entirely to the large lymphocytes. On the twelfth day it was found that the spleen was still further increased in size and distinct enlargement of the glands in both axillæ and in both groins was felt. The patient sank rapidly and died 19 days from the commencement of the illness.

The following points are, I think, worthy of note: 1. The duration of the illness. The entire illness lasted less than three weeks. 2. The general symptoms. The mode of onset and the general symptoms (headache, malaise, pallor, and continued fever) suggested the probability of typhoid fever and the possibility of tuberculosis or of malignant endocarditis or some "septicæmic" condition. Typhoid fever, however, was excluded by the absence of any other symptoms or signs of the disease, including Widal's reaction, and, moreover, the course of the pyrexia and the presence of priapism militated against that disease. Tuberculosis and malignant endocarditis were excluded by the history and by a thorough examination. 3. Splenic enlargement. This was not noticed until the thirteenth day of the illness. The spleen was only slightly enlarged and it was very firm and not tender. The splenic enlargement, associated with pallor and with purpuric spots on the flanks, suggested some diseased blood condition. It is to be remembered, however, that in cases of lymphatic leukæmia the spleen is not always obviously enlarged. 4. Glandular enlargement. Enlargement of the lymphatic glands did not make its appearance until after the thirteenth day, by which time the diagnosis had been made by means of a blood examination. It may be noted that the glandular enlargement progressed rapidly in the last few days of life. 5. Blood examination. This showed conclusively that the case was one of acute lymphatic leukæmia. An interesting point in this connexion is the enormous number of lymphocytes present. 6. Priapism. During the whole of the time that this patient was under observation there was marked and continuous priapism and this condition gave rise to much distress. In conclusion, one may say that a case like this shows the very great clinical importance of a blood examination in doubtful cases and, indeed, in this instance it was thus possible to diagnose the presence of lymphatic leukæmia before any glandular enlargement was observable.

Cardiff.

A CASE OF CONTRACTURE AND ANKYLOSIS AT THE KNEE TREATED BY STEEL-BAR TRACTION AND HESSING'S SPLINT CASE APPLIANCE.

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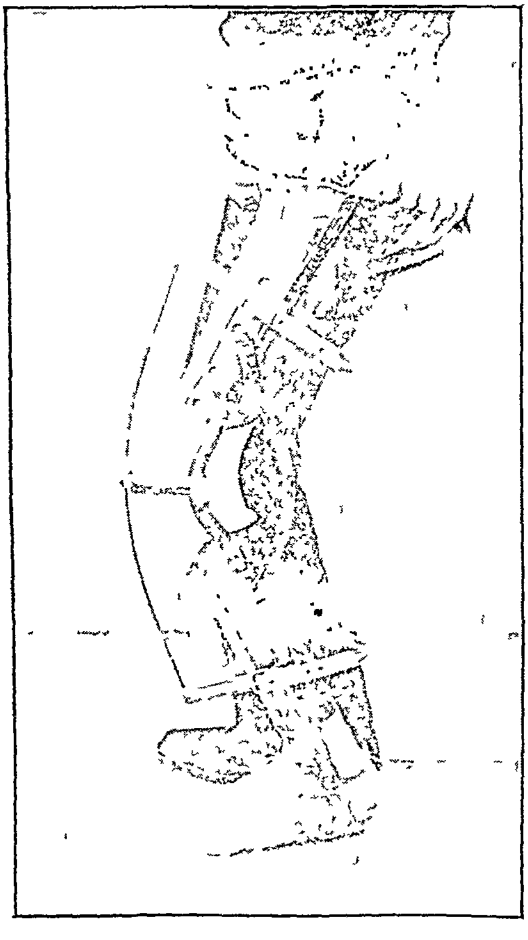
SURGEON TO THE LONDON HOSPITAL AND SURGEON TO THE NATIONAL ORTHOPÆDIC HOSPITAL

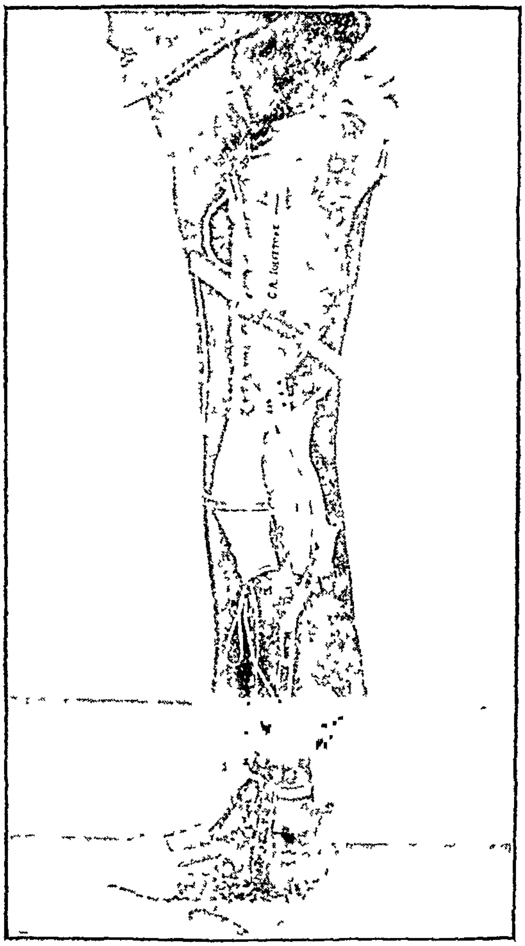
THE patient, a boy, aged 15 years, came under my care at the London Hospital in January, 1904, with close fibrous ankylosis and contracture of the left knee. The knee first became painful and stiff when the patient was five years old. He was treated with plaster of Paris, &c., but abscesses formed which burst. There were two cicatrices above the external condyle and one over the ligamentum patellæ and evidences of extensive tuberculous disease resulting in ankylosis. The knee became flexed and contracted and this remained so, but during the year 1903 it had been getting slowly more marked. In January, 1904, the angle of the knee-joint was 112 degrees. The hamstring muscles were contracted. There was power of motion of the knee only to the extent of one degree. The muscles of the thigh were wasted but there was no paralysis. The patient walked well with the toes on the ground but the left half of the pelvis dropped four inches in order that the toes should reach the ground. There was marked left dorso-lumbar lateral curvature.

FIG. 1.



The apparatus applied, Feb. 26th. The knee is flexed at an angle of 112 degrees.

FIG. 2.

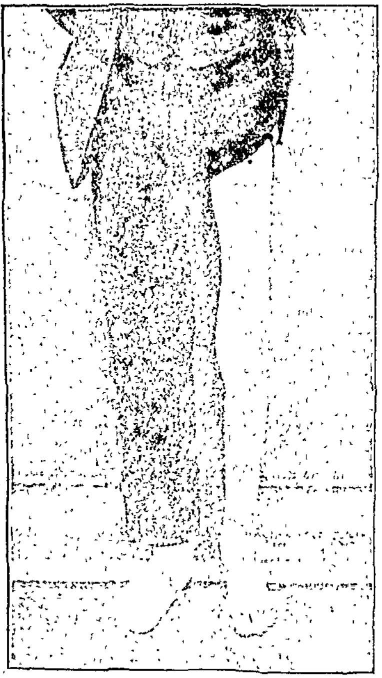


Showing the knee straight on April 15th.

On Feb. 26th Hessing's splint case appliance, with steel-bar traction, was adjusted to the limb, the knee being then flexed at an angle of 112 degrees (see Fig. 1). Very slowly and steadily the knee began to extend, without pain, œdema, or other inflammatory symptom. As the knee extended so the arched steel bar at the back of the knee was readjusted and on April 15th the leg was straight (see Figs. 2 and 3). The accompanying diagram (Fig. 4) shows the steady improvement that had taken place at different dates.

The appliance consists of three cases made of leather, one accurately moulded to the thigh, a second to the calf, and a third to the foot. Each is strengthened with steel bars. These steel bars are accurately moulded to the part and are then sunk into the softened leather. These bars carry certain plates of steel which project through the leather and in which are various screw-holes for their firm attachment to two lateral steel bars which pass down from the thigh case to the ankle. The leather cases by this means not only are firmly attached to the lateral bars but can be adjusted either a little upwards or a little downwards. The splint thus forms one uniform whole which accurately fits

FIG. 3.



Front view of straight leg, April 15th.

the leg from the ankle-joint to the top of the thigh. Each leather case is open in front and is made to lace up.

The foot leather case is fitted with a sole plate carrying upright bars on each side with steel pegs in them. The pegs fit in holes at the lower end of each of the lateral bars and by this means traction upon the lower part of the leg is made. Crossing the front of the knee is a steel arch fitted on each side into the joint between the thigh and the leg. It carries a slot through which passes an elastic steel bar, to each end of which is attached a strap. These straps buckle to the lateral steels of the thigh and leg cases (see Fig. 1). The upper end of the steel bar having been buckled tight, as the lower straps are tightened so the leg is drawn forward and the knee is straightened. At the back of the knee is an arched steel bar, with a slot at the lower end and with screw-holes at the upper end. As the leg gets straighter the straightening is followed up and secured by increasing the length of this bar. The slot at the lower end of the bar allows the knee to extend but prevents flexion.

Remarks.—This case was one of the closest possible fibrous ankylosis, practically no movement being obtainable at the knee-joint. The contracture and flexion of this joint were steadily getting worse, so that only the tips of the toes touched the ground, and the pelvis being tilted scoliosis resulted. The knee was straightened in six weeks without any pain being experienced during the process. The patient was *not incapacitated even for a day.* The *movement* at the knee-joint continued very slowly to increase in extent.

In my opinion, every case of fibrous ankylosis and contracture of the knee can be straightened by means of this steel-bar traction method. This method should supersede forcible straightening of the knee under anæsthetics, which occasionally results in rupture of the popliteal vessels or in lighting up the quiescent tuberculous disease and frequently causes an increase of the pre-existing stiffness of the joint.

Wimpole-street, W.

FIG. 4.

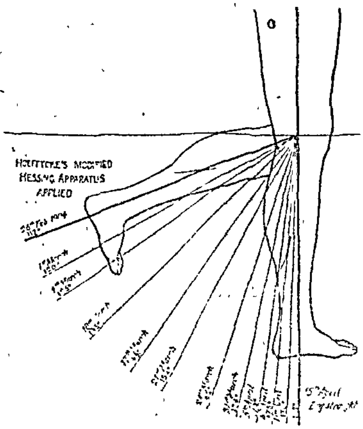


Diagram to show the progress of the case.

HUMAN PIROPLASMOSIS.[1]

BY C. DONOVAN, M.D. R.U.I.,

MAJOR, I.M.S.; SECOND PHYSICIAN, GENERAL HOSPITAL, MADRAS.

(Concluding Part.)

THE piroplasmata are found in the peripheral circulation, the spleen, the liver, the bone marrow, the submucosa of the large intestine, ulcers of the skin and large intestines, and occasionally in the kidneys and the suprarenals.

In the peripheral circulation the parasite is met with in the red blood corpuscles and in the polymorphonuclear and mononuclear leucocytes; it is only when the temperature is high, between 103° and 104° F., that their occurrence in this situation is noticed. Their numbers vary and are never at any time great; in an examination of a slide for half an hour six might be found in the red blood corpuscles and double to treble that number in the leucocytes. In the red blood corpuscles the organism is small, 1 μ to $1\frac{1}{2}$ μ in diameter, in shape bacillary, pear-shaped, oval or spherical, with one *chromatin* mass, oval or oblong, always placed at the circumference. The forms represented in Fig. 7 of the coloured plate attached [illegible] their different shap[illegible]g the one-chromatin parasite are not altered in shape, size, or in staining reaction from the normal uninfected cells. Here also may be found rarely shrunken red cells stained blue instead of *greenish-yellow, which contain* the double chromatin parasite to be described immediately below. In [illegible] leucocytes (Fig. 7) [illegible] ing life the forms are varied and numerous, they occur free, in altered and unaltered red blood corpuscles, in the protoplasm of the mononuclear leucocytes and macrophages. The most typical form is either oval or spherical, measuring 2·5 μ to 4 μ by 1·5 μ, with two chromatin masses, staining deeply with methylene-azure, especially the smaller of the two which takes on a clearer and more brilliant shade of the stain; the two chromatin masses are placed opposite each other, the larger, round or oval, has, as a rule, a looser texture than the smaller one which is more compact and dot or rod shaped (*vide* Fig. 1). With deeper Romanowsky staining a chromatin thread appears to connect the smaller mass to the periphery of the organism (*vide* Fig. 2) and at times a similar thread connects the two masses. In some preparations vacuoles appear to exist in the cell body but these I consider artificial (*vide* Fig. 2). The cell substance of the parasite is very clear and hyaline and not granular; it usually stains a light greyish pink with Romanowsky stain, the shade being darker at the periphery than towards the centre. However, if the preparation is well and carefully cleared with alcohol the protoplasm comes out a light blue, darker at the periphery with strands extending towards the larger chromatin mass. Such an appearance is shown in Fig. 3. Besides the above described there are pear-shaped and fusiform forms possessing one or two chromatin masses and stages in the multiplication of the parasite by bipartition and multipartition (*vide* Figs. 1 and 5). A few of the organisms possess a very light-coloured larger chromatin mass with an accentuated dark smaller one; two are shown in Fig. 1.

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[1] [illegible] which [illegible] was [illegible] is part [illegible] was [illegible] on. A detailed description [illegible] which appeared in the first part.

DESCRIPTION OF PLATE.

(Magnification about 1500 diameters; Romanowsky staining was used.)

[illegible] forms of piroplasma Donovani found in blood [illegible] s and [illegible] asite. [illegible] t in red blood corpuscles [illegible] ion.

FIG. 8.—Macrophage from spleen blood with numerous piroplasmata in protoplasm, one apparently in the nucleus. Nucleus of splenic cell with dark nodal *staining resembling piroplasma* Donovani in appearance.

FIG. 9.—Blood taken from a smear post mortem.

The piroplasma when included in the red blood corpuscles brings about marked changes in the structure and staining properties of the stroma; as long as the parasite possesses a single chromatin mass the red cell is unchanged but on the advent of the smaller chromatin mass the infected cell alters in its staining reaction. The normal yellowish-green colour of the cell assumes a blue tinge, beginning at the periphery and extending towards the centre till the whole infected cell is changed from a homogeneous yellowish-green disc to a finely reticular and blue-stained form (*vide* Fig. 4).

The altered red blood corpuscles at times increase in size when harbouring more than four or five parasites and at times decrease when containing a single individual. Appearances of double chromatin parasites included in unaltered red blood corpuscles I consider delusive; the organisms in such cases are superimposed. (But this statement I make with great reserve as those skilled and experienced observers, MM. Laveran and Mesnil, consider them as inclusions.)

The number of organisms in the mononuclear leucocytes vary from two or three to half a dozen, but it is in the macrophages that we meet with them in large quantities, where from 150 to 200 may be counted, crowded and packed in the protoplasm of one of these giant cells (*vide* Fig. 8). A few may be seen in the nucleus but these are probably superimposed. As a rule pigment is not associated with this piroplasma but in about seven of the cases there was well-marked evidence of such an occurrence. The pigment was of golden-brown to vandyke-brown in colour, present both in the altered red blood corpuscles and the protoplasms of the mononuclear leucocytes and macrophages (*vide* Fig. 6). The pigment was not an artefact; special care was taken to exclude such an accident. In the above cases pigmentation was present in the liver and spleen examined macroscopically and microscopically. In the smears taken from the spleen post mortem the organism is not so well defined as during life; it is smaller and the outline of the cell of the parasite is by no means so well demarcated. The two chromatin masses in juxtaposition, however, draw one's attention to their presence in the preparation (*vide* Fig. 9). The likeness of the parasites to changes in the nodal thickening in the nucleus of the splenic pulp cells is marked and would give rise to confusion to an inexperienced observer. (*Vide* the nucleus of the splenic cell in the sinus below the long horizontally extended pseudopodium of the macrophage in Fig. 8, where this deceptive appearance is shown). I have not touched on the microscopical appearance of the tissues and organs found in this disease as leisure was denied me in entering into but a cursory examination of such preparations.

As to the nature of the parasite, I consider myself justified in adhering to the experienced and authoritative opinions of MM. Laveran and Mesnil. The one chromatin forms in the peripheral circulation have the closest resemblance to piroplasma bigeminum but I have not so far succeeded in observing any enlarged spleens in calves suffering from "Texas fever" in Madras so cannot compare the full-grown double chromatin forms (probably gametes) of these species of piroplasma. I may say, however, that I exclude entirely the genus trypanosoma as having any relation to the disease. I have now examined carefully fully over 1500 slides of blood of patients suffering from piroplasmosis and have never come across anything having the least resemblance to a trypanosome. Yet I do not exclude a trypanosoma, or rather a trypanosomoid stage, in the life-cycle of piroplasma infection.[2]

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SUPPURATIVE PERICARDITIS.

BY R. W. MURRAY, F.R.C.S. ENG.,

SURGEON TO THE DAVID LEWIS NORTHERN HOSPITAL, LIVERPOOL.

THOUGH many cases of suppurative pericarditis have been recorded in which recovery has taken place still the mortality of this disease must remain very high. It is chiefly by surgical means that relief or a cure can be hoped for, and with the view of encouraging the early employment of free drainage of the pericardial sac I give an account of an illustrative case.

The patient, a boy, 13 years of age, was admitted into the David Lewis Northern Hospital on August 9th, 1904. He had enjoyed good health until a week previous to his admission, when his right ankle became swollen and painful without apparent cause. A few days later there was a painful swelling of the left great toe. Both ankle and toe had been poulticed. On admission the boy was very ill and complained greatly of his ankle, which was red, swollen, and acutely tender. The great toe was in the same condition. His respiration was so rapid that he spoke with difficulty, his temperature was 100° F., and his pulse-rate was 140.

It was obvious that the boy was suffering from suppurative arthritis involving the ankle-joint and also the metatarso-phalangeal joint of the toe. Chloroform was administered, the ankle-joint was rapidly and freely opened, and a drainage-tube was passed through it. The cause of the suppuration was found to be due to acute osteomyelitis of the lower end of the tibia. The great toe joint was at the same time dealt with and a similar condition was found there. In accordance with a practice which I have for a number of years invariably adopted in cases of this nature I examined the pericardial region The heart sounds were faintly audible and the pericardial dulness or rather flatness was markedly increased upwards and also extended to the right of the sternum I strongly suspected that this was *due to an accumulation of pus and the diagnosis being con*firmed by means of an exploring syringe I at once opened the pericardium by making an incision in the fourth left intercostal space, three quarters of an inch from the margin of the sternum With dressing forceps the incision was enlarged and a quantity of greenish yellow pus escaped A drainage tube was inserted At the completion of these operations, which were all done at one time the boy s condition was extremely grave He rallied however, in the course of a few hours and after a prolonged convalescence made a very satisfactory recovery

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[2] Vide Schaudinn's wonderful preliminary contribution, "Generations und Wirtswechsel bei Trypanosoma und Spirochaete" in the Arbeiten aus dem Kaiserlichen Gesundheitsamte, Band xx., Heft 3, pp. 387 and 438, 439.

In the after treatment of the case the chief difficulty we had was in connexion with the imperfect drainage of the pericardial sac The incision made for this purpose was directly over the heart, with which the drainage tube came in contact, and I firmly believe the boy s ultimate recovery was largely due to the care and attention bestowed upon him by my house surgeon, Mr F St John Barry, who twice daily for several weeks passed a catheter through the wound and round to the back of the heart and then by means of a small glass syringe attached to the catheter washed out the pericardial cavity The wounds of the ankle and toe healed long before the pericardial wound which finally closed on Nov 1st having discharged for nearly three months The boy left the hospital on Nov 10th and apart from a little lameness is in excellent health

Though I have several times operated for suppurative pericarditis this is my one successful case I would draw attention to what I believe to be an important clinical fact—namely, the not infrequent association of suppurative pericarditis with acute osteomyelitis Why in such cases the pericardium should become involved I do not know but I have so frequently met with this complication that I now invariably examine for it and the sign I place most reliance upon is increased cardiac dulness Another point of interest is how best to drain the pericardial cavity, for in this class of case if there is increased pericardial effusion it is almost certainly purulent and, if circumstances permit of it should be evacuated

A number of different methods of operating have from time to time been suggested many of them too elaborate and extensive to be of any practical value for in dealing with a case of suppurative pericarditis one is dealing with an acute abscess in a very ill person and whatever is done in the way of an operation must be done quickly As the opening must be made from the front it is impossible to obtain dependent drainage so long as the patient lies on the back, but if the opening is made in the costo xiphoid space as suggested by the late Mr Herbert W Allingham, together with removal of a portion of the seventh costal cartilage if considered necessary, as recommended by Mr Herbert S Pendlebury, then with the patient propped up in bed we have the most dependent oper
obtained If for any reason
satisfactorily maintained, I wo
gentle irrigation as was so successfully done in the case to which I have referred

Liverpool

CONGENITAL MULTILOCULAR CYST OF THE OMENTUM

BY W McGREGOR YOUNG, M A, M D GLASG

IT but rarely happens that amongst the enormous amount of medical literature published at home and abroad the searcher has any difficulty in finding reports on cases similar to his own But the condition in question must be a rare one for after a most diligent seeking in all the sources available to me I have found but one other case of the above disease That one was reported by Professor Hearn of Philadelphia in the Annals of Surgery for 1897 and in describing it the author makes the remark that he has found no note of any similar case On this account alone I think the following details are worth recording at length but the unexpectedly successful termination of the case has, I confess given me a stronger reason for making a report

The patient, a girl aged nine and a half years although looking younger, was brought to see me on account of a swelling in her body She was a child with a sallow, rather pasty complexion and small for her years Her mother had noticed the body decidedly swollen and large for more than *a year previously and had taken her about* that time to see a medical man who pronounced it ' consumption of the bowels ' The mother thought the child was always full and prominent in the body from infancy No pain was complained of nor apparently discomfort, child like she accommodated herself to her condition She was easily tired and readily out of breath although she could sleep without propping up She was much emaciated in the chest the arms, and the legs She had attended school up to three months previously and even now ran about and played Appetite and digestion were good and the bowels were regular On examination the body was seen to be enormously distended and nearly uniformly so but probably more in the epigastric region Distended veins were marked on its surface, the lower ribs were bulged outwards The body was firm and elastic, there was no hardness or rigidity anywhere There was complete dulness to percussion all over—not a resonant note anywhere Turning her on either side made no difference nor in the erect position was there anything but a dull note in the epigastrium Fluctuation was evident and a very decided thrill wave made it certain that it was fluid I was puzzled how to reconcile these facts but decided that the peritoneal cavity was so completely full as to explain them—an erroneous conclusion As the child s breathing was becoming more embarrassed an operation was advised I could think of nothing more likely than tuberculous peritonitis and so informed the mother that draining away the fluid might probably cure and would certainly relieve the condition The temperature was normal and the urine contained no albumin The lungs were crowded up and the heart was displaced upwards and outwards beyond the nipple line

A small incision being made in the middle line and the peritoneum opened a bit of what appeared like gangrenous bowel protruded through but no fluid came Prolonging the incision upwards to the umbilicus and downwards to near the pubes I made clear by putting in my fingers that I had a cystic condition to deal with and evidently multilocular I tried tapping but the cyst wall was so thin and offered so little resistance that there was no success I therefore incised and a gush of dark brown fluid evidently broken down blood and serum followed As this emptied but one loculus I required to treat the others within reach in the same way After relieving the cavity of a large quantity of fluid I could insert my whole hand and feel the extent of the tumour I found that it extended to the stomach beginning near the pylorus and reaching round the great curvature to the cardiac end and from there right across to the spleen the gastro splenic omentum consisting of one large loculus The child became very ill under the ether and as the anaesthetist (Dr S Clark) gave a very bad account of the pulse and the task of removing the whole was a very formidable one I thought it better to tie off what there was of collapsed cyst wall about two inches above the level of the umbilicus This I did in the usual way as if dealing with normal omentum, for omentum it clearly was and in fact by dragging upwards the wound Mr J J Anning who assisted me, and I had a good view of the stomach with the dark purple cysts bordering and overlapping it intimately around A good deal of mopping out was required to be done in the pelvis where the organs were *quite normal In making the toilet* of the cavity before closing I found a bit of healthy omentum running up to the transverse colon so that evidently the cysts involved only the anterior layers of the great omentum The fluid that was caught measured 32 pints but five or six pints more at least must have run to the floor, much to our discomfort The fluid and cyst wall were unfortunately not examined

The little patient was much collapsed after the operation but soon rallied with the help of strychnine and saline injections and three or four hours later was quite bright and cheerful She complained so much of thirst that I allowed her then half a pint of weak tea and milk During the first seven days she did well, the pulse was good the temperature was normal and nutriment was taken fairly Some ounces of fluid were drawn off daily for the first few days and a lessening quantity during the next few days through the Bantock s tube left in to drain the pelvis A rubber tube was substituted for the glass one at the end of a week but this also was withdrawn by the tenth day. The temperature began to mount on the eighth day and remained continuously high for the next 18 days, between 101° and 103° F. During this time the dulness in the left hypochondrium and epigastrium increased in area, the cysts fringing the stomach, and specially that in the gastro-splenic omentum, were enlarging rapidly till they could be recognised as low as the left iliac region and thence in a diagonal line up to the pylorus. I thought the fever to be hæmorrhagic. The child took little support and became painfully emaciated; the abdomen was unevenly bulged. The rest of the story would be too long to repeat in detail here, but for the next six weeks the temperature ranged from nearly normal at some part of the day, usually morning, to 102° or more, usually at night, and then she began to recover. Her appetite returned, her colour improved, the pulse was less rapid, and by the end of June, three months after the operation, she was cheerful and comparatively well. The curious thing was that some time about the sixth week on percussing the abdomen I could find no trace of the cyst, there was resonance everywhere, and yet the body was much diminished in size. This shrinking of the abdomen became more and more marked until it was painfully retracted owing to the prominent bulging of the lower part of the chest wall. The remainder of the cyst had disappeared. It had apparently enlarged so rapidly as to burst itself and its fluid contents had been absorbed. Did this also account for the continuance of the high temperatures? At all events the child got well and after two months in a convalescent home she returned looking rosy, fat, and in good health and this in marked contrast to what her appearance had been from infancy—sallow, thin, and puny. She looks now (Jan. 15th) in the best of health and the abdomen is resonant everywhere. What marks the case as more certainly congenital was a fact elicited long after the operation. It seems that four and a half years previously while in the scarlet fever hospital the nurses were much astonished at the size of the child's abdomen and remarked upon it. Much credit is due to the care given to the case by the district nurse, to whom I am glad to make this acknowledgment.

Leeds.

FRACTURE OF THE ANTERIOR FOSSA OF THE SKULL DIVIDING THE OPTIC NERVE.

BY FRANK J. HATHAWAY, M.D. EDIN.,

ASSISTANT SURGEON TO THE WINDSOR AND ETON ROYAL INFIRMARY; LATE CLINICAL ASSISTANT TO THE WESTMINSTER OPHTHALMIC HOSPITAL.

THIS accident is sufficiently rare to warrant my publishing the following case which came under my care in the Windsor and Eton Royal Infirmary.

A man, aged 25 years, was cycling on May 20th, 1904, by night and collided with a tree. He lay on the ground unconscious for six hours and was then brought to the hospital. Here he was seen by the house surgeon and found to be conscious, with a severe contusion of the right side of the face and a wound over the bridge of the nose. There was much subconjunctival hæmorrhage in the right eye and both eyes were closed by the swelling of the lids. Three days after, when he was able to open his eyes, he complained that he could not see with his right eye. I was asked to see him and found the following condition. There was pain above the right eye and over its supra-orbital margin, which latter was tender. There was no ophthalmoplegia but a large amount of subconjunctival hæmorrhage was present. The right pupil was semi-dilated and not reacting to light but acting consensually. In the right eye there was absolutely no perception of light. The ophthalmoscope showed nothing abnormal; no changes in the vessels or other structures were to be seen. A diagnosis of division of the right optic nerve by a fracture of the anterior fossa was made and I watched him daily for signs of optic atrophy. On the seventh day it was noticed that there was some commencing pallor of the temporal side of the disc and on the fourteenth day that there was pallor of the whole disc, but especially on its temporal side. On the twenty-eighth day a note was made that the disc was quite white and in this condition it has remained. He is now absolutely blind in the right eye and the disc is very white. In the left eye vision and ophthalmoscopic appearance are normal.

The literature on this subject is very scant and I find very few recorded cases where a limited fracture of the anterior fossa has picked out and divided the optic nerve. Mr. H. B. Grimsdale tells me he has had one case under his care at St. George's Hospital and Dr. L. Phelps in his work on Head Injuries gives a list of six. Pathological examination divides these cases into two groups due to different causes—namely, (1) unilateral blindness following division of the optic nerve, and (2) that following hæmorrhage into the optic nerve sheath. Thus Professor Helferich in his work on "Fractures and Dislocations" states that of 168 cases of fracture of the skull eight cases of blindness were due to extravasation of blood into the optic nerve sheath. Mr. Jonathan Hutchinson notes that blindness of one or both eyes may follow a fractured base as a result of laceration of the optic nerve or of hæmorrhage into its sheath. Professor Tillmann in his "Text-book of Surgery" suggests that cases of blindness following fracture may be due to hæmorrhage or to direct injury of the optic nerve by a fracture passing through the optic foramen or indirectly by broken-off splinters of bone from the roof of the orbit or optic foramen. Mr. T. Pickering Pick said that if the fracture involves the lesser wing of the sphenoid laceration of the optic nerve may be produced. Mr. H. E. Juler in his work on "Ophthalmology" says that hæmorrhages into the optic nerve sheath are considered to take place but they have never been proved to exist. Professor Fuchs in his work makes no mention of hæmorrhages in the optic nerve sheath as a cause of unilateral blindness but (p. 493) says that in these cases of unilateral blindness following an indirect injury to the head we are dealing with fractures of the walls, particularly of the upper wall, of the orbit, which fractures are continued into the optic canal, so that the optic nerve in the latter is crushed or lacerated. Lately, Mr. L. B. Rawling, in his Hunterian lecture, 1904, has suggested that such damage of the optic nerve in fractures of the skull is caused by the anterior clinoid process being torn off and rotating inwards, so that the rough edge comes to press on and to lacerate the nerve. The balance of evidence in cases of unilateral blindness following an injury to the head is in favour of causation by a fracture of the anterior fossa which lacerates the nerve, and it seems improbable whether hæmorrhage into the nerve sheath has any effect in causing such blindness.

The escape of the ophthalmic artery from injury, which lying below and to the outer side of the nerve should in fracture through the optic foramen be damaged, seems to point to a splinter of bone, such as the anterior clinoid process, as the immediate factor in causing the division.

Windsor.

A Mirror
OF
HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ST. MARYLEBONE INFIRMARY.

A CASE OF SUBCUTANEOUS EMPHYSEMA IN PULMONARY TUBERCULOSIS.[1]

(Under the care of Mr. JOHN R. LUNN.)

FOR the notes of the case we are indebted to Mr. D. Murray Ross, the assistant medical officer of the infirmary.

The patient was a man, aged 44 years, who was admitted into the St. Marylebone Infirmary on Nov. 17th, 1904, suffering from pulmonary tuberculosis of some months' duration. The physical signs denoted considerable infiltration and consolidation of the tissue of both lungs but no cavitation. Three weeks subsequently he complained of sudden pain over the region of the left apex. 12 hours later he complained of dyspnœa, pain in the neck and chest, swelling of the neck, and a sensation of suffocation. The anterior and lateral gested. The tissues crackled under the fingers and fine crepitations were heard over the affected parts on inspiration. The [illegible] the [illegible] side, [illegible] side. The lower limit was roughly the level of the third rib and the right limit an irregular line drawn from the right sterno-clavicular joint to the angle of the jaw on that side. The right posterior triangle was free, as was also the anterior surface of the chest on the right side. Examination at this time failed to show any signs of cavitation of the lung or of pneumothorax. The treatment consisted in the administration of morphine to quieten the breathing and absolute rest in bed with a low diet. For three days the limits of the crepitant tissue remained about the same but at the end of that time it was observed that the emphysema had completely disappeared, that the respirations had quietened, and that the neck had regained its normal proportions. Three weeks afterwards the man was in a state of health similar to that which he presented on admission, there being no return of the symptoms. It may be added that preceding the sudden pain he had made no violent respiratory effort nor did he become collapsed or cyanosed during or after the onset of the pain. No paracentesis of the chest had ever been performed on the patient.

Remarks by Mr. Ross.—Professor William Osler in his "System of Medicine" states that subcutaneous emphysema is a rare complication of pulmonary tuberculosis and gives as its probable cause either (1) perforation of the trachea or (2) rupture of a cavity. Abs [illegible] perforation of the trachea [illegible] particular case and the concl[illegible] cavity over which part of the left dome of the pleura was closely adherent had ruptured through its covering into the tissues of the neck. The further history of the case made it probable that the communication between the lung and the tissues became occluded by either inflammatory lymph or adhesions, with the subsequent absorption of the air in the subcutaneous tissues. In THE LANCET of Dec. 17th, 1904, p. 1714, Mr. R. D. Attwood records a case of subcutaneous or, as he calls it, surgical emphysema occurring as a complication of pulmonary tuberculosis. The present case appears to me, however, to be of even greater interest.

I am indebted to Mr. Lunn for permission to publish this case.

MANCHESTER CHILDREN'S HOSPITAL, PENDLEBURY.

A CASE OF ENCHONDROMA OF THE PATELLA.

(Under the care of Mr. J. H. Ray.)

For the notes of the case we are indebted to Dr. Charles Mackey, late senior resident medical officer.

The patient, who was a boy, aged nine years, was admitted to the Manchester Children's Hospital, Pendlebury, for swelling of, and pain in, the left knee. His family history had apparently no bearing on the case. The account of the illness which was given was to the effect that he had been kicked on the left knee some months previously and that [illegible] ee or four months— [illegible] ng on his left knee. [illegible]

On admission the patient was found to be a strong, healthy-looking, well-nourished boy. Examination of the left knee revealed signs of distension of the joint cavity with fluid—namely, slight flexion of the joint, contour of the swelling, fluctuation at the sides of the patella, and floating of the patella. There was a hard, non-fluctuant, nodular tumour arising from the outer and upper quadrant of the patella. This swelling was only moveable along with the patella.

Chloroform having been administered, Mr. Ray made a vertical median incision over the anterior aspect of the left knee. At the base of this wound bulging synovial membrane could be seen, which appeared to be enlarged lateral pouches extended in front of the patella, as on incising this the joint cavity was opened and much pale-yellow limpid fluid escaped. A nodular cartilaginous mass three and a half inches in diameter was seen arising from the upper, [illegible]. This was removed by bone [illegible] cavity was then irrigated with lotion of biniodide of mercury of strength 1 in 5000 and afterwards with normal saline solution. The wound was then closed with a single row of interrupted silk sutures and dressings were applied. The limb was fixed on a posterior splint with a rectangular foot-piece and also with an external lateral one. The patient left the hospital two months later with a firmly healed wound and a moveable joint. Seven months later he was reported to be quite well.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.

A CASE OF HYDATID DISEASE OF THE KIDNEY.

(Under the care of Dr. R. J. Paton.)

For the notes of the case we are indebted to Dr. W. D. Wright, late resident medical officer at the hospital.

A man, aged 50 years, was admitted into the Newport and Monmouthshire Hospital on June 6th, 1904, complaining of having been weak and out of sorts for the last 18 months and also of increasing difficulty of obtaining a satisfactory motion of the bowels. He stated that the cause of all this trouble was a lump in his side. This "lump" was first noticed just below the ribs on the right side about seven or eight years ago; it had gradually increased in size but had caused no pain and no symptoms beyond those already mentioned. The patient's previous history was to the effect that he had had an attack of jaundice about once every two months for the last two or three years. There was, however, no history of hepatic colic. He had never noticed anything wrong with his urine. He had never been abroad and there was no evidence of specific disease. On examination the abdomen was found to be somewhat tumid as a whole, its walls were very fat, and the right side was more prominent than the left. On palpation a large mass could be felt coming from below the right ribs and extending to about one inch from the umbilicus and one and a half inches above the intertubercular plane; it did not quite reach the middle line anywhere. The mass had a cystic feel and in the centre there was a prominent swelling on it which gave distinct fluctuation. The mass moved freely [illegible] tucked between it and [illegible] limit. With one hand in [illegible] be easily moved to and fro between them. Light percussion gave an absolutely dull note but on heavy percussion the bowel note could be obtained except in the centre. There was no thrill on percussion. There was a band of resonance between this dulness and the liver dulness but no line of bowel running down in front of the mass could be made out. There was nothing abnormal to be found in the urine.

The following operation was performed on June 10th. An incision was made over the most prominent part of the mass and on opening the abdominal cavity was discovered to be a very much enlarged kidney. It was then determined to remove the kidney by the anterior method and the posterior layer of the peritoneum was cut through. In the hope of making the tumour smaller, as there was marked fluctuation, aspiration was resorted to, but no fluid came through the needle which when withdrawn was followed by some colloid material, and on further handling the mass some small hydatid cysts came out. The wound was [illegible] one and an assistant kept the anterior and posterior layers of the peritoneum together so as to prevent infection of the general peritoneal cavity. An attempt was made to dissect the cyst from the kidney but this was found to be impossible; the whole kidney was therefore excised, the adhesions being gradually cut through; and lastly the renal vessels and the ureter. The two layers of peritoneum were then sewn together and the peritoneal cavity was shut off; the wound was then well washed out with boric acid lotion, the large cavity was left plugged with gauze, and the abdominal walls were closed. The patient was collapsed when taken back to bed and received an injection of two and a half pints of normal saline solution. On June 11th, under general anæsthesia produced by ethyl chloride, the gauze was removed and an [illegible] tube was introduced. The patient at that time felt very well and was free from pain. On the 12th he began to show signs of collapse in the afternoon and died in the evening notwithstanding all kinds of stimulation.

Remarks by Dr. Wright.—The case seems to be one of interest as, according to statistics, hydatids of the kidney are comparatively rare. The long duration of the tumour with no symptoms till the last few months and the fact that the patient had never been out of England and Wales are also deserving of attention. I am indebted to Dr. Paton, under whose care the patient was admitted, for permission to publish this report.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Occurrence of Bacillus Enteritidis Gaertner in Cows' Milk —Fugent, a New Stain.—A Note on the Use of Acid Media in the Isolation of Bacillus Pestis.—On the Development and Course of the Opsonins in Cases of Acute Lobar Pneumonia.—The Variations in the Opsonic Index in Cases of Tuberculosis.

A meeting of this society was held on Jan. 17th, Dr. E. Klein, Vice-President, being in the chair.

Dr. Klein recounted a series of observations showing that in many samples of cows' milk Gaertner's bacillus was present. Amongst 39 samples of milk—derived from various farms situated in different English counties—no fewer than 10, or 25·5 per cent., contained the bacillus. The animals injected with the sediment of 300 cubic centimetres (the sediment of each sample being used for two guinea-pigs, one intraperitoneal and a second subcutaneous) developed a chronic disease consisting in enlargement of the spleen with development of miliary purulent nodules. The nodules contained an abundance of bacilli belonging to one single species, the bacillus enteritidis Gaertner, as was proved by cultures in all media, by staining, by flagella staining, by the agglutination test, and by injection and feeding of guinea-pigs and mice with cultures. It was further experimentally shown that the above chronic disease in the guinea-pig was owing to the relative scarcity of the bacilli in the milk, since by using for injection very minute doses of culture ($\frac{1}{1000}$th part or less of a cubic centimetre of 24 hours-old broth culture) the animals survived and after eight days commenced to develop the miliary nodules of the spleen; large doses ($\frac{1}{20}$th–$\frac{1}{100}$th part of a cubic centimetre of a 24-hours-old broth culture) caused acute septicæmic infection and death. It is disquieting to reflect that such milk if kept in a warm place or in the warm months of the year might be fraught with undesirable consequences to the consumers owing to milk being a good medium for the multiplication of the bacilli and owing to the fluid nature of the milk remaining unaltered during their multiplication.

Mr. F. H. Joseph made a communication on a New Stain, "Fugent," the essential ingredients being fuchsin and gentian violet. Saturated alcoholic solutions of methylene blue, gentian violet, and basic fuchsin in the porportions 4 : 5 : 3 were allowed to mature for about one month and were then found to be stable. One part of this stock diluted with two parts of water constituted the stain. Capsules of bacteria were stained in 45 seconds of a light violet tint, the bacteria themselves being of a deep red colour. The stain had given excellent results with bacillus pestis.

The Secretary read a communication by Mr. W. C. C. Pakes and Mr. Joseph on the Use of Acid Media in the Isolation of Bacillus Pestis. Where bacillus pestis occurred in combination with pneumococcus it was often desirable to exclude the latter and this could best be done by cultivating the mixture in a bouillon with an acidity of + 25 or + 30 (Eyre's method). With this degree of acidity no growths of pneumococcus were obtained, although the acidity might be carried to + 40 before the growth of plague bacillus was inhibited.

Dr. G. G. Macdonald read a paper on the Course of the Opsonins in Cases of Acute Lobar Pneumonia. The methods used were those described by Wright and by measuring the opsonic value from day to day, using as a control the serum of a normal individual, he found that at the onset of the disease and during the pre-critical rise of temperature the opsonic content of the serum was less than that in normal serum. With the critical defervescence the opsonic content rapidly increased, passing the normal and sometimes reaching an opsonic index of 1·6. In agreement with Wright he found that the body in the normal serum sensitising the pneumococcus was thermolabile, being destroyed in 15 minutes at 60° C.

Dr. W. Bulloch made a communication on the Variations of the Tuberculous Opsonic Content in the Serum of Patients suffering from Different Forms of Tuberculosis. As a control he first determined the variations in a series of 20 healthy students and 17 hospital nurses. In comparison with his own serum as unity the variations ranged between 0·8 and 1·2. He then detailed the results of the examination of 113 cases of lupus, 19 cases of the medical forms of tubercle, and 10 cases of surgical tuberculosis. Of the medical cases most were patients who were undergoing sanatorium treatment or had been under such treatment. 65 per cent. of the patients suffering from lupus showed an opsonic index below 0·8 and in a general way there was a correspondence between a low opsonic index and a failure to cure by means of the Finsen light. The opsonic index of cases of pulmonary tuberculosis was very variable, figures being often attained considerably above the normal. A large number of cases of "arrest" or "cure" of early pulmonary tuberculosis showed an opsonic index considerably below the normal. Cases of chronic tuberculosis of bone might be above the normal but where the disease was rapidly progressing the index was for the most part found to be low.—Dr. A. E. Wright asked whether Dr. Bulloch had examined the opsonic power of women, for he had found that the opsonic power was very considerably lowered during the period of menstruation. There was also a striking difference in the opsonic reaction in cases of tubercle of the skin and chronic forms of tuberculosis of the lungs. In the former condition, of some 18 cases examined all were below the normal, whereas in the latter the opsonic power might rise to as high as 2, the normal being 1. In periods of ill-health the opsonic power fell to a very striking degree, even so low as 0·15 or 0·3.

CLINICAL SOCIETY OF LONDON.

Three Cases of Acute Ascending Paralysis in the course of Chronic Cystitis.—A Case of Accidental Electrocution causing Extensive Gangrene of all the Extremities.

A meeting of this society was held on Jan. 13th, Dr. Frederick Taylor, the President, being in the chair.

Mr. Jonathan Hutchinson, jun., showed a case of Intracranial Resection of the Second Division of the Fifth Nerve two years after operation, with complete relief from symptoms.

Dr. T. J. Walker (Peterborough) described three cases of Acute Ascending Paralysis in Cases of Chronic Cystitis. He said that he had had in his practice three cases of long-standing chronic cystitis which had terminated fatally by a most rapid acute ascending paralysis. The first case was that of a man who at the age of 15 years injured his urethra by falling astride a rail and who was under treatment for recurrent stricture and chronic cystitis from the age of 25 to 40 years but was able to follow his work. An exacerbation of the chronic cystitis had occurred about a month previous to his final attack for which he was under treatment when in the course of a night the patient felt numbness in the feet and some loss of power in the legs. When seen the next morning there was paresis of the limbs up to the thighs and by that evening paralysis had extended upwards to the arms and thorax, the breathing became embarrassed, and he died 18 hours after the onset of the paralytic symptoms. There was no necropsy. The second case was that of a man who was seen when aged 52 years with a stricture of the urinary meatus for which he had sought relief only when retention and cystitis had made his life intolerable. For the following ten years the patient continued to have cystitis. At the age of 62 years an exacerbation of the chronic cystitis occurred and this had been present for four days but without retention, when in the early morning the patient experienced uncomfortable sensations and some muscular feebleness in the limbs. At mid-day there were distinct signs of paraplegia; on the following day there was considerable progress of the paralysis, and he died 48 hours after the first sign of its commencement There was no necropsy The third case was that of a man aged 67 years who had suffered for many years from chronic cystitis and for the previous three months had required catheterisation on account of prostatic disease He had been confined to his bed for some time, when on getting out he appeared feeble and unsteady Twelve hours later there were distinct signs of paralysis of the arms and the patient died 18 hours after the first onset of the paralytic symptoms There was no necropsy Dr Walker referred to a case termed urinary paraplegia by Stanley of a man admitted into St Bartholomew's Hospital under Earle with gonorrhœa and phimosis who died three weeks later 12 hours after paraplegia had set in Another case occurred under Dr Saunders in Birmingham Dr Walker then discussed the pathology of Landry's paralysis and concluded that the connexion was not a reflex nervous one but an extension of microbes from the bladder to the spinal cord —Mr R CLEMENT LUCAS suggested that the chronic cystitis was of such long standing that the patient might have been affected with some other disease and that the spinal symptoms did not stand in causal relation to the cystitis The cases were so isolated that he was inclined to think that the paralytic affection had no connexion with the chronic cystitis —Dr E FARQUHAR BUZZARD said that the cases recorded by Dr Walker were correctly called acute ascending paralysis but doubted whether the term Landry's paralysis should be given them in the absence of more detailed clinical notes and in the absence of post mortem examinations He was inclined to believe that they were probably examples of acute ascending meningo myelitis which had been shown to occur as the result of infection of the spinal cord by a variety of different organisms —Mr W G SPENCER said that experimentally animals inoculated with hydrophobia died from an ascending paralysis This was probably but one of many toxins which might produce ascending paralysis —Dr WALKER replied

Mr CLEMENT I [illegible] cution causing F [illegible] and Death on t [illegible] was a strong well built lad 15½ year of age, who was employed at the London Electric Supply Corporation's station in the Blackfriars road The electricity which is generated at Deptford is received at this station at a high potential pressure and is distributed in smaller amounts to the surrounding districts The maximum pressure is 10 000 volts On either side of the room are placed barrel shaped "transformers about four feet six inches in height and when those on one side are "alive, or in use those on the other side are dead or uncharged The lad mounted one of those which were dead to dust some horizontal slabs of slate above them When about to descend the iron plates on the soles of his boots caused him to slip on the iron of the "dead transformer and over balancing he clutched at the slate but missed it and his right hand came in contact with the main cable carrying the 10 000 volts A man attracted by the flash and roar of the escaping current looked round and saw the lad rigid between the terminals and the transformer He ran across and caught him as he fell The current was not passing through him it was thought more than 30 seconds When laid on the ground the youth was rigid and apparently lifeless The limbs were burnt swollen and stiff Respiration had ceased and no pulse could be felt Artificial respiration was immediately started and this with vigorous rubbing of the body, brought about recovery of consciousness When taken to the hospital shortly after he showed signs of shock and all his limbs were gangrenous The right hand was dead white tightly flexed and the forearm was supinated and the arm [illegible] a up to the shoulder No pulse [illegible] ist or ankle Below the elbow [illegible] was crimson and peeling Both feet were badly burnt anæsthesia and paralysis extending up four inches above the ankles There was an everted wound in front of the left axilla as if an escape to the metal of a brace had taken place there The left hand suffered less and [illegible]

deltoid flap and the uninjured skin on the inner side of the axilla The artery was found thrombosed as high as the superior profunda branch The patient bore this operation well and on the following day had strength enough to sit up in bed Three days after the amputation and the sixth from the accident it was evident that in spite of antiseptic applications the gangrene of the feet and the legs was spreading and the patient was feeling restless and the temperature had risen to 101 4° F Mr Lucas therefore determined to amputate both legs and this was done simultaneously In the left leg œdema was found extending up among the muscles almost to the knee This double amputation was borne well and the wound at the shoulder progressed very favourably but two days later *symptoms* of toxic infection appeared and the patient became very restless his temperature rising to 104 2° and on the ninth day after the accident he died Two men were killed at this station eight years ago by the 10 000 volt current, one having gone to the assistance of the other The electrical superintendent engineer Mr E H Baker gave some interesting observations of his own which Mr Lucas incorporated in his paper and Mr Lucas alluded to several other cases recently reported for the most part from crossing live rails on electric railways —Mr F ASPINAL said that speaking as an electrical engineer, he thought that medical men were frequently handicapped in not knowing what had occurred in their cases of injury from electric currents He divided the accidents as liable to occur into the following broad classes (1) from high tension current when the victim made good contact, (2) from high tension current with bad contact, (3) from low tension current with good contact, and (4) from low tension current with bad contact He said that all currents above 750 volts should be considered as high tension The voltage was not the chief factor determining the effect produced by the current but it depended to a far greater extent on a good or bad contact He pointed out that patients severely burnt by the current did not suffer so much from shock as cases in which there was but little sign of external injury He described the "cry which he thought was almost peculiar to these injuries as an inspiratory shriek He then stated that when an arc was formed metals became volatilised and suggested that the inhalation of these vapours might cause death —Dr W J HARRIS said that the fatal effects of a current depended not on the voltage but on the horse power behind Death might follow a shock from a low voltage current and recovery might occur when a current of enormous voltage had passed through the body As an instance of the former he quoted the case of a man who was killed at the Fulham baths by a current of 250 volts and of the latter the case of a man who at the Niagara Fall station had the full current pass through the body The important factor in the cause of death was the amount of current which passed through the body He agreed with the last speaker that if there was burning of the skin there was as a rule less shock Mr SPENCER read for Dr S JELLINEK (Vienna) the following remarks Electrical currents were harmful according to the tension of the current and the resistance of the human body A tension of 100 volts demanded precautions a tension of 200 volts and more might be dangerous and a tension of 500 volts might be fatal But the harmful character of the tension was affected by the resistance A man was killed near Prague by a current of 95 volts when standing barefooted in a mixture of potash and sugar On the other hand an electrical employé in Vienna though much injured was not killed by a current of 5500 volts Under resistance there was to be considered the resistance of entry and the resistance of exit As regards the resistance of entry there was the condition of the clothes dry or wet or of the skin The dry horny palm of a workman might present a resistance of as much as 100 000 ohms soft moist skin also lesions of the skin had a very much diminished resistance, whilst the resistance of the mucous membrane of the mouth fell below 1000 ohms The resistance of exit depended upon the nature of the ground, also as it was usually the feet which connect with the ground the covering of the feet An electrical employé might come in contact with currents of high tension and do so with impunity if the feet were covered [illegible] se of the workman [illegible] otash and sugar the [illegible] The condition of the ground was most important, in private houses and some mills the ground formed a good protection, mineral acid factories and coal mines on the other hand especially favoured the occurrence of an accident In making rules for the prevention of accidents rooms and shops containing electrical installations should be distinguished according to the tension of the current and the nature of the ground, into "the safe" and "the dangerous."—Mr. LUCAS replied.

OBSTETRICAL SOCIETY OF LONDON.

Causation of Puerperal Infections.—Vaginal Hysterectomy in the Puerperium.

A MEETING of this society was held on Jan. 4th, Dr. EDWARD MALINS, the President, being in the chair.

Mr. A. G. R. FOULERTON and Dr. W. F. VICTOR BONNEY communicated a paper entitled "An Investigation into the Causation of Puerperal Infections." They said that they had examined the contents of the uterus: (1) in 12 cases in which the puerperium was normal, examination being made from the third to the tenth day after normal labour; and (2) in 54 cases of either miscarriage or labour at full term in which fever occurred. They had also made a bacteriological examination of the cervical secretion in 30 non-pregnant women who were suffering from vaginal discharge. The method of obtaining the contents of the uterus for examination was as follows. A large glass tube, of the shape and dimensions of an intra-uterine douche tube, served as a sheath for a wire with a plug of sterilised cotton-wool at its extremity. The upper end of the glass tube was covered with a cap of cotton-wool. After sterilisation of the apparatus the cap of cotton-wool was dipped in a mixture of melted paraffin and thymol. After the glass tube had been introduced into the lower part of the uterus the cotton-wool cap was withdrawn by means of a piece of string, the wire carrying the sterilised plug of cotton-wool was then pushed up to the fundus, and a sample of the contents of the uterus was thus obtained. The following was the result of the bacteriological examinations. Firstly, as regards the contents of the uterus in the normal puerperium. In all 12 cases examined the contents of the uterus proved sterile of bacteria. Others had obtained similar results, but others, again, had found certain bacteria in the uterus in the course of normal puerperia. Vogel believed that towards the end of the puerperium certain bacteria might invade the uterus without producing any symptoms. Mr. Foulerton and Dr. Bonney said that the matter could not be regarded as determined one way or another. The series of cases examined by them was too limited to be taken as a proof of the sterility of the uterus in the normal puerperium but they considered that the weight of previously published evidence was in favour of sterility. Secondly, as regards the contents of the uterus in cases of puerperal fever and in fever after miscarriage. 54 cases in all were examined—six of miscarriage and 48 of labour at full term. Clinically the cases could be separated into three groups—A. Cases with severe symptoms, terminating in death. B. Cases with severe symptoms, terminating in recovery. C. Slight fever cases (i.e., with a temperature not exceeding 102° F.). Out of these 54 cases the uterus was apparently sterile of bacteria in 15; bacteria of one kind or another were found in the remaining 39.

	Sterile.	Bacteria. found.	Total.
Group A.—Miscarriage	—	2	
Labour at full term	—	12	14
Group B.—Miscarriage	—	4	
Labour at full term	5	17	26
Group C.	10	4	14
Total			54

The bacteria found were :—

	Cases.	Total.
Streptococci, in pure culture	10	
,, with other bacteria	15	25
Micrococcus pneumoniæ, in pure culture	1	
,, ,, with other bacteria	3	
? ,, ,, (not fully identified)	2	6
Staphylococcus pyogenes aureus		1
,, ,, albus		3
A diplococcus (—Gram), not the gonococcus		2
A diphtheroid bacillus		2
Total		39

An examination of the cervical secretion in non-pregnant women with vaginal discharge was made in 30 cases with the following results. Cultures of various bacteria were obtained in 16, bacteria were demonstrated by microscopic examination but attempts at culture failed in three, attempts at culture failed and no bacteria were seen on microscopic examination in nine, and attempts at culture failed and no microscopic examination was made in two; total, 30. Amongst the bacteria found in 16 cases were staphylococcus pyogenes aureus, staphylococcus pyogenes albus, micrococcus gonorrhœæ, bacillus coli communis, a "diphtheroid" bacillus, a diplococcus (— Gram, but not micrococcus gonorrhœæ), and an encapsulated diplococcus (+ Gram ? micrococcus pneumoniæ). The general results of the bacteriological examination which had been made were as follows: (1) streptococci were present in the uterus in 25 out of 39 cases in which cultures from the contents of the uterus were obtained; (2) streptococci were present in the vagina in two cases out of 17 in which the contents of the uterus were apparently sterile of bacteria; (3) streptococci were present in the uterus in 25 out of 40 cases of severe fever, and in the vaginal secretion in two out of five similar cases in which the contents of the uterus were sterile of bacteria; (4) out of 14 cases of "slight" fever the contents of the uterus were sterile of bacteria in ten, and in four cultures of bacteria were obtained but not a streptococcus; (5) of the 15 cases in which the contents of the uterus were sterile of bacteria a marked proportion were primiparæ presenting considerable lacerations of the cervix or perineum; (6) the presence of micrococcus pneumoniæ was proved in four of the cases and in two others it was probably present; (7) in the present series the absence of micrococcus gonorrhœæ and anaerobic organisms was noticeable; and (8) in the series of cases in which the cervical secretion was examined proof was obtained of the presence in the cervical canal of non-pregnant women of bacteria which had also been found in puerperal infections of the uterus but in no case were streptococci found. Mr. Foulerton and Dr. Bonney summarised the pathology of puerperal infections as follows: 1. Puerperal fevers may be caused by (*a*) primary infection of lacerations of the vaginal walls or perineal tissues (with secondary infection of the uterus sometimes); and (*b*) primary infection of the contents of the uterus or of the placental site. 2. The processes concerned in the production of puerperal fevers might be classified as: (*a*) primary, vaginal, or perineal infection (local infection + toxæmia; local infection + toxæmia + general infection); and (*b*) primary infection of the uterus (local infection + toxæmia; local infection + toxæmia + general infection). Their general conclusions were as follows: (1) puerperal fever when bacteriological proof of the nature of the infection was wanting should be treated as being due to streptococcic infection; (2) active curetting of the uterus in puerperal infections was not to be advised; (3) the most satisfactory treatment for streptococcic infections of the uterus was comprised in the administration of an appropriate antistreptococcic serum, and digital exploration and clearing out of the contents of the uterus, followed by intra-uterine douches; (4) the fever following a streptococcic infection of the uterus might be transient and might subside within 48 hours without any special treatment—a fact to be remembered when dealing with the conveyance of infection; (5) autogenetic infection was probably sometimes a cause of puerperal fevers, but the use of vaginal douching before labour with the view of obtaining asepsis was not advisable; (6) in this series of cases bacterial invasion of the uterus had always been marked by severe symptoms with abrupt rise of temperature to 102° or higher; and (7) in the majority of the cases in which the contents of the uterus were sterile and there were severe lacerations of the cervix or perineum the symptoms were very much less severe and the temperature did not rise to above 102°—Dr. P. HORROCKS said that the fact that the contents of the uterus were found sterile in every instance where the puerperium was normal constituted an argument against interference in labour, such as routine syringing, vaginal or uterine. He remarked on the absence of any distinction between septicæmia and sapræmia in the classification adopted by Mr. Foulerton and Dr. Bonney who had taken the amount of fever as the sole guide to the severity of the illness. The presence or absence of an offensive discharge was of the greatest moment. In the grave form or puerperal septicæmia proper the lochia were not offensive but were scanty or suppressed and sweet; whereas in sapræmia the *lochia were not scanty but were offensive, and when the* offending products were cleared out of the uterus the temperature, as a rule, rapidly fell to normal and the patient recovered. Doubtless in some cases the patient suffered from a mixed sepsis and then the clearing-out process was not followed by the improvement usually expected.—Dr. **Amand J. M. Routh** agreed that streptococci were the most frequent cause of the severer forms of puerperal fever. He had also found many cases of fever where the contents of the uterus were proved to be sterile. Was it possible that some of these were infected by moulds, yeasts, or forms of streptothrix, all of which might cause diseases in women? He had little faith in antistreptococcic serum, having seen only one case recover by its use, and had much more reliance on tincture of perchloride of iron in 20- or 30-drop doses every two or three hours.—Dr. A. W. **Sikes** said that he had been much impressed with the good results obtained by early digital exploration followed by intra-uterine douching, but he considered that the results from antistreptococcic serum were often unsatisfactory.—Dr. R. **Boxall** said that as a rule active curetting of the uterus was not to be recommended. As regards the use of antistreptococcic serum he still preserved an open mind. There were many disadvantages in its use and he had seen considerable danger follow but never appreciable improvement. Inasmuch as it had been proved that at the time of labour the vagina might contain pathogenic organisms, the presence of which was often unsuspected and difficult to detect, he adhered to the practice of douching the vagina early in the course of labour with a view to preventing the possibility of autogenetic infection on the same principle that he took measures to disinfect and render sterile the skin of the abdomen before performing laparotomy.—Dr. **Arnold W. W. Lea** said that he had carried out a similar investigation in 18 consecutive cases of severe puerperal infection and with much the same result as Mr. Foulerton and Dr. Bonney. He had also examined the blood in 14 of these cases. In two cases only were streptococci discovered and both ended fatally. He believed that in many cases of fatal infection the blood remained [illegible] and rapidly fatal types and might account for the frequent failure of the serum treatment; the streptococci developed *in the lymphatic vessels and tissues of the pelvis, producing* toxæmia, but the serum was powerless to act directly upon them as it could only be injected into the blood stream.—Mr. **Foulerton**, in reply, explained that most of the cases which were clinically included under the term "sapræmia" fell into the pathological category of local infection + toxæmia, occasionally with general infection superadded. He thought it unlikely that micrococcus gonorrhœæ, yeast parasites, or streptothrix had been overlooked in any of their cases. Too much importance had, he felt sure, been attributed to micrococcus gonorrhœæ as a cause of puerperal infection. Both he and Dr. Bonney held very strongly that an immense proportion of the cases of streptococcic puerperal fever was avoidable and the more nearly the conditions of general obstetrical practice approximated to those of a properly conducted lying-in hospital the less frequent would streptococcic infection be and the lower the mortality from puerperal fever. While recognising the difficulties associated with serum treatment, there could not be any doubt in his mind that an antistreptococcic serum did act as a specific cure in some cases of puerperal fever.

Dr. **Lea** read a paper on Vaginal Hysterectomy in the Puerperium for Sepsis (?) due to Suppuration of a Myoma. He said that curetting was performed without beneficial result. Pyrexia continued with occasional rigors but there was no peritonitis. The uterus was removed by means of ligatures per vaginam seven weeks after delivery. Both uterine appendages and a portion of omentum, all of which were implicated, were removed at the same time. A glass vaginal drainage-tube was used. The temperature fell to normal within a week and complete recovery followed. Pus from the tumour showed streptococci and bacillus coli communis.

EDINBURGH OBSTETRICAL SOCIETY.

Climacteric Hæmorrhage.—Bier's Hyperæmic Treatment.—Fatal Prolapsus Uteri.

A meeting of this society was held on Jan. 11th, Professor A. R. **Simpson**, Vice-President, being in the chair.

Dr. A. H. *Freeland Barbour* read a paper on Climacteric Hæmorrhage due to Sclerosis of the Uterine Vessels. Hæmorrhage at the climacteric was often the sign of malignant disease and should be investigated early, as the only hope lay in early operation. Once pain or fœtid discharge was present the chance of a successful operation was lost. Hæmorrhage after abortion might occur at the climacteric as at any other time. The following case threw light on another cause which had not received sufficient attention. The patient, aged 46 years, had been a healthy woman all her life till four and a half months before admission to hospital. There were no evidence of hereditary or constitutional disease and no history of alcoholism. She had had nine full-time children and two miscarriages after her fourth and fifth children; her last child was born when she was 43 years old. Her menses were always regular and never excessive till 19 weeks before her admission to hospital when a severe hæmorrhage began on the day of her expected period and continued for 16 weeks. The amount varied: sometimes only a little passed, at others severe flooding took place which confined her to bed. She consulted a medical man who gave her medicine which evidently stopped the hæmorrhage for three weeks before admission. On admission she was anæmic and cachectic, her appearance suggesting malignant disease. The pulse was small and feeble; no thickening of the radial or other arteries was evident. The uterus was enlarged, irregular in shape, and about four inches in vertical measurement. As the patient was not in a fit state to stand a preliminary curetting it was decided to perform hysterectomy as soon as she was fit for it. Owing to the size of the uterus the abdominal route was chosen and panhysterectomy was done, as malignant disease of the body was diagnosed. The patient had phlebitis after the operation but she did well and left the hospital seven weeks later. On examining the specimen a plexus of wide vessels with markedly thickened walls was found in each broad ligament; the vessels anastomosed freely with each other. One of these vessels measured 0·5 centimetre in diameter. The walls of the uterus measured 2·5 centimetres in thickness in the middle of the body; from the cut surface the vessels stood out prominently and had apparently thickened walls; they were most marked in the outer third. The mucosa was [illegible] measured one millimetre in [illegible] were normal. The uterine [illegible] from normal. The first case recorded resembling this one was by Pichevin and Petit in 1895; two years later Reinecke reported four cases of hysterectomy, all showing changes in the vessels. Bland-Sutton in 1899 described a similar condition in three cases and Pozzi two cases in the same year. Simmonds in 1901 performed hysterectomy for continuous hæmorrhage *resisting all treatment*, where the only pathological change found was marked sclerosis of the uterine artery. Marisani in 1901 had a case which he [illegible] sclerosis and regarded it as a manifesta- [illegible] tion was different from "apoplexia [illegible] menopause, where calcareous and senile degeneration of the uterine arteries had been found. It could not be diagnosed during life, though by curetting malignant disease or retained products of conception could *be excluded*. The only treatment was hysterectomy; ergotin and curetting did not touch the affected vessels.—Professor **Simpson**, Dr. **Jessie M. MacGregor**, and Dr. F. W. N. **Haultain** discussed the paper.

Dr. E. W. **Scott Carmichael** read a paper on the Application of Bier's Hyperæmic Treatment to Gynæcological Disease. Bier found by experimental and clinical observations that hyperæmia induced in a diseased part brought about distinct changes, salutary or otherwise, in the tissues *according to* the pathological process present. An acute hyperæmia was produced by exposing the part of the body to a high temperature, thereby increasing the rate of the flow of blood to it by dilating the capillaries; a passive congestion was induced by obstructing the venous return, thereby producing more or less stasis and congestion in the blood-vessels. It was only the form [illegible] abdominal conditions. Bier [illegible] produced in a limb by e[illegible] apparatus to hot dry air had a bactericidal action; it also had the power of alleviating pain, of promoting absorption, of loosening adhesions, and of stimulating general nutrition and regenerative processes. In all forms of affections of the joints—gonorrhœal, rheumatic, or septic—it soothed pain and markedly promoted absorption and loosened adhesions. Martin applied this treatment to inflammations of the pelvic organs, especially when there was much exudation, and in these cases it had superseded practically every other method of treatment, such as ichthyol, glycerine, iodine, &c. If there was a tendency to suppuration the hot-air treatment hastened it rapidly, while in the chronic forms it favoured absorption. Great relief was obtained locally and the general condition rapidly improved.

Mr. G. F. BARBOUR SIMPSON read a paper on a case of Fatal Complete Irreducible Prolapsus Uteri, the specimen of which was shown and illustrated with photographs. The patient was 42 years of age, a laundress by occupation, and was admitted into hospital in September last complaining of falling down of the womb of several months' duration. There was a mass projecting from the vulva five inches long and four inches wide and constricted at its base by the vulva. The whole mass was extremely sensitive on manipulation. A finger in the rectum detected the fundus of the uterus near the vulva; a catheter passed into the bladder showed that the whole organ was external to the vulva. Reposition was twice attempted, once under chloroform, but without success. The patient died a fortnight after admission with symptoms of general septicæmia. It was remarkable that she suffered apparently little inconvenience till a fortnight before admission. Post mortem an abscess cavity was discovered extending from the utero-vesical pouch upwards into the peritoneal cavity for a distance of eight inches; the intestines were closely matted together with numerous adhesions as the result of chronic peritonitis. These adhesions had rendered any attempts at reposition impossible —Dr. HAULTAIN and Professor SIMPSON discussed the paper.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 9th, Dr. A. Bronner being in the chair.—The following cases and pathological specimens were shown:—Dr. J. Gordon Sharp: Urali Plant and various Poisons and Poisoned Arrows.—Dr. J. B. Hellier (with Dr. J. A. Hargreaves): Placenta from a case of Premature Labour. Dr. Douglas Seaton: Dermoid Cyst of the Ovary.—Mr. H. Littlewood: (1) Excision of the Elbow for Old Dislocation six weeks after operation; and (2) Intussusception, entero-ileo-cæcal variety. —Mr. H. Secker Walker: (1) A case of High Myopia, – 35 D., with Choroidal Changes; (2) a case of Radical Mastoid Operation complicated by Sinus Phlebitis; and (3) a case of Chronic Otorrhœa treated by the Mastoid Operation with subsequent skin-grafting.—Dr. A. E. Porter: Some Pathological Specimens from the Slaughter-house.—Dr. A. G. Barrs: A case of Malarial Anæmia with Enlargement of the Liver and the Spleen.—Dr. Carlton Oldfield: Specimen of Oxalate Calculus removed by Nephrolithotomy.—Dr. E. F. Trevelyan: (1) A case of Aphasia nine months after its onset; (2) a case of Tabes Dorsalis with exaggerated knee-jerks; (3) a doubtful case of Multiple Sclerosis in a woman; (4) a case of Muscular Atrophy in a girl, aged 17 years; (5) a case of Limited Muscular Atrophy in a man, aged 73 years; (6) two cases of Ulnar Paralysis; (7) a Brain from a case of acute febrile pulmonary tuberculosis in a lad aged 19 years, in whom fits occurred during the last two weeks of life; and (8) a specimen of Blood from a case of Myelogenous Leukæmia in a man, aged 24 years.—Mr. R. Lawford Knaggs: (1) Epithelioma of the Bladder; and (2) (with Dr. C. M. Chadwick) Malignant Ulcer of the Rectum fungating into the peritoneum and into the bladder.—Dr. L. A. Rowden: Case of Hyperæmia of the Hands and the Face; diagnosis?—Mr. J. Basil Hall read notes of a case of Spasmodic Torticollis treated by resection of the spinal accessory and posterior cervical nerves. The patient, a quarryman, aged 37 years, had suffered from otorrhœa on the right side 20 years previously. The otorrhœa ceased completely eight years ago. He then had a slight tremor of the head. One year ago tinnitus commenced and he became quite deaf in the right ear. Soon after spasmodic torticollis appeared which had steadily grown more violent until he became quite incapacitated. When first seen he was suffering severely from spasm of the right sterno-mastoid and the left retrocollic muscles. The right retrocollic muscles were also involved but to a lesser extent. The movements, which were very violent, abated when he lay down and ceased altogether during sleep. The affected muscles were much hypertrophied. There was no ocular defect. The right tympanic membrane was practically destroyed. On Nov. 12th, 1903, an inch of the right spinal accessory and the first, second, and third posterior cervical nerves of the left side were excised. The patient's condition was much improved but a good deal of spasm remained in the right retrocollic muscles. He remained for two months under observation when, as no further improvement took place, the first, second, and third posterior cervical nerves on the right side were excised. The patient left the hospital at the end of three weeks. There was no spasm but there was a fine tremor of the head. He was last seen 12 months after the first operation. There had been no return of the spasm. He could hold his neck erect and extend it on the trunk. The tremor remained.—Mr. B. G. A. Moynihan discussed the paper and referred to four cases in which he had performed a similar operation.—Mr. Hall replied.—Mr. W. C. Mayo drew attention to the difficulties in the administration of anæsthetics in abdominal operations due to the nervous reflexes caused by the surgeon's manipulations. When the patient had suffered much abdominal pain these reflexes were more difficult to overcome. For 18 months he had given chloretone (from 15 to 20 grains) half an hour before commencing the operation, and had found that patients took the anæsthetic better and more quickly with fewer after-effects. He drew attention to the difference of opinion as to the best anæsthetic in these cases. He had obtained good results with a mixture of ethyl chloride, 20 per cent.; chloroform, 40 per cent.; and ether, 40 per cent., given on a towel as chloroform, only faster, until the corneal reflex had nearly gone, and then changing to ether in a Clover's inhaler until the breathing was deep and regular, the pupils fairly dilated, and the muscles of the lower jaw quite relaxed. The patient was now ready for operation, for which relaxation of the abdominal muscles was the chief point. When the abdomen had been opened it was often a help to the surgeon to change to chloroform. With regard to the ethyl-chloride-chloroform-ether mixture mentioned above most patients went quietly into unconsciousness in from one and a half to six minutes with less struggling and excitement than with chloroform. There was no cyanosis or excess of mucus, the breathing was quiet and regular, and the colour was good. The anæsthesia was inclined to be of a light character. Attention was also drawn to the necessity of attending to oral sepsis for some days before the operation, thereby avoiding pneumonia; and also to the combating of shock by the use of liquor strychninæ and oxygen administered from a Hewitt's gas-bag.—Mr. Littlewood, Dr. W. McGregor Young, Mr. Moynihan, Mr. E. Ward, Mr. Hall, and Dr. Bronner discussed the paper and Mr. Mayo replied.

BRITISH GYNÆCOLOGICAL SOCIETY.—At the annual general meeting on Jan. 12th, Professor John W. Taylor, the President, being in the chair, the following officers were elected for the current year:—Honorary President: Dr. R. Barnes. President: Dr. William Alexander. Vice-Presidents: Mr. E. Stanmore Bishop, Dr. Bedford Fenwick, Mr. F. Bowreman Jessett, Dr. R. P. Ranken Lyle, Sir Arthur V. Macan, Dr. J. J. Macan, Dr. H. Macaughton-Jones, Dr. Christopher Martin, Dr. J. A. Mansell Moullin, Dr Thomas Oliver, Dr. Heywood Smith, and Mr. W. Dunnett Spanton. Honorary treasurer: Dr W. H. Slimon. Council: Dr. T. Gelston Atkins, Dr. N. T. Brewis, Mr. G. Roe Carter, Sir J. Halliday Croom, Dr. William Duncan, Dr. F. Edge, Dr. George Elder, Dr. T. J. English, Dr. J. H. Ferguson, Dr. Clement Godson, Dr. Arthur Helme, Dr. R. J. Kinkead, Dr. J. Macpherson Lawrie, Dr. Samuel Lloyd, Mr. John Padman, Dr. Ernesto Pestalozza, Dr. J. J. Redfern, Mr. Charles Ryall, Dr. R. T. Smith, Dr. J. H. Swanton, Dr. J. W. Taylor, Dr. W. Travers, Mr. H. F. Vaughan-Jackson, and Dr. Hugh Woods. Editor of the Journal: Dr. Macan. Assistant editor: Dr. Swanton. Honorary secretaries: Dr. Sol Jervois Aarons and Dr. Smallwood Savage. Auditors: Dr. C. H. Bennett and Dr. F. A. Purcell. Trustees of the property of the society: Dr. G. Granville Bantock, Dr. R. S. Fancourt Barnes, and Dr. Clement Godson.—Dr. J. Inglis Parsons showed a Double Pyosalpinx symmetrically enlarged on each side and removed without any rupture. Even in the presence of dense adhesions, by taking time and separating the adhesions from behind and below, he found it often possible to isolate and to remove both tubes without rupture.—The President then delivered his valedictory address. After reviewing the progress of gynæcology during the last year and alluding to the loss which the profession had sustained from the deaths of many eminent men, he mentioned that his association with the society, of which he became a *Foundation Fellow more than 20 years ago*, was coterminous with his work as an operating gynæcologist. During that time he had performed 1291 operations with only 85 deaths, a total mortality of 6·5 per cent. But many of the deaths were unavoidable or only indirectly due to operation. One was from apoplexy; four were cases of acute perforative peritonitis, one of which was a Cæsarean section with a child now still alive; four were moribund cases of intestinal obstruction; and 22 patients died rather from malignant disease than from the results of the operation. He had, however, to regret some early cases of sepsis and one case of death from secondary hæmorrhage. Some cases also of myomata operated on by the modified clamp operation might no doubt have been saved by more modern methods. Taught by experience, his best work had been in the last five or six years which, including a fair proportion of grave cases, showed a mortality of only 1 per cent. His experience extended over days of ignorance when hardly anything was left undone that favoured infection, over days of empirical asepsis, and the more recent ones enriched by our acquired knowledge. He attributed the greatest advantage to the recognition of the efficiency of heat in sterilisation, to the disinfection of the hands by potassium permanganate supplemented by spirit and biniodide of mercury, not only before operation but after every dangerous contact, and to the substitution of fine interlocking chain sutures of silk for ligature *en masse*. Fine silk he had found to be in time as perfectly absorbed as catgut. Pelvic hæmatocele, the so-called broad ligament hæmatoma, formerly the commonest complication of post-operative convalescence, though attributed to the use of a sharp needle, he had not found to have that origin. It was more probably due to ulcerative erosion of the vessels owing to infection from the thick silk used in tying the pedicle. The removal of the appendages for myoma he had gradually, though not entirely, abandoned in favour of abdominal or vaginal hysterectomy, and he now seldom performed that operation for gonorrhœal tubal disease, preferring systematic treatment with biniodide of mercury, which, even in cases demanding interference, when combined with the evacuation of the sacs and drainage, was generally better than the old operation. In inguinal cœliotomy by Reclus's method, by tying off a small amount of mesentery at each side of the spigot of glass at the original operation, he found that the subsequent division of the intestine was practically bloodless and not accompanied by arterial hæmorrhage, as otherwise was too often the case. *In conservative* operations some of his greatest successes had been the separation of adnexal adhesions to the intestines causing obstruction; hysteropexy and ventro-suspension were also conservative, but he had found conservative operations on the appendages disappointing. Simple prolapse of the ovary due to retro-displacement was best treated by shortening the round ligaments without opening the peritoneum. Disliking all forms of fixation he had abandoned anterior colpotomy, but had become more and more attracted by posterior colpotomy, the advantages of which were not to be overlooked even in virgins or children. The essential point in the operation, after the disinfection of the vagina, was free drainage with iodoform gauze. Vaginal ovariotomy and vaginal enucleation demanded increasing consideration.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A clinical meeting of this society was held on Jan. 6th, Mr. C. M. Tuke, the President, being in the chair.—Dr. Z. Mennell showed a typical case of Acromegaly in a man, aged 42 years. In 1883 he enlisted in the army and his measurements were as follows: weight, 10½ stones; height, 5 feet 10½ inches; chest, 37 inches; and circumference of the head, 21 inches. From 1887 to 1902 he had constantly to get larger boots, hats, gloves, and clothing, when latterly he could not get stock sizes large enough and his measurements at present were: weight, 19 stones 3 pounds; height, 6 feet 1 inch; chest, 47 inches; and head, 25½ inches—which measurements had remained about the same during the past two years. His personal health was good, his only subjective symptom being occipital headache, with depression of spirits.—Dr. A. Morison showed: 1. A case of Old-standing Mitral Stenosis with Persistent Choreic Movements in a man, aged 76 years. At the age of 14 years he first had an attack of rheumatic fever, followed by clonic convulsive *movements of the right arm, and when 30 years old he* had a second attack which was followed by a similar affection of the left arm. 2. A man, aged 51 years, with a "Renal Heart," associated with Granular Contracted *Kidney.—Dr. J. B. Ball* exhibited a man, aged 52 years, with Tonsillar Disease of about six months' [illegible] he [illegible] u- [illegible] a [illegible] of [illegible] he [illegible] at first. A small portion of the tissue had lately been examined microscopically showing the disease to be of a malignant type. Dr. Ball considered it to be a case of combined [illegible] uggested [illegible] mercury [illegible] —Mr. G. Pernet also suggested a course of mercury under strict observation and apart from iodide of potassium.—Mr. R. W. Lloyd said that *local* mercurial treatment combined with internal administration of antisyphilitic remedies might prove useful.—Mr. J. T. Armstrong did not agree with the mercurial treatment, taking into consideration the microscopical repor[illegible] —Dr. Ball br[illegible] the notice of [illegible] occurred on the back of the right hand of a girl. It commenced as a papular rash about six months previously, the papules disappearing and leaving an indurated elevated margin around the centre which regained its normal condition.—Dr. T. Colcott Fox said that the disease was a very rare one, the etiology of which was unknown.—Mr. Pernet was of opinion that this case was not one of granuloma annulare and showed microscopical sections of the latter disease.—Mr. D. J. Armour showed a female, aged 26 years, upon whom he had operated for a Bilateral Ankylosis of the Jaw. Both condyles were found to be fused with the zygoma, forming a solid mass of bone of ivory-like hardness. The zygoma just in front of, and behind, the tuberosity and the neck of the jaw were cut through on each side and the jaw was subsequently moved several times under an anæsthetic. The patient could now separate her jaw easily and well and was able to eat solid food for the first time in her life.—Mr. Armour also showed a specimen of a Polycystic Kidney which he removed from a woman, aged 29 years, who made an uninterrupted recovery. Since the operation she had improved in health and was passing a normal amount of urine.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—A meeting of this society was held on Jan. 9th in the Faculty Hall, Professor R. Muir, the President, being in the chair.—Dr. T. K. Dalziel and Dr. J. Walker Downie described a case of Removal of the Pharynx and a Portion of the Larynx on account of Epithelioma. The growth was a very extensive one, involving a considerable area of the pharynx in its whole circumference, the posterior wall of the larynx, and the orifice of the glottis; there was also a large mass of infected glands in the right side of the neck. The operation was performed without hope of cure but for the *alleviation of the miserable state of* the patient and proved much more formidable than had been anticipated. The whole growth was removed. The œsophagus was then detached from the trachea for a distance sufficient to allow of the end being brought out and was stitched to the skin of the side of the neck for the use of the stomach tube. The patient made an uninterrupted recovery. The tracheotomy tube, which had been [illegible] removed [illegible] with was [illegible] ere being no other way of escape for it; but this stopped after two months, the salivary glands having ceased to perform their function. All food necessarily was taken through the stomach tube; it did not affect the secretion of saliva while the glands were active. Since the operation the patient had nursed her husband and her son through severe illnesses, but now, after six months of happiness and usefulness, she is dying from pressure on the air passages by a mass of glands in the right side of the root of the neck. The anæsthetic used at the operation was chloroform.—Dr. John H. Teacher and Dr. G. Burnside Buchanan showed a specimen of Multiple Carcinomata of the Intestines. The primary tumour appeared to be that situated in the rectum; there were about 20 nodules of various sizes scattered along the whole length of the great intestine and a group in the lower part of the small intestine; beside the latter there was considerable infiltration of the mesentery. The secondary nodules were situated in the submucous layer of the gut. The course of spread could not be traced.—Dr. Henry Rutherfurd showed a specimen of Multiple Carcinoma of the Great Intestine. A tumour (carcinoma) of the rectum had been removed two years previously.—Dr. D. N. Knox showed the Sac of an Encysted Infantile Hernia and read notes of two such cases. The specimen was taken from a patient, aged 72 years; the hernia had been in existence for many years and was as large as a cocoanut. The other case occurred in a child.—Dr. J. K. Kelly showed a number of specimens of Uterine Myomata and Ovarian Dermoids and read short notes of the cases.—Dr. A. Napier and Dr. John Anderson gave an account of a case of Patency of the Interventricular Septum. The orifice occupied the undefended area of the septum and measured about an inch in diameter. In spite of this considerable defect the patient enjoyed perfect health up to her seventeenth year, then manifested signs of cardiac weakness but recovered and remained well until the birth of her first child at the age of 27 years. She died soon after with symptoms suggestive of aortic incompetence.—Dr. Napier and Dr. Anderson also described a case of Tuberculous Meningitis in an adult which simulated enteric fever.

DERMATOLOGICAL SOCIETY OF LONDON.—A meeting of this society was held on Jan. 11th, Mr. Malcolm A. Morris being in the chair.—The following were among the cases exhibited:—Mr. Morris showed a young woman, 19 years of age, who had been troubled three years ago with Warts on the Backs of the Hands. These had been removed by means of the x rays and one year later telangiectases had begun to make their appearance on the situations which had been exposed and these were still increasing. The exhibitor commented on the unusually long latent period between the exposure and the development of the evil effects.—Dr. T. Colcott Fox showed a young man who had travelled all over the world and lived in almost every climate and who had first noticed four years ago a red spot on the right shin. This had enlarged very slowly without giving rise to any special symptoms and had been followed in May, 1904, by the appearance of several other spots on the same leg and the other leg and quite recently on the arm. The patches were flat and a little scaly, the centre was pale and obviously atrophic, and the margin was a little reddened. Careful examination had shown that there were no anomalies of sensation and Dr. Fox thought that there need be no apprehension of any serious disease and also that the eruption probably belonged to the class of so-called idiopathic atrophies to one of which the name of "erythromelie" had been given.—Dr. E. G. Graham Little showed a man with Widespread Lupoid Eruption on the Face affecting the whole of the nose, with patches on both cheeks and both ears. The disease had commenced six years previously with a blow on the nose. The patches were much thickened and obviously transparent and granulomatous looking, so that he thought some might consider it to be a true lupus vulgaris. A section of the diseased area was also exhibited in order to aid in the diagnosis. The opinion was generally held that the disease was lupus erythematosus.—Dr. Sale-Barker (introduced) showed an interesting group of children in whom Ringworm of the Scalp had been treated by the x rays. The method that he used was to measure the current actually passing between the terminals of the vacuum tube and to use a constant spark gap. He then gave the children rather long exposures and found that usually two were sufficient to cause epilation. He pointed out that in a case in which he had caused a total defluvium for disseminated ringworm and in which there must have been some overlapping of the exposed areas no dermatitis had resulted.—A considerable discussion took place with regard to these cases and the general opinion seemed to be that the method was now firmly established as the speediest treatment for ringworm of the head. Many members had used it in numerous instances and no member reported any untoward result, though all agreed that the greatest care must be taken.

SANATORIUMS FOR TUBERCULOSIS.—At a meeting of the board of delegates of the Hospital Saturday Fund Association, held at the offices, Gray's Inn-road, London, W.C., it was decided on the motion of Mr. Dear that a sum of £500 should be granted from the 1904 collections to the National Sanatorium Committee towards the erection of sanatoriums for tuberculous patients on a site secured near Hastings.

Reviews and Notices of Books.

Morphology and Anthropology: A Handbook for Students. By W. L. H. DUCKWORTH. Cambridge University Press. 1904. Pp. 564. Price 15*s.* net.

Studies from the Anthropological Laboratory of the Anatomy School, Cambridge. By the same Author. Cambridge University Press. 1904. Pp. 291. Price 10*s.* net.

THE first of the two volumes which we notice here is published at a not inappropriate time. The recent establishment of a Board of Human Anatomy and Morphology in the University of London, dealing with regulations as to the inclusion of this subject in the honours list of the University, should produce, if it has not already produced, some quickening of the really scientific study of man as opposed to the older "professional" anatomy necessary for the acquirement of medical and surgical degrees and qualifications. For the beginner in this branch of biology, armed with a general knowledge of comparative anatomy, Mr. Duckworth's handbook should prove useful. This general armature is necessary but it is not unreasonable for the author to assume its existence, for no person undertakes the study of man at present without a previous grounding in the essentials of biology. Mr. Duckworth, however, starts with a brief reference to mammals in general and then takes the reader more and more into his confidence as he advances upwards in climbing with them the tree of mammalian life: until after a longer account of the lemurs and a still more prolonged statement of the anatomical characters of the monkeys he expands into a detailed *résumé* of the anatomical characters of the species *homo sapiens* and of the several races into which our species has been subdivided. This account, however, is not at all like that of the current text-books of human anatomy such as Quain's and Gray's. It is anthropological rather than anatomical; in fact, the author limits himself to the consideration of those characters which afford racial distinctions or which point to affinity with the apes. The title of the book, indeed, implies its scope, for it is obviously taken from the *Zeitschrift fur Morphologie und Anthropologie*, a journal devoted to physical anthropology and the structure of the apes. The origin of this muscle and the insertion of that are, in fact, of no interest save in so far as they recall by their variations a similar state of affairs in the anthropoid apes or appear to furnish a valid racial character among men; so, too, with brain and sinew, bone and gut.

The beginnings of this study are to be found in a memoir published in 1699 by Edward Tyson with the aid of the Royal Society. In this work that author, the first of anthropologists, compared the bodily structure of the chimpanzee with that of man and one of the lower apes. It is a curious fact, which may be commented upon in passing, that Tyson termed his chimpanzee "orang outan sive homo sylvestris." The Latin is a translation of Malay words but, as everybody knows, the orang is a totally different beast from the chimpanzee. The latter is a native of Africa and the former is Malayan. This confusion between two entirely different anthropoid apes has been lately further confounded; for the Hon. Walter Rothschild in exhibiting to the Zoological Society a magnificent series of skins and skeletons of gorillas and chimpanzees took occasion to point out that the proper name of the chimpanzee—i.e., the name which has priority—is *Simia satyrus*, a name which has hitherto been applied only to the orang of Borneo. Since Tyson the study has been forwarded by most of the great anatomists of the eighteenth and the beginning of the nineteenth centuries, and there are plenty of workers to-day whom to enumerate would be a long task and from whom to select would be invidious. The earliest text book of this subject, or at least the earliest impressive *résumé*, is Huxley s well known "Man's Place in Nature " But such text books are so few that Mr Duckworth may be congratulated in occupying a part of a by no means well filled area The chief fault we find with the book is the coarseness of the majority of the illustrations which, considering its price, does not reflect credit upon the Cambridge University Press

The same remark applies, though not to so large an extent, to the second of the volumes which we notice in this column This consists of a number of separate papers upon anthropology and the anatomy of various primates which have been partly published elsewhere and are partly printed here for the first time Many of the illustrations, indeed, of this volume are repeated in the handbook, notably those of the brains of various lemurs and apes In describing these brains Mr Duckworth initiates a useful plan In zoological matters a species is described from a "type,' which is the actual skin or, it may be, skull or skeleton upon which the species was founded Future descriptions are referred to this type for likenesses and differences In an analogous way the author of the book under review considers the splendid catalogue of brains in the Museum of the College of Surgeons by Dr Elliott Smith to represent the types of the several brains described It would be capital if anatomists generally would adopt this or some such plan in dealing with the brains of different species Then a vast deal of ink and paper would be preserved for future use A memoir dealing with the cerebral convolutions of a given animal could be much abbreviated As it is, the literature relating to the brain is so extensive that it is difficult for those interested in comparative anatómy generally to include the study of brains Most of the memoirs in this volume deal with craniology and many are based upon human skulls in the museum at Cambridge

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Diseases of the Heart A Clinical Text book for the Use of Students and Practitioners of Medicine By EDMUND HENRY COLBECK, B A, M D, B C Cantab F R C P Lond, D P H Cantab Physician to Out patients at the City of London Hospital for Diseases of the Chest Victoria park, E, &c With 43 illustrations Second edition revised and enlarged London Henry Kimpton 1904 Pp 350 Price 7*s* 6*d* net

THE appearance of a second edition of Dr Colbeck s book within a comparatively short time of its original publication shows that it has won favour with those for whom it was written and we think that it deserves the success which it has attained Without making any pretensions to originality or novelty it yet presents in a clear and readable form the accepted views with regard to the phenomena and the treatment of cardiac disease The book is dedicated to Sir William Broadbent and his teaching is reflected in many respects

After a short account of the anatomy and the physiology of the heart the author deals at some length with methods of diagnosis giving a separate chapter to the consideration of the pulse Next follows an account of congenital affections of the heart, in which perhaps additional clearness might have been gained by the insertion of diagrams illustrating the complicated process of development of this organ, always difficult to render intelligible to the learner Diseases of the pericardium follow, and here we may remark that writers upon cardiac disease almost invariably speak of paracentesis pericardii as a simple operation free from risk In view of the very great difficulty which may exist in distinguishing an enlarged and feebly acting heart from a pericardial effusion, it would seem better to advise beginners at all events to exercise great discretion in the matter Dr Colbeck next deals with acute and chronic endocarditis, with the various forms of valvular disease, and with affections of the myocardium It would, perhaps, be well if more care were taken by teachers to point out to students that hypertrophy of the heart is not in itself a diseased condition but rather an attempt to compensate defects existing in the circulatory apparatus The book ends with chapters on angina pectoris and functional diseases of the heart

The advice as to treatment for various kinds of cardiac lesions is generally prudent and sensible We are glad to see that the author has not been infected with that distrust of alcohol as a remedy which is so sedulously fostered by a certain school of modern writers That it is a valuable drug when used with proper discretion we have no doubt whatever The sections on treatment might, perhaps, have been made still more instructive by insistence here and there upon small practical points, e g, the influence of posture as an aid in the removal of dropsy, raising of the head of the bed or allowing the legs of the patient to hang down while he reclines propped up in a chair being often most useful measures before, or together with, paracentesis We doubt whether Southey's tubes are the best means of withdrawing the fluid from the legs It would have been better if more attention had been paid in the index to subject matter and less to names of authorities, thus we find no reference under "dropsy' to the treatment of this condition, all the pages mentioned dealing solely with its pathology, whereas we find 13 references to Sir William Broadbent, although few readers are likely to want to look up all the passages in which any one author s name is mentioned Still the blemishes are, on the whole, slight and the merits of the book are many We can safely recommend it to students and practitioners as a useful handbook

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THE treatises on physiology which are at the disposal of the student may be divided though without any strict lines of demarcation into three classes At one extreme stand the primers of Foster Lowne, Starling, Beale and Ashby, which aim only at supplying the reader, professional or otherwise, with a general view of the subject, yet often contain a considerable amount of very serviceable information the acquisition of which by the learner would prevent the exhibition of total ignorance of particular subjects that is sometimes displayed at examinations by men who are in other points well informed At the other extreme are the large and comprehensive works on physiology the publication of which was initiated by Haller at the close of the eighteenth century and which were followed by the "Handworterbuch der *Physiologie*" *of Wagner, by the Todd s* "*Cyclo*pædia of Anatomy and Physiology," and by the treatises of Schäfer, Howell, and the later editions of the works of Foster in English of Landois in German, of Morat and Doyon and of the "Dictionnaire de Physiologie " in French, which last, beginning in 1895 has only now reached the letter G at the end of the sixth volume, promising to run on for at least another decade These comprise the whole field of physiological research, usually give bibliographical references, and supply such information that for further research the original memoirs in each subject must be consulted Between these extremes are a number of text-books, manuals, elements, handbooks, and essentials of physiology, like those of Yeo, Halliburton Starling, Anderson Stewart, Noel Paton, Raymond, M'Kendrick, *Ott, Hall, and* Waller in

English; Ranke, Valentin, Grünhagen, and Borvttaw in German; and Beaunis and Kuss and Duval in French; all of these aim at supplying the medical student with a succinct account of the present state of our knowledge of the functions of the body which can be understood without the reader possessing much acquaintance with physics, mechanics, chemistry, mathematics, or other collateral sciences. Such treatises usually represent the basis or groundwork of the lectures delivered by each professor, which he expands and illustrates in his discourses by freehand drawings on the blackboard, by larger and more elaborate drawings, by photographic slides and lantern, and by appropriate experiments.

As the foundations of physiology are now securely laid and are given in all these works the superiority of one treatise over another depends on the particular facts selected and the mode in which the story is told or the style in which these facts are presented to the reader. The treatise of Dr. Brubaker belongs to the last-named class and is a favourable specimen of it. The facts are clearly stated, the proportionate space given to each section is reasonable, the student is not troubled with a diversity of opinions, whilst a dogmatic style is adopted throughout. If any faults are to be mentioned one would be that the very excellently executed illustrations are too anatomical. We will take the heart as an example. Dalton's diagrams of the action of the valves really show their function perfectly well, whilst the interior of the heart as shown in the drawings after Allen Thomson are, or ought to be, known to every student during his first year of dissection. In the same way several of the illustrations of the cranial nerves after Hirschfeld and one or two of those in the section on Respiration and Phonation might have been omitted. We are quite aware that an argument in favour of their retention may be maintained on the ground that such illustrations brighten the text and attract the attention of the student and interest him in it. Still, they take up much space and are of doubtful value. Very few students, we imagine, read the lettering of such illustrations completely through. Another defect, and we say this without in any way disparaging Dr. Brubaker's treatise, is that considering that the work is intended for students who are about to become family physicians the application of physiological facts is to a large extent neglected: for example, the effects of cooking on food of various kinds and the advantages of using cooked food are scarcely ever referred to, though Liebig thought it worth while to introduce that subject in a physiological work and the changes effected by cooking probably take an important place in the longevity of man as compared with other primates. It should be pointed out again that the quality of the food ingested is of great importance. We do not suggest a cookery book, but surely a few economic references are not beneath the dignity of the science of physiology. The same observations apply to exercise and athletics and also to the value of the coagulability of the blood, of the retraction of arteries and of the closure of their mouths, and of the failure of the heart's action in syncope from hæmorrhage.

The general arrangement of Dr. Brubaker's work is that several chapters deal with the composition of the body, the physiology of the cell, the histology of the epithelial and connective tissues, and the physiology of the skeleton. The author then devotes two long chapters to the physiology of muscle and nerve and follows these with chapters on the several functions of the body, as food and digestion, absorption, the blood, the circulation, respiration, animal heat, secretion, excretion, the central nervous system, the special senses, and reproduction, all given with much clearness and accuracy. A short section is devoted to physiological apparatus.

We have no space to quote at any length from the text but it may be noticed that Dr. Brubaker gives some interesting calculations in regard both to the superficial area of the blood corpuscles collectively and the rapidity of their reproduction after hæmorrhage. Thus by multiplying the estimated area of a single corpuscle by the aggregate of corpuscles in a cubic millimetre and the number so obtained by the cubic centimetres of blood in the body, which he takes at 5769 grammes or 5463 cubic centimetres, he finds the total area of corpuscular surface to be 3496 square metres—a very large surface to present to the air for respiratory exchange between oxygen and carbon dioxide. Again, the rapidity of reproduction is extraordinary. A computation made by Mr. Charles L. Mix shows that a woman loses during a menstrual period 150 cubic centimetres of blood. At the end of 28 or 30 days this volume is restored, so that in one day five cubic centimetres or 5000 cubic millimetres of blood must be formed, or 208 cubic millimetres per hour and three and a half cubic millimetres per minute. In other words, during a certain number of years 15,750,000 corpuscles must be formed in women every minute and this independently of the daily loss due to functional activity. It should be remembered, however, that Dr. John S. Haldane and Professor J. Lorrain Smith consider that the ordinary estimate of the total quantity of blood in the system at one-thirteenth of the weight of the body is far too high and that from one-eighteenth to one-twentieth would be nearer the mark. Dr. Brubaker overcomes the difficulty of explaining the nature of extravascular coagulation of blood by briefly, as well as lucidly, stating the five different theories of Schmidt, Hammarsten, Arthus and Pagés, Pekelharing, and Lilienfeld, though we should have been glad to find some hint of his own views to guide the student.

The get-up of the work is extremely good and beyond a few typographical mistakes in the spelling, especially of foreign names, we have not discovered any errors.

Under the Care of the Japanese War Office. By ETHEL McCAUL, R.R.C. With illustrations from photographs. London, Paris, New York, and Melbourne: Cassell and Co., Limited. 1904. Pp. 256. Price 6*s*.

Miss McCaul's book will, we think, be perused with both profit and interest, and certainly with a considerable degree of the latter, on the part of the general reader. To begin with, it relates to the war in the Far East, to which all eyes have been turned since the commencement of the struggle between Russia and Japan for supremacy in that part of the world; and it gives some brief sketches of the personalities of many Japanese generals and other authorities with whom Miss McCaul came in contact in the course of her mission and with whose names and deeds the reading public have of late become so familiar. The book is in diary form and is necessarily discursive, but it is written in a fresh and easy style which, so far as the Japanese arrangements are concerned, becomes highly eulogistic. The fact that Miss McCaul had had previous war experience in South Africa, having nursed in a field hospital with Sir Redvers Buller's column from the battle of Colenso to the relief of Ladysmith, qualified her to bring an educated and intelligent judgment to bear upon all that she saw and heard and to take advantage of the facilities so freely afforded to her by the Japanese Government and War Office for studying the systems of military nursing and hospital arrangements in their actual working order. Miss McCaul, it may be remarked, undertook her special mission to Japan and Manchuria in order to obtain information about the Red Cross Society and military nursing at the seat of war. This was done with the sanction of Queen Alexandra and this book relating the results of her experiences is dedicated to Her Majesty. Miss McCaul was received in audience by the Empress of Japan and was everywhere treated with all courtesy and consideration. All nursing and hospital arrangements were freely exhibited for her inspection and she also proceeded to the front, visiting the battlefield at the Yalu. One of our reasons for stating all this is to call attention to the very different consideration and treatment accorded to our medical attaché, Colonel W. G. Macpherson, R.A.M.C. This officer, whose previous training and knowledge of both our own and of continental army systems rendered him well qualified to appreciate at their right value Japanese methods of procedure, seems to have been meanwhile losing the opportunity of doing so owing to the supine action of our own War Office. The lady diarist tells us that finding him still regretfully waiting at Tokio on her return there from the front she handed him a valuable translated paper on sanitation and some photographs on the understanding that he should use them in his own official report.

There is no department of the army that is subjected to more severe and, we may add, often very unfair criticism than the army medical service for its alleged shortcomings in the field. It is consequently mortifying to find this lady nurse saying, "It is very grievous to think how little real trouble is taken at home by the officials to see that our army medical men do actually acquire the priceless knowledge and experience which are to be gained only at the commencement of a war like the present." And to quote again, "The authorities at home seem to content themselves with the fact that an army doctor has been sent out to Japan, but as to seeing whether he has the suitable means for carrying out his mission is a secondary consideration."

Speaking of the favourable impressions which she derived from all that she was privileged to see Miss McCaul says that these far surpassed her expectations. The Japanese, as we all know, are an extremely clever people endowed with extraordinary powers of organisation and stimulated by a patriotic ardour which is almost carried to fanaticism. Amongst their most distinguishing traits are economy and exactness—"an *economy* without stint, and an *exactness* which involves the minutest attention to the smallest of details." Indeed, it may be said that as the whole civilised world now recognises the fact that there is no longer any need to dwell upon the remarkable qualities which the Japanese army have exhibited in this war, so it may be also said that these qualities are equally manifest in the medical branch of it. In the way of excellent organisation, singleness of aim and purpose in its methods of procedure, and strenuous efforts in practically accomplishing the work which it has set itself to do, the Japanese medical service has admittedly done uncommonly well in the present war. Nor need we go far to seek the explanatory cause of this success—namely, its preparedness for war. Every detail had been carefully thought out and practically provided for in order to give the Japanese soldier a complete equipment and field outfit readily adaptable to the varied conditions that he might have to encounter in the field; and as regards the organisation and administration of the hospital service and sick transport from front to base every arrangement which foresight could suggest seems to have been well considered and, where deemed advisable, adopted. It is in respect of these details that the value of Miss McCaul's book with its illustrations mainly consists and makes it worthy of being studied. It embodies as much as could well be included within the limit of its pages and quite sufficient to make it both profitable and interesting reading. This only serves to make us share in the regret expressed by the author that the earliest opportunity of seeing and fully reporting on matters of such importance and interest to the army and its medical service was, *owing to no fault of his*, lost to the medical attaché who was sent out by the War Office for this express purpose.

LIBRARY TABLE.

Five Years' Medical Work on Lake Nyasa. By ROBERT HOWARD, M.B., B.Ch. Oxon. London: The Universities Mission to Central Africa. 1904. Pp. 105. Price 2*s.* 6*d.* net.—This little book is practically a report made by Dr. Howard to his medical board, Dr. Howard being a member of the Universities Mission to Central Africa. It is now published by order of the general committee. The report contains a variety of information which will be found of great use to every worker in Central Africa and indeed in many other regions of the same continent. On p. 9 we find an excellent note on precautions against mosquitoes but we think that the description of the mosquito net should be made more clear in a future edition. After laying stress upon the fact that mosquito nets are usually too small Dr. Howard says: "They should be seven feet long, three feet wide, with calico round the lower two feet of the net." We read these instructions over and over again without being able to understand them in the least and we have a fairly wide experience of mosquitoes and nets. Finally, we wrote to the secretary who kindly forwarded us a pattern which made the matter quite clear but he also forwarded us a copy of instructions for making the net which were even more incomprehensible than those given by Dr. Howard. In a future edition this passage should either be altered or else deleted, for as it stands it is useless. The net as completed is seven feet wide, seven feet high, and three feet broad, and obviously if kept in good condition is a complete protection. The calico all round the bottom is indispensable. Dr. Howard also points out that the bed should be large enough to allow the sleeper to be covered by the net without coming into contact with the net, a point which is often overlooked. The remainder of the book is mainly taken up with medical reports of the various stations and the general conclusion to be drawn from the report is that firstly it is foolish for European missionaries to try to live like natives; secondly, that the rule that a new comer should have a furlough at the end of his first two years has been very beneficial; and thirdly, that there is need for a hill station as a holiday and recruiting establishment.

Herbert Fry's Royal Guide to the London Charities. London: Chatto and Windus. 1905. Pp. lvi.-387. Price 1*s.* 6*d.*—The 1905 edition of this valuable compilation is as full and useful as ever. Mr. John Lane, the editor, contributes an interesting preface in which he says: "The past year has been a bad one, not only for all hospitals and charitable institutions, but for trade generally." Let us now consider what a vast sum of money London takes for charities in a bad year. According to the Classified Directory to the Metropolitan Charities for 1905 there was given a sum in charity, excluding the money subscribed for foreign missions, of, in round figures, £5,500,000. If to this be added the sums given out of the rates to education, relief in sickness and relief in poverty, the average man cannot but wonder why there should be such exceptional distress as is existent at the present time in Tottenham and West Ham. All the same, the charitable will, we hope, continue to give and for him who wishes to know how to give alms wisely there is no better small guide than the one now before us.

The Englishwoman's Year-book, 1905. Edited by EMILY JANES. London: Adam and Charles Black. Pp. 358.—This excellent book of reference now published for the twenty-fifth year fully sets forth the vast sphere of work of various kinds which is now open to women. Education, the professions, industrial work, the arts, public work, philanthropic, social, and religious work, are all dealt with and apparently the lonely and unemployed spinster of former years should now be a thing of the past.

THE LANCET.

LONDON: SATURDAY, JANUARY 21, 1905.

The Report of the Medical Officer of Health of the Administrative County of London.

WE are indebted to the clerk to the Council for a copy of Sir SHIRLEY F. MURPHY'S report on the health of the Administrative County of London for the year 1903. As the volume has been in our hands for only a few hours it is impossible on the present occasion to do more than to notice very generally a few of the chief considerations that are suggested by a first and cursory reading. In later issues of THE LANCET we hope to do fuller justice to a work the production of which must have entailed a vast expenditure of statistical labour on the part of its author and his staff, lay as well as medical. The present report is the twelfth that in the course of his official career Sir SHIRLEY MURPHY has contributed to the literature of preventive medicine. The same general features characterise the arrangement of the entire series but, when the later numbers are compared with the earlier, we are impressed by the steady but very substantial progress, both statistical and administrative, that is revealed in the successive volumes. In his first report the county medical officer had to content himself with a survey of the official reports of the metropolitan vestries and with such statistical data concerning mortality and its causes as could be gleaned from the blue-books of Somerset House. As years have progressed, however, his hands have been strengthened in many ways, notably by the acquisition of powers for the compulsory notification of infectious disease and by the passing of by-laws for the regulation of the building of dwelling houses and for the control of lodging houses.

Again, we are glad to note that only very recently the County Council has completely reorganised the public health department at Spring-gardens and has done so after a fashion that seems calculated to increase greatly its efficiency and to coördinate the action of the several departments which hitherto appear to have worked on practically independent lines. Without going into minute detail we may state that it has been decided to place the administrative charge of the Council's public health and educational departments in the hands of two medical officers who will be responsible to Sir SHIRLEY MURPHY as their chief. According to this rearrangement, which has already received the Council's sanction, Dr. W. H. HAMER assumes the control of one branch with the title of medical officer for general purposes and with the rank of senior assistant to the medical officer of health, whilst Dr. J. KERR continues at the head of the other branch with the title of medical officer for purposes of education. In regard to Dr. KERR, until recently medical officer of the School Board for London, the Council recognises the fact that an important branch of his duty consists in examining into, and reporting upon, the sources and causes of dissemination of epidemic and infectious diseases within the county. It is therefore considered appropriate that this very important work should be brought into the closest touch with the general health administration of London without losing its distinctive characters. This change of system will, in the Council's judgment, be most satisfactorily carried into effect by placing the late School Board's medical officer in the Council's public health department as medical officer (education), an arrangement which will give Dr. KERR a position under Sir SHIRLEY MURPHY who will doubtless allow him a considerable amount of independent action so far as education work is concerned. Accordingly, the arrangement here indicated is now in force and we doubt not that great advantage will in consequence accrue both to the purely sanitary and to the educational work of the County Council. So far as we know the hygienic inspection and control of the metropolitan water-supply have not as yet been vested either in the County Council or, indeed, in any other authority. Nevertheless, having regard to the intimate relationship which is well known to exist between the drinking of contaminated water and the spread of infectious disease, it is obviously desirable that the fullest control should be intrusted to those public authorities who are legally responsible for the maintenance of the public health. Whether or not this change for the better will be accomplished in the near future remains to be seen but it is to be hoped that when the constitution of the new water board comes to be settled the London County Council, the interests of which are so largely at stake, will take care that this aspect of the question shall receive the consideration which it deserves.

From a professional standpoint the most instructive portion of the county medical officer's present report is that which deals with the prevalence and the intensity of disease. In a manner peculiarly his own, Sir SHIRLEY MURPHY martials his facts concerning incidence and mortality so as to indicate clearly the influence thereon of age, sex, and locality, and further, to show how far these have been modified by sanitary surroundings or by meteorological conditions. These details, accurately recorded and uniformly tabulated in the successive reports, have become increasingly serviceable as the years have passed; but at the present time, after a dozen years' experience of compulsory notification, Sir SHIRLEY MURPHY is able to furnish a series of diagrams and tables illustrative of the prevalence and the fatality of the chief diseases in a vast and typical urban community that are not only intensely interesting to the medical practitioner but are almost essential to the local medical officer of health who possesses in these volumes a trustworthy standard to which the rates of attack or of mortality of any prevalent disease in another urban district may fairly be expected to approximate. In his present report the county medical officer of health records a rate of mortality from all causes which in the history of the metropolis is unique. And although in view of the fact that extra-metropolitan England has fully partaken of the general reduction in the death-rate Sir *SHIRLEY MURPHY attributes this very largely* to the persistence throughout the year of unusually favourable meteorological conditions, nevertheless we must not lose sight of the further fact that in the present state of the law London has to accept the unenviable position of an asylum for the accommodation of the refuse alien population from every country in the world. Having regard more especially to the latter consideration we congratulate the county medical officer on the encouraging account contained in his report for the year 1903. In future issues of THE LANCET we purpose to follow in detail Sir SHIRLEY MURPHY'S record of the incidence and the fatality of the several epidemic and infectious diseases dealt with in the volume before us.

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Some Thoughts upon Charitable Relief.

To many thoughtful people it is obvious that in the administration of charitable relief there is too often a lack of guiding principles, of economic knowledge, and of cohesion in administration. On this difficult subject a recent volume by the Rev. CLEMENT F. ROGERS[1] throws much clear light. It is a thoughtful and philosophical attempt to formulate lines of action for all almoners, whether clerical or lay, and if the Christian teaching laid down is so much in evidence as to make the work almost theological its good sense brings it within our purview as a paper dealing necessarily with all social problems. We cannot follow the author very far in his attempt to trace the motives of charity to the words of the Founder of the Christian religion. To send a cheque in answer to the first appeal opened and to consign the others to the waste-paper basket is a form of haphazard mercy which assuredly does little to bless either him that gives or him that takes, and while it is opposed to all Gospel teaching it is equally opposed to the most elementary principles of prudence or generosity. No charity worth doing can be done without trouble. The trouble taken is worth more than the gifts given, both to the donor and the social fabric, which includes the recipient. Busy, capable men can often give as much by assisting in administration as by guaranteeing donations. King WENCESLAUS may no longer trudge through the snow with a basket-bearing page but the foremost persons of the realm can (and do), as working members of the practical committees, set most valuable examples in methods of economical expenditure and selection of charitable objective. It is a good omen for our country, we think, that there was never a time when so many great men, busy men, and rich men—men with calls of the most immediate importance upon their time and their talents—were ready to respond to the paramount claims of charity and to help by personal service.

The proper administration of temporary help to those in temporary distress is one of the most difficult tasks in citizenship. It demands a wide scope of knowledge of the conditions of many social grades, a grasp of the economical vicissitude of many forms of labour, the proper estimate of many psychological and physical infirmities, and a discernment, kindly in standpoint, of the influence of inherited taints. The practical almoner must know the value of money in his area of work, the ruling wages of various callings, the prices of necessaries, and, above all, the intricacies of rent. He must know the difficulties of the applicant and the reasons of those difficulties, and the applicant's character, surroundings, work, and power. This knowledge connotes some—nay, a close—grasp of social and economical questions, often too deficient in the average district visitor, and not always abundant in the clergy who are the principal superintendents of the country's alms. To ascertain such points as we indicate care, patience, time, and thought must be lavishly employed. An objection is often made that people who are doing charitable work thoroughly are making a lot of fuss to give away a few shillings. The idea is dominant that "giving away" is in itself good. It would be good if the donor himself conducted the distribution carefully, or even if the gift deprived him consciously of any luxury, but these conditions are rarely fulfilled and facile open-handedness is actually a drawback to the community. In many cases those in temporary distress are as much in need of originality of effort and moral power to reconstruct their lives as they are of material alms but to supply such intellectual help is far more difficult than signing orders for coals or groceries. A worker in poor districts who has no power to refuse the undeserving, no desire to avoid being deceived, and who cannot suffer gladly the infinite capacity for tiresome and ignorant worrying which exists in the distressed poor had better seek some field of occupation more contemplative and philosophical than practical charity; and there is no class in the kingdom knows this better than the medical man who is brought into such intimate relation with the sick poor. A proper estimate of the standards of life and character among the poor is a necessity and can only be acquired by trained experience. The ethical codes of the extremes of society differ somewhat. A virile violence is permitted by society in Plumstead which would be an offence in Piccadilly; in certain industrial quarters lapses from chastity before marriage are condoned which in wives would be severely reprobated—a reversal of Mayfair morals according to modern playwrights and novelists; and, speaking generally, codes vary with material almost as much as with meteorological environment. The charitable worker must learn to appreciate such varieties and to make allowance for them, while maintaining a breadth of mind which will avoid hasty generalisation and preserve him from too rigid classifications. The necessary breadth of idea and duly balanced estimate of conditions can be expected only in persons possessed of education and cultivation; they are not to be found, or rarely, among the poor themselves. That the labouring classes are clumsy and short-sighted as administrators of alms is becoming apparent in the committees of the rural parish councils, though most admirable work is performed by the same class of individuals when working under the disciplined organisation of such bodies as the Salvation Army or Church Army. In the complexities of life of large towns, involving separated areas of dwellings for rich and poor, the personal contact between classes has largely failed. To supply its place a far more carefully devised system of organisation in relief is demanded than was necessary in the village. Personal intimacy and individual help have degenerated into dealing out tickets to a miscellaneous crowd and writing

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[1] Charitable Relief, by the Rev. C. F. Rogers London: Longmans and Co. 1904. Sm. 8vo. Price 2s. 6d. net.

Annotations.

"Ne quid nimis."

IS ALCOHOL A FOOD?

IN our issue of Oct. 22nd, 1904, p. 1162, we published a leading article under the above heading. We have now received a letter from Mrs. Mary H. Hunt, National Director of the Bureau of Scientific Temperance Investigation, Boston, Massachusetts, in which occurs the following sentence:—"You there assert, as evidence of unwise and tyrannical power wielded by the temperance people in America, that 'school teachers throughout the country were compelled to devote a certain amount of time to instructing their pupils on the dangers of alcohol and were compelled to use only such books as denied that it had any virtues as well.' Your statement shows that you have been misinformed." Mrs. Hunt proceeds to say that it is true that every State in the United States now requires that the nature and effects of alcoholic drinks as a part of physiology and hygiene shall be taught to pupils in all public schools, but there is no law in America that specifies what the nature of alcohol is, nor is there any statute in America that requires only such text-books shall be used as deny that it (alcohol) has any virtue. The laws have left the choice of text-books to the school officials, but, she continues, "For the guidance of these officials a standard as to what is true and what should be taught on this subject was prepared in 1887 by eminent scholars, educators, physicians, members of state boards of health, chemists, &c., but this standard, while influential, had no legal power. It was only advisory." With regard to this statement we reply as follows. Many of the laws in the United States actually specify that one-fifth of the space in the text-books shall be given to "temperance matter" and although they do not legislate as to the character of that matter we can hardly suppose that even moderate praise of alcohol would be reckoned to be "temperance matter." As a matter of fact, though there may not be actual legislation on the subject of the selection of books, the way in which the law operates is such that there is as much compulsion in the use of certain books as though the law had actually specified them. In a further portion of her letter Mrs. Hunt says: "Evidently you have been misinformed concerning the attitude of American temperance reformers for the purpose of being used in a desperate attempt to check the most efficient instrumentality now in operation for the prevention of intemperance. For your recent utterances on this question are being sent out through the newspapers all over the country. In many of these you are being credited with opinions quite contrary to that we have quoted above from your editorial." It is practically not within our power to prevent the press of this or of any other country from publishing garbled extracts from our columns. Mrs. Hunt further implies that we have been exploited for the purpose of being used to check the prevention of intemperance. The simple reason for the publication of the leading article in question was the appearance in the same issue of THE LANCET of an article by Dr. W. H. Goddard—an article which represented some ten years' work and which was a report of a careful physiological investigation into the action of ethyl alcohol as a food. We still maintain that alcohol is a food when used in moderation. It does undergo combustion in the body and it serves as a source of energy. It would certainly be cheaper to get the same energy from the grain or the fruit from which the alcohol was made, but nevertheless it has a food value in the narrow sense in which we were careful to use the word.

YAWNING.

YAWNING is a complex, automatic, physiological phenomenon whereby the lungs are fully expanded, the heart is stimulated to greater activity, and, probably, the blood is charged more fully with oxygen. It commences with an involuntary spasm of certain of the muscles of mastication and deglutition; its termination is akin to the process of sighing, and, like this manifestion of deep breathing, it reinforces respiration. At night, when respiration is slackening, or in the morning, when it has not recovered its waking rhythm, yawning is accompanied sometimes by the "stretching" of successive groups of muscles the blood vessels of which have probably been compressed by the previous assumption of a constrained position; the local circulation is thus assisted and stimulated. The preacher, the novelist, and the artist employ the mechanism of yawning as an indication of ennui, of lack of interest, or of wearied attention, whether real or feigned. To the clinician it should be significant of an attack of asystole and consequent temporary anæmia of the brain, especially of the corpus striatum. In diseases where "air-hunger" is a frequent symptom yawning is also exhibited. It is met with in diabetes, in fatty and fibroid changes in the walls of the heart, in pericarditis, and in the pathological conditions which lead to the faulty filling of the aorta. Yawning suggests the proximity of a fatal ending after copious hæmorrhage and in pernicious anæmia and Addison's disease. Dr. Hughlings Jackson recorded a remarkable demonstration shortly after the introduction of the use of the ophthalmoscope. He was surveying the fundus of an eye when suddenly the field became pale. This pallor was due obviously to a contraction of the retinal blood vessels. He thereupon stood back, expecting something to happen, and in fact the patient immediately yawned. The observer had seen, in part, a spasm of the cerebral arteries.

HOT-WATER STANDPIPES: A SUGGESTION.

IF it could be practicable to supplement gas, electricity, and water-supplies with a public service of hot water it would be an immense boon to householders in London. A constant service of hot water would confer enormous benefits on the community. To mention a few, coal fires could be done away with in domestic buildings and a powerful contributory factor to the formation of irritating and dirty fog would be removed. Standpipes could be erected in the streets and a spray of hot water turned on to remove snow or to render the slippery, icy streets comfortable for the poor hard-working horses. The scenes occasioned in our busy thoroughfares by the sudden onset of a keen gale, severe frost, and pelting sleet on Monday last were of a most distressing kind. Vehicular traffic was perforce suspended and the lot of the horse was of the most cruel description, while pedestrians ran great risk of a nasty accident on the exceedingly slippery pavement. It would be interesting to know how many horses had to be slaughtered owing to the casualties of Monday night. Such abnormal conditions of weather, however, are on the whole happily rare and our street authorities can hardly be blamed for their unpreparedness to deal with the sudden effects of keen frost, wind, and snow upon the roadways and pavements. Indeed, they possess practically no machinery for the purpose. Sand was of very little use; cinders were much more effectual but the supply of small cinders is not easy to obtain. Though the scheme of a general public supply of hot water may appear to be impracticable at present it is not surely entirely chimerical to suggest that here and there in our streets small rapid gas heaters or geysers could be attached to standpipes connected with the water mains. The water, however, need not be intensely hot for the purpose.

The removal of snow or ice by hot water would at any rate be much more satisfactory and comfortable than by distributing salt which produces a nasty intensely cold liquid slush dangerous to the health of both man and beast alike. We commend the suggestion to the members of the Metropolitan Water Board who might lend their aid towards the consummation of such a scheme.

THE DEVELOPMENT OF FLAGELLATED ORGANISMS FROM THE SPLEEN.

IN the November part of the *Quarterly Journal of Microscopical Science* for 1904 Captain Leonard Rogers, I.M.S., the acting professor of pathology in the Calcutta Medical College, gives an account of the development of the flagellated organisms, extremely like those named trypanosomes, which he observed to take place from the protozoic parasites obtained from the spleen in cachexial fevers and in kala-azar. These results were embodied in a paper which we published in our columns on Jan. 7th by Captain Rogers and Mr. G. C. Chatterjee. Kala-azar Captain Rogers considers to be a severe form of the disease formerly termed malarial cachexia, for which he substitutes the term cachexial fever, remarking that this affection is certainly second to none in the frequency and seriousness of the illness which it produces in many parts of India, whilst it also appears to be widely distributed in other countries. The article is accompanied by a plate showing all the intermediate stages from the amœboid stage, corresponding closely with the forms of trypanosoma Brucei described by Rose Bradford and Plimmer in the lungs of animals affected with tsetse fly, to a stage 96 hours subsequently in culture experiments, when the flagellum is fully developed. The drawings were executed by a native artist, Behari Lal Das, and under a $\frac{1}{12}$ lens and a No. 4 ocular the enlargement was 925 diameters. The preparations were all made with Romanowsky's stain used by Leishman's method. The blood was obtained by puncturing the spleen and was immediately placed in small sterilised test tubes containing a little sodium citrate to prevent coagulation, and was then incubated at various temperatures. At blood heat the parasites rapidly underwent degenerative changes and after 24 hours most of them had disappeared and the remainder stained badly. When the culture tubes were placed in a cold incubator at 27° C. (81° F.) the life of the parasites was preserved, their numbers underwent great increase and divisional forms were met with in large numbers, and their characters were studied. Two forms could be distinguished, the first being a simple sub-division of the small oval parasites into two, both the macro- and the micro-nucleus first dividing and then the body of the cell splitting into two longitudinally. Such varieties are rare in blood obtained from spleen punctures but are common in culture specimens. In the second mode of division the process is multiple, both the macro- and the micro-nucleus dividing frequently instead of only once until an appearance is presented of numerous very small nuclei arranged in pairs of a small and a large kind inclosed in a zoogloea-like material. These enlarge gradually, each pair becoming surrounded by a faintly discernible capsule which becomes more and more distinct until the characteristic groups of the oval binucleated fully grown spleen parasites result. These are to be seen in blood obtained by spleen punctures. On lowering the temperature of the citrated culture tubes to 22° C. (72° F.) further and more important changes were soon found. During the first 24 hours the small oval spleen parasites enlarged, the enlargement being chiefly caused by the swelling of the macro-nucleus and of the protoplasm of the cell, whilst the micro-nucleus underwent little change. At the end of 48 hours further enlargement had occurred and double forms appeared which, from various circumstances, led Captain Rogers to regard them, not as the results of division, but as a kind of conjugation analogous to that occurring in other protozoa preparatory to the evolution of new stages in their life-history. At the end of the third day the conjugating pairs of organisms have become elongated and pyriform, the macro-nuclei occupying the thick ends and the micro-nuclei the thinner ends, from which the flagella will eventually arise and in some specimens the flagella had actually been developed. During the fourth day the number of flagellated organisms as well as of double pyriform bodies had greatly increased. Hence it appeared that organisms could be obtained from the spleens of patients suffering from cachexial fevers which in their form, structure, and development closely resemble trypanosomata. A further point of interest is that the fever is endemic, infecting particular houses, and may thus be carried from one to another in the same house by flies or mosquitoes.

FLANNELETTE.

SURELY the days of inflammable flannelette should be speedily numbered. The death roll amongst children who have been fatally injured by the ignition of this perilous fabric is simply appalling. The wearing of flannelette has again and again exposed children to the same risk as if their nightdresses were soaked in spirit. The fabric catches fire as easily and burns with the same intense flame as alcohol, and the flames are not readily extinguished. "An inquest was held yesterday on the body of a little boy, aged two. He was left to play in a room while his mother was absent. He was in a flannelette night shirt. The mother had not left the room long when she heard screams and found the boy in flames. He was terribly burnt and the poor little fellow died within 24 hours of the occurrence." Such is the sort of heartrending paragraph constantly appearing in the newspapers. We are assured that the Home Office has requested coroners to make returns on the number of these cases and surely there is enough sad evidence already to hand to warrant the prohibition of inflammable flannelette for wearing purposes and especially for irresponsible little children One coroner alone has stated that last year he held no less than 73 inquests on children who had been burnt to death and a large proportion was due to flannelette igniting. Are not the sacrifices already sufficient and sad enough to justify the Home Office at once taking very definite action? In this matter what humane person can speak of waiting "until the returns are completed"?

X RAYS FROM STATIC MACHINES.

IN the November number of the *Archives of Electrology and Radiology*, Chicago, is an editorial article entitled "Are the X Rays generated by the Static Machine Dangerous?" The article in question was prompted by a remark which was made by Dr. W. Salisbury Sharpe in a communication to THE LANCET,[1] in which it is stated "that dermatitis from x rays generated by a static machine has not yet been seen." The editor feels that the evil consequences which would result to many if the inference as to safety implied by this assertion were allowed to go without comment justify him in calling attention to the matter. He goes on to say that this opinion as to the innocuousness of static machine-generated x rays was very prevalent up to about four years ago. It was entertained by himself until an unfortunate demonstration of the fact on his own person persuaded him that his trust was misplaced. He instances the cases of two medical men who were severe sufferers from this cause—one of whom had to submit to the amputation of one hand and some fingers of the other. The second case was even more serious, necessitating a severe operation after a long period of complete disability and confinement to bed for several months. While the x rays so generated are not as active in bringing about a dermatitis as are the rays from a tube excited by a coil, yet such rays can, and will, produce burns that are just as bad as those chargeable to the coil-excited apparatus if proper precautions are not taken. In view of the fact that the static machine is very extensively used for x ray work in America, as compared with this country, these remarks must carry considerable weight. That the rays from a tube excited by a static machine possess much less tendency to burn has been common knowledge among x ray workers but it has always seemed to us dangerous to assume that such rays are devoid of any such power. As a matter of fact, dermatitis has been produced in London by means of a tube excited with a static machine. It thus follows that those who practise radiography with a static machine should be none the less careful in their precautions against the production of undesired dermatitis than when using a coil.

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[1] THE LANCET, Oct. 1st, 1904, p. 958.

THE MEDICAL DEPARTMENT OF TRINIDAD AND TOBAGO.

Mr. Hugh Clifford, Colonial Secretary of Trinidad and Tobago, in his report on the Blue-book of the colony for 1903–04, remarks that the total cost of the medical department for the year under review amounted to £81,233, of which £34,912 were expended on personal emoluments and £46,321 on other charges. This sum, which shows an increase of £6300 over the expenditure under the same heading in the preceding year, is equal to one-tenth of the total expenditure of the colony, and it not only exhibits a tendency annually to increase, but advances automatically with the growth of population of the colony, in a fashion which, under the existing system, defies control. In Trinidad not only has the Government taken upon itself to provide the services of qualified medical officers in districts where the practice available is insufficient to remunerate adequately a private practitioner but it has also assumed as part of its duty the support of a variety of institutions which in Europe are usually maintained either solely or principally by voluntary contributions. The conditions which prevail in this colony are, of course, widely different from those which obtain in most European countries. The number of the very wealthy is here far smaller in proportion to the population; the average of poverty is greater, though indigence in the tropics is robbed of many of the terrors which it has in colder climates; and there is lacking in Trinidad that strong well-to-do middle class which, both in France and in England, forms the backbone of the nation. The few really rich men in Trinidad have innumerable calls upon their generosity; the less wealthy have little to spare when the demands made by the high cost of living have been satisfied; the poorer classes, from whom the principal users of the Government institutions are naturally drawn, are unwilling to pay for what they receive there, even when they can do so although at the cost of some personal inconvenience. The reason for this is partly that the system under which natives of India are introduced into Trinidad necessitates the establishment of estate hospitals and the appointment of medical officers in the districts which immigrants inhabit. The other labouring and the poorer classes, not unnaturally, consider that they have an equal right with the imported East Indian to the privileges and advantages which, in this respect, the latter enjoys; and they are not, therefore, prepared to pay, if payment can be evaded, for what they regard as no more than their due. Beyond this, however, it has seemingly become a fixed idea in the popular mind that the Government is able to provide all that is desired by the individual at the charges of the State without injury to the [illegible] Government property, [illegible] of which each taxpaye [illegible] the opportunity serves [illegible] this can be done with [illegible] for useful expenditur [illegible] impaired. Mindful of [illegible] tropical country, the p [illegible] importance, the Government has found itself obliged to maintain, practically single-h [illegible] for the treatment of the sic [illegible] the diseased, and in so doin [illegible] the support of that sound [illegible] force those who are able to pay to decline to [illegible] the charity of the State whenever [illegible] possibly irksome, is within their [illegible] position is fast becoming serious is [illegible] fact that though the annual expenditure of the department, including the cost of medical and charitable institutions, amounts to one-tenth of the total annual expenditure of the colony—that is to say, to over £81,000 reimbursements derived from paying patients, including members of the police force and others from whose pay deductions are made for the purpose, do not average £3000 per annum. During the year under review 13,493 were admitted to the various Government [illegible] were discharged relieved or cured, and the deaths numbered 1524. The number of patients in the other [illegible] institutions on March 31st, 1904, was as follows: [illegible] asylum, 610; leper asylum, 313; and house of refuge, St. Clair, 371. The total num [illegible] hospitals and institutions on [illegible] little more than 0·7 per cent. [illegible] colony.

IODOFORM FILLING FOR BONE CAVITIES.

THE success attending the ordinary operation of filling stopping carious teeth has doubtless suggested to surgeons the desirability of employing some similar substance for filling the cavities left in bones after [illegible] When the cavity is aseptic, as after the removal of a cyst, it apparently fills with blood clot which organises and so cavity is obliterated but when a bony cavity is septic the process is very tedious for the discharge of pus generally continues for months. About five years ago Professor von Mosetig Moorhof of Vienna commenced to study question of the best method of filling bone cavities. At first he employed an iodoform paste of the consistence of putty but this did not reach the minute recesses of the cavity and therefore he devised a liquid filling of which he gave an account last year in the *Deutsche Zeitschrift für Chirurgie*, and we publish in this number of THE LANCET (p. 146) a description of Professor Moorhof's method and results by Mr. B. Seymour Jones. The filling lately [illegible] consists of iodoform, spermaceti, and oil of [illegible] melts at 122° F. (50° C.), so that when melted it can poured into the cavity and fills it completely. It [illegible] found necessary that the cavity should be aseptic and dry; these essentials are obtained by methods very [illegible] to those employed in filling carious teeth and if [illegible] filling is properly applied only slight serous [illegible] occurs. For the mode of introduction of the [illegible] and the precautions taken we refer the reader to the article mentioned but here we will consider the results. Since iodoform gives a dark shadow in a skiagram it is easy to follow the course of events in the bone cavity. [illegible] dark area is [illegible] showing that the plu [illegible] laced by granulation t [illegible] bsorption that no symp [illegible] turn granulation tissue is replaced by bone, as shown by an extension of a dark shadow from the periphery in the skiagram. Professor Moorhof has now applied this method in some 220 cases. All forms of bone cavity have been filled, whether due to the removal of sequestra or to cysts, and he has even applied it in two cases to an empyema of the antrum of Highmore. He has extended the method to the treatment of joints after excision and in the article referred to details are given of the mode in which it is carried out. It is apparently not essential that the iodoform plugging should be completely covered in, for in a few cases a sinus has communicated with the mouth and yet the process of healing has continued undisturbed. The most remarkable of all the cases was one in which Professor Moorhof operated for two sinuses of the sternum in a girl, 14 years old. Part of the bone was removed and then it was found that there was much caseous material in the anterior mediastinum; when this had been cleared it was discovered that a sinus passed into the posterior mediastinum. When the whole cavity was cleared and cleaned it was filled with iodoform plugging and more than 200 grammes (about seven ounces) were employed. The patient was much improved and the hectic temperature disappeared but death occurred about four weeks after the operation. Professor Moorhof claims to have had no failure in all the cases which he has treated by this method and it certainly deserves a trial in suitable patients. It may have applications in addition to those for which Professor Moorhof has employed it. We shall hope to hear further of this ingenious device and we have no doubt that many surgeons in this country will be willing to put the method to the test of experience.

BUTTER FRAUDS.

BUTTER still appears to be the vehicle of considerable fraud and the margin of profit which the practice yields has led to the devising of some ingenious methods of carrying it on in the teeth of the Margarine Acts. There is undoubtedly a good deal of margarine sold in this country as butter; shops are opened, as appears in the following instances, for the sale of "butter" which, in fact, is margarine, and as soon as a summons is issued the establishment ceases to exist, only to be started elsewhere. Again, when a conviction is obtained the fines are readily paid and every effort is made to prevent a second or third conviction (which brings a large penalty) by changing the salesman in the shop. We referred to this kind of swindle in THE LANCET of Sept. 24th, 1904, p. 906, and the present cases appear to be a sequel. A company of men has been for some few years working on these lines in most of the Lancashire towns by opening shops in Oldham, Bolton, Ramsbottom, Wigan, Blackburn, and elsewhere with the apparent purpose of selling Irish butter from their own farms. Three men were charged with obtaining by false pretences certain small sums of money. It was shown that the prisoners opened a shop in Ramsbottom in November last, sold what purported to be butter to a number of customers at about 10*d.* a pound, and also gave away certain quantities on opening the shop. Such butter according to the description would have been worth 1*s.* 2*d.* per pound. The police purchased certain samples which on analysis proved to be margarine worth 5*d.* or 5½*d.* per pound. The analyst stated that the samples were almost entirely margarine of an inferior quality. The usual defence was put in, one man pleading that he had nothing to do with any false pretence and the others that they did not know what they were selling as they were employed by a third party who paid to them a weekly wage. They were, however, found guilty. The police stated that another man who had been associated with them had been fined £40 for a similar offence and had undergone three months' imprisonment in default. It was stated that there was a gang of about 40 men who opened shops as the prisoners had done and who disappeared when summonses were issued. They were wanted in various parts of the country. The police had a list of between 30 and 40 places where shops had been opened and had been in existence for some time. The chairman said that the bench thought that the prisoners were part of a gang trying to swindle the public, and the poorest of the public. They would, however, for some little time at least, be prevented from doing this. They would be sentenced each to 12 months' imprisonment with hard labour. A few more prosecutions of this nature will do more than the Margarine Acts to prevent the sale of margarine for butter. The officers of the Lancashire county council deserve every credit for running these swindlers to earth and we should like to see similarly successful operations started against many other forms of swindles in which the substitution of the spurious article for the genuine is the rule. Imprisonment with hard labour is more likely to have a deterring effect than the infliction of paltry fines.

LESIONS OF THE OPTIC NERVE FROM FALLS.

THE case of fracture of the anterior fossa of the skull diagnosed as division of the optic nerve by Dr. F. J. Hathaway, recorded on p. 158, presents several points of interest and although the literature of such cases is limited it is not quite so scanty as Dr. Hathaway believes. Thus von Holder gives in an early volume of Graefe and Sämisch's *Archiv fur Ophthalmologie* (Band vi.) the statistics of 124 cases of fracture of the skull, of which 86 were fractures of the base, and in 79 of these the fracture involved the roof of the orbit. In 63 of these cases there was a fissure or fracture running through the optic foramen, always through its upper wall and sometimes also through the inner wall. In 42 cases there was hæmorrhage into the sheath of the nerve, but in all these cases the bony canal was fractured. Messrs. Norris and Oliver in their valuable "System of Diseases of the Eye," from whom we have borrowed the above statistics, state that Dr. Callan has reported nine cases of injury to the orbital walls resulting in immediate unilateral blindness, in which it was believed that the line of fracture ran through the optic foramen. Dr. Callan calls attention to the fact that the frontal bone unites with the nasal, superior maxillary, lacrymal, and ethmoid bones by a continuous line of sutures until the lesser wing of the sphenoid is reached and at this point the suture line bifurcates, forming an obtuse angle and close to the apex of this angle lies the optic foramen. The jar caused by a blow upon the orbit would find its weak point along this line of sutures and the first point of resistance would be at the bifurcation adjacent to the optic foramen. The jar could not follow both lines with equal force at, and beyond, the bifurcation and consequently the unequal strain would result in fracture of the bone in the optic foramen, causing compression or laceration of the optic nerve. Dr. Noyes, who in his "Treatise on Diseases of the Eyes" gives some excellent and instructive drawings, states that Prescott Hewett gathered together 68 cases of fracture of the base and found that the orbit was involved in 23. Panas, again, calls attention to the fact that according to Leber and Deutschmann fractures of the roof of the orbit implicate the orbital canal in 60 per cent. of all cases. Dr. Hathaway seems to have no hesitation in stating that the optic nerve was divided in his case but there is little doubt that hæmorrhage into and outside the sheath of the nerve in its course through the optic canal has been observed on post-mortem examination and the symptoms point to this. A rider, for example, is thrown from his cycle and falls heavily on his shoulder, striking the side of his head. On recovering from the shock, and before swelling begins, he finds that he can see. As the ecchymosis of the lids proceeds he is unable to open the lids and has temporarily complete loss of vision. When the swelling has subsided vision is again recovered to some extent and may then in course of years again slowly deteriorate with supervention of white atrophy, or it may remain stationary with much impairment, or it may undergo some improvement; in the latter case probably hæmorrhage in the orbital canal took place at the time of the accident and the effused blood has undergone partial absorption. Only a necropsy can determine whether the nerve is actually divided. It is only surprising that amongst the innumerable falls which cyclists have suffered more instances of this kind have not been recorded. Probably many cases have occurred but the visual trouble is lost sight of or disregarded in view of the cerebral and often fatal lesion.

THE CASE OF DR. A. D. GRIFFITHS.

As will be seen by a letter which appears in another column, Dr. A. D. Griffiths's local professional brethren have not confined themselves merely to passing resolutions of sympathy with him in the terrible anxiety which he has recently undergone. The facts of the case were duly set forth in an annotation published in our issue of Dec. 17th, 1904, p. 1733, under the heading "A Vile Conspiracy." Shortly to recapitulate them they were as follows. A woman named Faithfull asked Dr. Griffiths to attend her for some gynæcological trouble. At the second attendance the husband assaulted Dr. Griffiths, at the same time heaping accusations upon him. The wife also swore in court to acts of immorality with Dr. Griffiths but as the result of an action brought by him for slander the jury awarded to Dr. Griffiths £500 damages. The judge pointed out that in his opinion Faithfull's charges were absolutely groundless. The defendant did not appear and of course the £500 will never be paid. Dr. Griffiths has been saddled with expenses to the amount of some £205 and the medical men of Cardiff and the neighbourhood have accordingly determined to raise a fund whereby to reimburse him. We have the greatest pleasure in giving voice to their appeal for funds and we trust that not only the medical men of South Wales will subscribe but also many of those in other parts of the kingdom. Such an experience as Dr. Griffiths has recently undergone may be equally the lot of any practitioner in the kingdom and the courage with which Dr. Griffiths faced a very painful situation not only has worked for his own good but for that of every one of his professional brethren.

ADMINISTRATION OF WATER BEFORE GIVING CHLOROFORM TO PREVENT VOMITING.

In the *Gazette Hebdomadaire des Sciences Médicales de Bordeaux* of Dec. 25th, 1904, Professor Denucé has described a simple method of preventing vomiting after administration of chloroform which he has found very successful—the administration of water before the anæsthetic is given. The *rationale* of the method is as follows. During the induction of anæsthesia acts of deglutition may be observed. These result in the swallowing of air charged with chloroform. The chloroform irritates the mucous membrane of the stomach, which according to the usual practice is empty, and causes vomiting. Hence the efficacy of lavage of the stomach which has been employed in the treatment of the vomiting. Professor Denucé therefore asks, Why not prevent the vomiting by not allowing the chloroform vapour to come in contact with the mucous membrane of the stomach? This can be accomplished if the chloroform vapour enters a stomach full of fluid instead of an empty one. Fluids are withheld before the administration of chloroform from fear of vomiting and the passage of the vomited matter into the air passages. But it is well known that most troublesome vomiting may occur with an empty stomach and the vomiting of a small quantity of water would not be attended with much danger. Moreover, as suggested, the presence of chloroform in an empty stomach is probably the most frequent cause of the vomiting. In attempting to prevent this result by insuring the presence of fluid in the stomach it must be remembered that liquids may be quickly absorbed from the stomach or pass into the intestine. After several trials Professor Denucé adopted the following method. One and a half hours before the operation the patient is given a "large glass" of water and the dose is repeated every half hour until the time of operation when the last one is taken. Thus in all four "glasses" are taken amounting to about 800 grammes of water. The results exceeded Professor Denucé's expectations. In 20 cases *there was not the slightest vomiting or even nausea during* or after the operation. Many of the operations, which included laparotomy for double ovariotomy, radical cure of inguinal hernia, and operation for hydatid cyst of the liver, were long and complicated. That 20 cases are insufficient to decide the merit of any method all will admit but independently of the small number of cases recorded there seems reason to doubt Professor Denucé's premisses. The probable cause of sickness after chloroform inhalation is not so much the swallowing of the vapour of chloroform as the ingestion of saliva and mucus impregnated with the vapour in the mouth. Salivation is provoked by most of the anæsthetics in use and when it is excessive vomiting is severe but the nausea and emesis are reduced or prevented when care is taken to prevent the patient swallowing. The lateral posture of the head will usually effect this. In patients who have gastric trouble tenacious mucus is liable to collect in the viscus and if this is brought in contact with swallowed chloroform which has become condensed the vomiting may persist for days. It is in such cases that lavage, whether complete or only practised as Professor Denucé recommends, proves most useful. It washes away this thick glairy mucus and prevents the chloroform remaining as an irritant to the mucous membrane of the alimentary tract.

AN UNJUST RIDER.

At Lewisham last week Dr. H. R. Oswald, the coroner for the South-East district of London, held an inquest upon a commercial traveller who had died two days previously from small-pox. The coroner stated that the deceased was sent to the Metropolitan Asylums Board receiving station at Rotherhithe, it being thought by three local medical men that he was suffering from small-pox, and that when he arrived at Rotherhithe he was seen by the superintendent who decided that the case was not one of small-pox and sent him home again, where he died. Evidence was given in support of this statement and Dr. T. F. Ricketts, medical superintendent of the small-pox hospitals of the Metropolitan Asylums Board, owned frankly that death had probably been due to hæmorrhagic small-pox. Whereupon the coroner's jury having brought in a verdict in accordance with the medical evidence, added an unjustifiable and ill-informed rider. This was to the effect that when a case was sent to the Rotherhithe receiving station a certificate should be forwarded, signed by two medical men, stating that they were *of opinion that the person was suffering from small-pox*, and also that the case should not be rejected unless it was seen by another medical man in addition to the superintendent.

For some 12 years Dr Ricketts has been engaged in the task of receiving or rejecting small pox patients and this is the first occasion upon which the grave difficulties of diagnosis seem to have betrayed him Such a record of successful observation has seldom, if ever, been achieved, for it implies being correct in many thousands of instances as against one slip small pox being notoriously one of the most difficult diseases to diagnose The idea that medical certificates from outside could be employed to remove discretion from the superintendent of the small-pox hospitals is silly, as silly as is the suggestion that the superintendent should be provided with a consultant physician We hope that the Metropolitan Asylums Board will take some steps towards a public display of confidence in Dr Ricketts whose record is such a good one and whose splendid work in the last epidemic of small pox, work of one man as it was, counted a great deal in the safety of a community of millions We think that if the coroner had realised the situation he would have pointed out to the jury the mistakes in their rider

THE SUPRARENAL CAPSULES

A LONG and carefully written report on the development structure, and functions of the suprarenal capsules by Dr R Minervini of Genoa appears in the September and October numbers of the *Journal de l'Anatomie* Dr Minervini prefixes a short historical notice to his essay in which he states that the capsules were discovered and described in 1563 by Barthélmy Eustachius, or at least mentioned by him in his work entitled "De Renibus Libellum,' published in that year They were subsequently described by Bauhin and by Casserius who named them "renes succenturiati and by Bartholinus by whom they were designated "capsules atrobiliaires," believing them to secrete a humour called "atrobile" Little advance was made till the middle of the last century when Addison demonstrated their connexion with bronzed skin Since Addison's time much attention has been paid to them in consequence of the remarkable action of their secretion in producing increase of blood pressure, demonstrated by Ed Schäfer, and Dr Minervini has examined the development of the capsules in a very large number of vertebrates from fish upwards but has specially devoted his attention to birds and mammals We can only give here a *résumé* of the results which he has obtained In regard to birds he finds that *in the embryo of the hen's egg* the first indication of the capsules is on the fourth day of incubation and in that of the pigeon on the third day In both an isolated cellular nodule makes its appearance in the mesoderm behind the peritoneal epithelium and close to the root of the mesentery It is upon a level with or a little above, the upper end of the Wolffian body and the germinal epithelium and is prolonged towards the lower and internal part of the Wolffian body and dorsally to the germinal epithelium These three parts—Wolffian body, germinal epithelium, and suprarenal capsule—may therefore be considered as developing simultaneously but the capsules form independently of the other two Hence the hypothesis of its connexion with the pronephros as others have noticed in the amphibia seems to be highly probable In regard to mammals and man it may be said that during embryonic and fœtal life the suprarenal bodies are in general of large size in comparison to that they attain to after birth In the human fœtus they are always larger than the kidneys Each capsule is composed of a single substance—that is to say, of special cells which present but slight differences in point of size amongst themselves either in the central or in the peripheral regions But Dr Minervini is not in a position to say whether these cells form the cortical substance of the capsule alone, so that there is no medullary portion during the whole of embryonic life, or whether, as seems to him most probable, they represent both the cortical and medullary portions of the capsules not yet differentiated or in an almost indifferent state, the distinction into cortical and medullary portions occurring at a later period He has never met with true nerve cells in the capsules but has frequently found vascular glomeruli—a fact that has not hitherto been mentioned in regard to mammals, though such bodies were seen by Rabl in the fowl They occupy a position in the external and middle zone and seem to atrophy as the time of delivery approaches The capsules appear at a very early period of embryonic life in the dog and in man but do not then present any relation with the Wolffian body or with the cortical gland substance The structure of the suprarenal capsules is given by Dr Minervini in much detail not adapted for abstraction and is illustrated by four plates and many figures As regards the functions he considers that notwithstanding that they contain lymphatic tissue and nervous elements they are essentially glands and that the cells of the medullary substance are not nervous but glandular and probably less advanced in evolution than those of the cortical portion The capsules contain two substances, both of them toxic and both possessing the power of raising the blood pressure They are glands producing an internal secretion (endocrines) and like other glands with an internal secretion their action is complex and manifold Besides regulating the composition of the blood and exerting a more obscure influence on the genesis or destruction of pigment they undoubtedly possess an *antitoxic action—that is to say, they* neutralise various poisons of endogenous origin derived from organic metabolism, especially that or those proceeding from the disintegration of muscle They also exert a regulating action on the circulation of the blood owing to their hypertonic and angeiotonic properties It may even be admitted that they have an antitoxic action on bacterial poisons, fixing or neutralising them in a mode of which we are at present ignorant and in this way they play a part in defending or protecting the system from infections Lastly, it may be said that they influence the sexual functions, or at least that the function of the capsules is in relation with those of the sexual organs, responding, so to speak to the phases of sexual life

CHRONIC PEMPHIGUS OF THE MOUTH

IN some cases of pemphigus mucous membranes, especially that of the mouth, are attacked In rare cases mucous membranes alone are affected and the disease may not be diagnosed In the *Boston Medical and Surgical Journal* of Dec 22nd, 1904, Dr J W Farlow has published two cases of chronic pemphigus of the mouth In one case the patient was a girl aged 22 years, and in good health For nearly a year she had complained of blisters forming in the mouth, *generally* on the gums near the teeth They appeared from time to time and were painful and interfered with eating On the gums near the front teeth and on the inside of the cheek was a whitish membrane easily detached and leaving a raw surface Some of the spots were of the size of a cherry stone, others were larger Examination of the teeth gave no clue to the cause The blisters continued to appear and the patient was lost sight of In the second case a woman aged about 55 years, was seen in July, 1897 For some time blisters had appeared on the lips and gums and the inside of the cheeks On examination slightly raised reddish swellings with raw surfaces were found on the gums near the upper left front teeth In September the inside of the cheek and the under surface of the right side of the tongue were very sore In October blister appeared inside the right lower alveolar process They were at first reddish but soon lost their covering and became raw and tender. In spite of general and local treatment crops of blisters appeared from time to time in the mouth. The patient went to Europe and was treated by several eminent dermatologists without success. In 1904 she had ulceration of the right cornea and lost the sight of the eye. She was treated in New York during about a year for pemphigus of the conjunctivæ and mouth. The blisters in the mouth were controlled by arsenic which she had difficulty in taking. Blisters also occurred on the mucous membrane of the nose, chiefly on the septum, with pain, formation of crusts, and obstruction to the breathing. At one time the vagina was affected. In the treatment of pemphigus of the mucous membranes it is most important to keep the teeth, mouth, nose, and throat clean by the use of alkaline and antiseptic washes in order to prevent secondary infection of the erosions. If the pain interferes with eating it may be necessary to use local anæsthetics such as cocaine, orthoform, or morphine. Internal treatment is not satisfactory, though arsenic is strongly advocated by some writers.

CURRENT THEORIES OF THE HEREDITARY PROCESS.

IN the second lecture[1] delivered at University College, London, on Nov. 29th, 1904, Professor W. F. R. Weldon dealt with the phenomena of reproduction as it occurs in the sea-urchin (*Echinus*), an organism higher in the scale of development than Hydra. The egg of Echinus is surrounded by a relatively thick gelatinous envelope, at the top of which exists a pore (micropyle) for the entry of the spermatozoon, whereby the fertilisation of the egg is effected. The nucleus of the egg cell is situated in the upper region of the cell. The lower part of the ovum is coloured by a pigment band in the region between the equator and the lower pole of the egg. "This pigment band," said Professor Weldon, "is a landmark which enables us to follow with facility the cleavage and division of the ovum after impregnation." The impregnated nucleus divides into two parts, the cell protoplasm undergoing a similar division, the divided nuclear and cellular portions seeming to be equal in size and similar in appearance. The first and second cleavages take place in the vertical plane and at right angles to one another, thus giving rise to four blastomeres, each provided with its band of pigment in the proper position. The volume of the four blastomeres is equal to that of the parent egg cell; there has been cell division without growth of bulk. An equatorial division now occurs of the blastomeres resulting in an eight-cell stage. The four upper cells are slightly tinged with pigment at their lower poles; the four lower cells contain practically all the pigment. From the four pigmented cells are budded off four smaller "micronuclear" cells which occupy the lower pole of the mass of blastomeres, while the four upper pole cells divide into eight. This mass of 16 cells is termed the morula. The eight clear cells of the upper region give rise to the ectoderm of the future embryo or larva, the eight pigmented cells of the lower zone give rise to the alimentary canal (archenteron), cœlomic epithelial walls, and gonads, while the unpigmented micronuclear cells creep inwards during the next stage of growth and give rise to the mesamœboid cells. The next stage (blastula) is characterised by further cell division and the formation of a hollow sac the wall of which is wholly composed of "clear" and "pigmented" cells, the micronuclear cells having proliferated and migrated within. These mesamœboids subsequently give rise to the right and left mesoblastic masses or bands arranged on each side of the gut which is now being invaginated from the lower pole of the blastocœle. There is at first radial symmetry but as the process of invagination (gastrulation) advances bilateral symmetry succeeds; a bending of the gastrula and gut takes place so that a ventral and dorsal aspect is recognisable. On the ventral side is formed the stomodæum or mouth, by a local depression of the ectoderm meeting and fusing with the blind end of the gut. A band of perioral ectoderm with cilia now develops and two long bifurcate calcareous spicules are formed within the body. The ciliated band becomes prolonged into two oral and two anal processes, and the stage of a free-swimming larva (Pluteus) is attained. Driesch has found that a blastomere of the two-cell or four-cell stage if isolated is capable of forming a half-sized or miniature but perfect gastrula and larva, and that even a blastomere of the eight-cell stage develops into blastula, gastrula, and larva. Moreover, pieces of moderate size cut from the globular blastula before invagination has begun grow up and close into small blastulæ which produce perfect larvæ. But after invagination has taken place pieces cut from the organism do not produce perfect larvæ but defective or monstrous forms which die. The equipotential stage of the cells in the blastular cell wall has gone. Certain constituents in the sea water are, said Professor Weldon, necessary for the proper development of Echinus; thus if calcium salts are absent abnormal morula and blastulæ appear and the same occurs at high temperatures, above 28° C. The future functions of cells essentially equipotential are largely determined by their position in the blastula, the experiments and studies of Driesch, Hertwig, Morgan, and Roux showing that this holds good for echinoderms, nemertine worms, amphioxus, the tunicates, teleostean fishes, and amphibia, while by partial mechanical separation of blastomeres in the pre-embryo of the frog double-headed, double-tailed, and other monsters can be produced (Hertwig, Speman, and Born). On the other hand, the egg of Nereis (Wilson) and of Beroë (a ctenophore) shows high degrees of preformation, and the early blastomeres of the two- and four-celled stage are not equipotential. The significance of these facts in heredity and disease would be pointed out later.

MUNICIPAL ECONOMY AND THE STANDARDISATION OF DISINFECTANTS.

WE understand that the public health committee of the Chelsea borough council has decided to modify the schedule for the supply of carbolic disinfectants so that the price shall be based upon the germicidal equivalent of the preparation and not on its volume. In the case, for example, of a tender requiring 2000 gallons of carbolic acid or its germicidal equivalent 200 gallons of any disinfectant having a guaranteed carbolic acid coefficient of over ten would represent the same germicidal efficiency, and if the prices quoted were 1*s*. 6*d*. per gallon in the former case and 4*s*. in the latter there would obviously be a considerable saving. This is a step in the right direction, for the real value of a disinfectant is, after all, its germicidal efficiency, just as the value of certain commodities is dependent upon the proportion of active principles which they contain. Thus the price of chloride of lime used for bleaching purposes is based upon its proportion of active chlorine and the price of a fertiliser upon the percentage of principles (phosphates, nitrates, or ammonia) available for the sustenance of plant life.

THE annual dinner of the present and past students of the University of Durham College of Medicine, Newcastle-on-Tyne, will be held in the library of the College on Friday, Feb. 3rd, at 7.15 P.M. Dr. R. S. Peart will be in the chair. Tickets, 7*s*. 6*d*. each, may be obtained on application to Mr. A. Beresford Jones or Mr. Sydney

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[1] An abstract of the first lecture appeared in THE LANCET of Jan. 7th, p. 42.

Havelock, honorary secretaries at the College Students and graduates of other universities will be welcomed

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THE annual dinner of the West London Medico Chirurgical Society will take place at the Wharncliffe Rooms, Great Central Hotel, on Wednesday, Feb 8th, at 7 o'clock Communications should be addressed to Dr A Elliot, 11, Upper Berkeley street London, W.

THE fourth meeting of the Bristol Medico Chirurgical Society was held in the Medical Library, University College, Bristol, on Jan 11th, when Professor T. Clifford Allbutt delivered an address to a full meeting of members and visitors on the Prevention of Apoplexy

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A TELEGRAM from the Governor of the Mauritius received at the Colonial Office on Jan 13th states that for the week ending Jan 12th there were 8 deaths notified from plague

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His Majesty the King has accepted a copy of Mr F J Gant's "Autobiography" which has just been published

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Looking Back.

FROM

THE LANCET, *SATURDAY*, Jan. 20, 1827.

During the Peninsula war, the superior anatomical, and of course chirurgical, knowledge of those army surgeons educated in Dublin soon attracted the notice of the distinguished individual placed at the head of the Army Medical Establishment, and with a conscientious and honest discharge of the high trust reposed in him, he advanced those men in rank and responsibility, upon whose professional knowledge, when so much was at stake, most reliance could be placed, no matter what was their previous patronage country, or religion Those alone were selected who were most capable of affording the best chance of life or limb to the wounded soldier, and in consequence, numbers of our countrymen, educated in this city, and filling subordinate situations in the army were advanced with rapidity to posts of responsibility, rank, and emolument This naturally opened the eyes of many to the superior advantages afforded by Dublin for the acquisition of surgical and anatomical knowledge, and we have had consequently, since the war a number of pupils from England and Scotland, annually resorting to our schools, which I shall venture to predict will every year increase

Unfortunately, our own foolish ordinations have interfered to mar the progress of Dublin as a school of anatomy and surgery It is natural, and a matter of course, that pupils should wish to receive their diplomas of qualification from those constituted bodies under which they have been educated and from the hands of those professors and seniors who have observed the progress that each has made in the acquisition of medical and surgical knowledge

This very natural [illegible] baffled by the Charter of [illegible] which enacts that no per[illegible]ination who has not served an apprenticeship to a regularly educated surgeon, and this is the *only test* of qualification demanded from the pupil by this corporation charter *No* attendance upon lectures *no* attendance upon hospitals *no* dissections, are required by the framers of this wise sample of legislation, and in fact, at this very moment, in point of law the President and Examiners are bound to examine any man, no matter whether he has ever been inside the walls of an hospital or lecture room—if he has only served an apprenticeship to what is designated a regularly educated surgeon, he may demand an examination

But the framers of the Charter forgot in their wisdom to define what are the qualifications which render a man a regularly educated surgeon Their successors, I presume, taking it for granted that the only qualification to make a regularly educated surgeon is an apprenticeship to one, demanded from every pupil who had not been an apprentice to a Licentiate or member of the College of Surgeons in Ireland, sufficient documentary evidence that his master not only had been a regularly educated surgeon, but that he had also served *his* time to a regularly educated surgeon, and thus I have known the time of the Court of Examiners occupied, day after day, examining the genealogy of a candidate, even to his professional *great great grandfather*![1]

THE ARMY MEDICAL SERVICE OF GREECE.

BY F HOWARD, M D ST AND,
COLONEL, ARMY MEDICAL STAFF (RETIRED)

GREECE although one of the smaller States, has a well-organised Army Medical Service The normal army in 1896 consisted of 24 877 officers and men but all able bodied males, aged 21 years and upwards, are liable to serve The army in 1903 consisted of 1876 officers, 4670 non commissioned officers and 15 795 men[2] The regulations for the Greek Army Medical Service deal with a variety of matters connected with *personnel*, hospitals, distribution of sick, provisions for chemical analysis and micro biological researches, supply, nursing, &c There is a special health department under the Ministry of War which deals with the organisation and mobilisation of both the sanitary and veterinary services the supply of *matériel* for ambulances medicines and surgical instruments, and the management of health establishments with their *personnel*

Military Hospitals—These are of the first and second class according to the strength of the corps which garrison the town In 1902 the military hospitals of Athens, Larissa, Missolonghi, and Tricala were decreed first class hospitals as each of the three first named was the headquarters of a division of two brigades and the last named was a brigade headquarters Each first class hospital is under the superintendence of a surgeon lieutenant colonel who is the director The higher *personnel* is composed of a surgeon major (sub director) two surgeon captains, one surgeon lieutenant one apothecary with the rank of major, one apothecary ranking with lieutenant, two apothecaries as sub lieutenants and one captain for supply Hospitals of the second class exist in Corfu Arta, Tyrnavos, and Nauplia under a surgeon major who is the director, one surgeon captain (sub director) one surgeon-lieutenant two sub lieutenants one apothecary with the rank of captain, two apothecary sub lieutenants, and one lieutenant for supply

The hospital and infirmary service is performed by military medical officers and apothecaries varying in number according to the importance of the establishment These are assisted by a staff composed of administrative or economical officers civilians, and military of lower grade hospital orderlies and bearers The *personnel* of these hospitals number in all 159 medical officers and apothecaries, many economical officers subordinate employés and two hospital orderly and bearer companies At each divisional hospital there exist a depôt for drugs and surgical instruments and a chemical and bacteriological laboratory There is a medical school at Athens for the fuller instruction of medical officers

Hospital orderly and bearer companies—There exist two [illegible] also [illegible]itary [illegible]y are obliged to pass an examination the successful candidates being drafted into the Hospital Orderly Company and assuming forthwith their duties at the different hospitals and infirmaries, while the unsuccessful pass into the bearer companies

Rank—The highest rank obtainable in the Military Medical Service of Greece is that of medical inspector-general who ranks with a colonel The highest rank obtainable by apothecaries is that of lieutenant colonel, and the highest rank in the Veterinary Service is that of major.

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[1] [illegible] to a Course of Surgery [illegible] Carmichael president of [illegible]

[2] [illegible] the Hellenic Chamber of [illegible]ich military service for all [illegible]ears of which two will be [illegible]le for an army of from [illegible] The three divisions on the [illegible] six each containing two infantry brigades two battalions of chasseurs à pied one regiment [illegible]ers, with [illegible] infantry [illegible] of from [illegible] is joined [illegible] war the [illegible] The new [illegible]rps and [illegible]

Medical and veterinary services.—The peace establishment is: 2 medical inspector-generals, 7 inspectors (of the rank of surgeon-lieutenant-colonel), 10 surgeon-majors, 34 surgeon-captains, 45 surgeon-lieutenants, 32 surgeon sub-lieutenants, 1 apothecary-in-chief, 3 apothecary majors, 9 apothecary captains, 7 apothecary lieutenants, 9 apothecary sub-lieutenants, 1 veterinary surgeon-in-chief, 8 veterinary captains, 4 veterinary lieutenants, and 4 veterinary sub-lieutenants.

War organisation.—In war time time the Field Sanitary Department is divided into: (*a*) Field surgeons accompanying corps; (*b*) Provisional hospitals to which the patients of the field surgeries or hospitals are transferred. (*c*) Depôts for medical stores. The Central Depôt is at Athens and other depôts are at Volo, Santa Maura, and Piræus. (*d*) The ordinary base hospitals. The field surgeries or hospitals and the provisional hospitals are under the immediate direction of a headquarters medical staff (*archiatrion*) which is again under the orders of the general or colonel commanding the corps.

The following is the constitution of the Headquarters Medical Staff: 1 surgeon-lieutenant-colonel, 1 surgeon-lieutenant, 1 apothecary lieutenant, 1 "economical" (supply) officer, 1 lieutenant for transport of the medical service, 1 assistant surgeon, 1 sergeant, 2 corporals, 1 corporal for transport service, 8 soldiers, and 8 mules. The field surgeries or hospitals are first, second, third, and fourth class according to the number and importance of the corps which they accompany in the field. A fourth-class surgery is capable of accommodating 40 men.

The provisional hospitals.—These are of the first and second class and their *personnel* is, so far as possible, the same as the first- and second-class ordinary divisional hospitals. The accompanying table gives at a glance the *personnel* of the headquarters and first-, second-, third-, and fourth-class surgeries:—

—	Headquarters surgery, 16,000 to 20,000 men.	First-class surgery, 8000 to 16,000 men.	Second-class surgery, 4000 to 8000 men.	Third-class surgery, 2000 to 4000 men.	Fourth-class surgery, 2000 men.
Surgeon-lieutenant colonel	1	—	—	—	—
,, major	2	1	—	—	—
,, captain	4	2	1	—	—
,, lieutenant	8	4	2	—	—
,, sub-lieutenant	16	8	4	2	1
Assistant surgeon	16	8	4	2	1
Apothecary lieutenant	2	1	—	—	—
,, sub-lieutenant	8	4	2	1	—
Assistant apothecary	8	4	2	1	1
Supply officer or steward, "economical" officer	2	1	—	—	—
Sergeant-major assistant to above officer	16	8	4	2	1
Sub-lieutenant transport	1	—	—	—	—
Surgeon-major ,, ...	2	1	—	—	—
Sergeant hospital orderly	16	8	4	2	1
Corporal ,, ,, ...	32	16	8	4	2
Sub- (lance-) corporal hospital orderly	32	16	8	4	2
Sergeant transport	2	1	—	—	—
Corporal ,, ...	16	8	4	2	1
Sub- (lance-) corporal transport ...	8	4	2	1	1
Corporal farrier	2	1	—	—	—
Assistant ,, ...	4	2	1	1	—
Corporal saddler	4	2	1	1	—
Assistant ,, ...	4	2	1	1	—
Corporal blacksmith	4	2	1	1	—
Assistant ,, ...	4	2	1	1	—
Corporal carpenter	2	2	1	1	—
Assistant ,, ...	2	2	1	1	—
Corporal ("economic") steward ...	16	8	4	2	1
Hospital orderlies and bearers, soldiers	320	160	80	40	20
Soldiers and drivers	334	167	84	41	21
Horses	11	5	1	—	—
Mules	334	167	84	41	21

Military infirmaries exist in Ithaca, Santa Maura, Zante, Pitras, Amphissa, Agrinion, Ogina, Colambaku, Carvassara, Carditza, Corinth, Pyrgo, Sparta, Tripoli, Lyra, and other places.

Uniform.—The medical officers have a blue-black tunic with reddish-lilac velvet collar; blue-black trousers; and blue-black cap with lilac velvet band. Non-commissioned officers and men of the hospital orderly and bearer companies are dressed like the infantry with the Geneva cross on the arm. The badges of rank are as for infantry.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY meeting of the Council was held on Jan. 8th, Mr. JOHN TWEEDY, the President, being in the chair.

Mr. Bernard Pitts was introduced and having made a declaration in the terms of the oath prescribed by the Charter of 1800 he was readmitted a member of the Court of Examiners.

The SECRETARY reported the death on Dec. 19th, 1904, at the age of 49 years, of Mr. A. Quarry Silcock, member of the Court of Examiners. A vote of condolence with the members of his family was passed.

The PRESIDENT stated that the vacancy in the Court of Examiners occasioned by the death of Mr. Silcock and the vacancy caused by the expiration of the period of office of Mr. W. H. A. Jacobson would be filled up at the next ordinary meeting of the Council on Feb. 9th.

It was resolved to refer to the Museum and General Purposes Committee to consider and to report upon the question of permanently installing the electric light in the museum.

A report was read from the President and the Vice-Presidents on the proposed foundation of scholarships in memory of the late Mr. E. Percy P. Macloghlin, M.R.C.S. The report was approved and adopted and it was resolved that the best thanks of the Council should be given to Mrs. Macloghlin for her munificent offer and that she should be informed that the Council gratefully accepts the trust and agrees to administer it upon the conditions mentioned in the report. The amount to be given to the trust of the College is £10,000.

The Council proceeded to discuss the case of a Member who had been removed from the Medical Register by the General Medical Council and after deliberation it was resolved that his name should be removed from the list of Members of the College.

The PRESIDENT reported that on behalf of himself and the Vice-Presidents, in pursuance of the authority given to them by the Council, they had appointed Dr. H. Timbrell Bulstrode to represent the College at the Conference on School Hygiene arranged by the Royal Sanitary Institute to be held in London from Feb. 7th to 10th, 1905.

Mr. Edmund Owen presented to the College on behalf of Mr. Edward Atkinson, M.R.C.S., of Leeds, six saws invented and used by Hey for operations on the skull. Its best thanks were voted by the Council to Mr. Atkinson for his very interesting gift.

A letter was read from the secretary of the Queen Victoria's Jubilee Institute for Nurses reporting the expiration in February next of Mr. T. Bryant's period of office as a member of the council of the institute and inquiring whether Mr. Bryant is to remain the representative of the College on the council of the institute for the next three years. The consideration of the matter was postponed.

A letter was read from the honorary secretaries to the committee for organising the visit of French physicians and surgeons to London expressing the thanks of the executive committee for the cordial reception extended by the President and the Council of the College to the French physicians and surgeons on the occasion of their visit to the College.

A letter was read from the Registrar of the General Medical Council reporting the adoption by that Council of the following resolution, in addition to the eight resolutions in regard to preliminary scientific education and examination adopted at the May session:—

> That the synopsis or syllabus in elementary biology should include as necessary subjects of study the fundamental facts of vegetable and animal structure, life-history, and function, as exemplified by specified

types of cryptogamous plants (including bacteria) or protozoa and of at least four of the higher animal groups, and the outlines of embryology.

Mr. G. H. MAKINS moved:—

'That a committee be appointed to consider and report upon the practicability of the institution by the College of a school for the teaching of the early and intermediate subjects of the medical curriculum and advanced pathology.

The consideration of the matter was postponed.

CHICAGO.

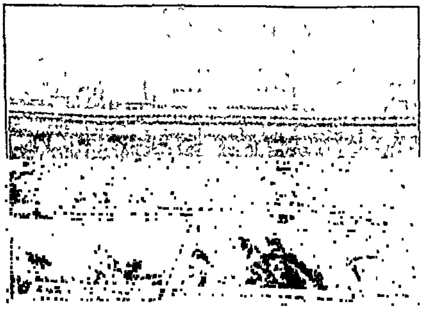
TUBERCULOSIS AMONG THE STOCKYARD WORKERS.—SANITATION IN PACKINGTOWN.—THE POLICE AND THE DUMPING OF REFUSE.—VITAL STATISTICS.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(Continued from p. 123.)

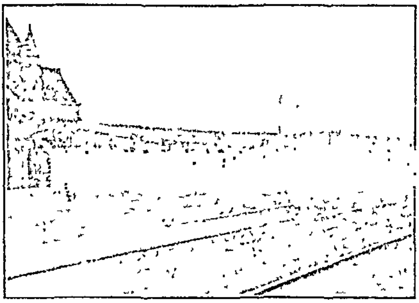
THERE is at Chicago a city committee which has been formed to deal with the question of tuberculosis and to devise measures for combating this disease. As there are more cases of tuberculosis in the Stockyard district than in any other part of Chicago, Dr. Hedger, who is a member of this committee, was appointed to inquire into the matter. Within the district of four miles square, of which one square mile is occupied by the stockyards and the other three square miles are inhabited by the people who work in the stockyards, 200 deaths from tuberculosis had been recorded during a period of two years and five months. Dr. Hedger started on the inquiry expecting to find that there were special streets and special groups of houses where the disease pr [illegible] such an abnormal manner as to show that the [illegible] themselves were absolutely unhealthy and [illegible] Therefore cards were printed, one for every hou[illegible], these cards a systematic record was to be kept. The number of families, of sleeping rooms, and the total number of inhabitants in each house had to be inscribed carefully. But it was soon found that the houses were not in a bad condition. There were isolated cases of overcrowding but it was not general. In other parts of Chicago where tuberculosis is not so prevalent the overcrowding is more general and very much worse. Sometimes there were too many sleeping in one room but the houses were fairly clean. In the whole of the district there is only one house that is four storeys high. The houses are more like cottages and, as already stated and shown by reproductions of photographs, there is plenty of air space around them. There is hardly a house to be found which touches another house though the space between them may at times be only three feet, and this is insufficient when it is sought to obtain through windows light and air from such side passages. Then it was also ascertained that no two deaths from tuberculosis occurred in the same house during the two and a half years of close observation. But on going further back the former history of some of the dwellings showed that there had been several cases in one and the same house; indeed, there was one house in particular which seemed to be infected. Of course, the homes of the stockyard workers are far from perfect. For instance, they are not provided with bathrooms and the supply of public baths is altogether insufficient. Again there is the old grievance that the inhabitants do not ventilate their houses sufficiently. But these are defects which exist in all poor quarters. Neither the houses nor their inmates can be said to be worse than elsewhere. Dr. Hedger, after living amid these people and spending much time in their homes, considers that their chief defect is the unsuitable nature of their food. They are very fond of sweetened bread and coffee, whereas porridge and wholemeal bread would be more likely to prevent the present excessive frequency of anæmia.

FIG. 7.



Bird's-eye view of the cattle pens with cattle-run in the background. View from the chief inspector's office.

FIG. 8.

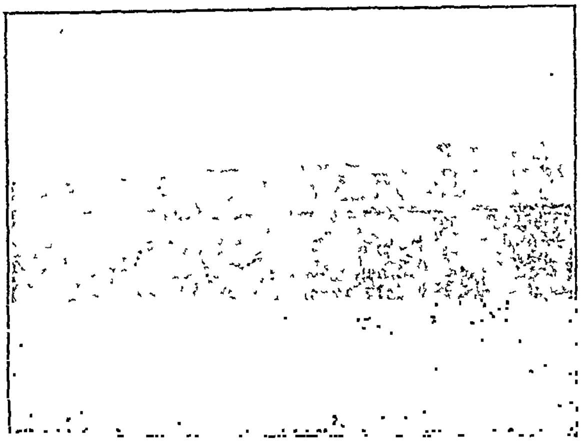


Main entrance to stockyards, showing cattle-run ascending from level of railway line to the second floor of the meat factory.

Of course, when a population grows with great rapidity on a spot which has never been inhabited before it requires emphatic local by-laws and a very energetic sanitary authority to see that proper sewers and an ample water-supply are provided before houses are built. In Packingtown the paving of streets has been very generally neglected and in some districts houses were built before sewers had been constructed. Consequently the inhabitants here and there have suffered from the nuisance inseparable from cesspits. The same objection obtains in most rural districts where, nevertheless, there is the lowest death-rate. The nuisance of a cesspit is amply compensated for by the advantage of living on virgin soil and the fact that the whole of Packingtown is built on soil which had not been inhabited previously must be carefully borne in mind. It explains why the fatal consequences of insanitary conditions have not as [illegible] W[illegible]rse by far [illegible] sewers, is [illegible] Here the [illegible] of filth to accumulate on the surface of the water which is foul in the extreme. Fortunately there are very few habitations in close proximity to this festering nuisance. The land on both sides of the river is vacant and where utilised it is for the purpose of railway traffic and not for habitations. So here again what might be a cause of ill-health does not produce all the mischief which, in other circumstances, would undoubtedly ensue.

Another local grievance is the fact that some old clay brick-fields are now used as a dumping ground for refuse collected, not only in the district but from other and distant quarters of Chicago. This ground and this enterprise belong to a town councillor and therefore it is but natural to expect that the business will be carried out without creating a nuisance. Nevertheless it is difficult to believe that this is actually the case, for a member of the city police is kept to watch the spot and to drive away persons of an inquiring mind, especially if they belong to the press. Perhaps it might be well to raise a question on behalf of the inhabitants of Chicago and to ask whether it is their desire that their money should be employed to pay policemen to prevent the truth from being known in regard to matters concerning the public health. In spite, however, of the policeman a photograph is here reproduced which I took while menaced by the terrors of the law. The dumping is done without any sorting and from open carts. Therefore the dust and lighter articles are blown away for a distance of about a quarter of a mile around. The heavier rubbish is gradually filling up the holes made by digging out the clay which was used in the manufacture of bricks and it is quite evident that houses will ultimately be built on this refuse. If the policeman is there to see that no building is attempted on the top of such a foul accumulation there would be some sense in it. Unfortunately, it is pretty evident that the object of his presence is to prevent the inhabitants of Chicago from knowing how unhealthy and artificial a subsoil is being prepared for their future dwellings. In the meanwhile a considerable part of the dust, rags, and paper is blown about and makes the surrounding fields look quite white. On one side of this large open space and within easy reach of the dust there are a pond from which the ice is taken and sold and a building for the trade in ice.

FIG. 9.



View over the dumping ground of the town refuse. Packingtown and the stockyard chimneys are in the distance. To the left, not distinguishable, is an ice factory.

It is in this neighbourhood also that the houses are not yet connected with the sewers and indeed the whole district looks wild. But few streets have any semblance of pavement. The backs of the houses abut on to bare uneven earth. The cinders and refuse are thrown into dustbins made of a few planks roughly put together so that a good deal escapes and is blown about; fortunately there is plenty of wind and of open space for it to undergo the process of natural purification. Outside the houses there are sorts of terraces made of wooden boards which are sometimes as high as three feet above the street. These serve as causeways where people can walk well above the mire of the unpaved street. In a word this part of the city is not built. Some of the houses have been constructed before the ground was properly laid out and prepared. Still the water-supply is there and in most places there are sewers also. It is this newness which for the time being saves the situation and accounts for the comparatively favourable character of the vital statistics. The very worst part of the whole district does not contain more than 113 inhabitants to the acre and there is only one acre where the population is equal to this. At the commencement of the year 1901 Chicago was mapped out into 15 sanitary divisions. The following is the official description given by the town authorities of the Stockyard district.

> The eleventh division comprises 7120 acres with a population of 252,980, largely of foreign birth. ..... This is the "packing-house" district in which are located the union stockyards, abattoirs, large packing houses, and kindred industries, with the working people employed therein and their families Ground low and only partly drained; long settled in the northern part and of recent development along the south west border. The northern half is bisected by the south fork of the south branch—an open sewer for the highly charged drainage of the industries congregated along its borders. In the longer settled northern part the sanitary conditions are poor, the dwellings old and of cheap construction. These conditions improve to the south where the recent increase of population is better housed.

This description must be taken comparatively, bearing in mind that nothing is really old in Chicago. It shows that the population only amounts to 35 per acre. In the Bowery district of New York, round about Rivington-street, the population is close upon 1000 per acre. In London there are places where about 400 persons are packed on an acre of ground, while in the very worst part of the Stockyard or Packingtown district of Chicago the population does not exceed 113 and the average of the district is only 35 to the acre. This is a fundamental fact and it must be carefully borne in mind. Precisely how far it has affected vital statistics no one can say. In any case there is the corresponding fact that the death-rate is low. The question remains whether in such very favourable circumstances it ought not to be lower still.

The department of health has issued a volume giving many figures relating to the new division of the city into 15 sanitary districts. Here we find the population of Chicago estimated for the year 1901 at 1,758,025 and the death-rate at only 13·88 per 1000. Then the actual number of deaths in the 15 sanitary divisions is given but not the proportional figures. However, in another document issued in February, 1901, the population per division is given, and here it is stated that in the eleventh or Packingtown division the population was 252,980. The number of deaths being 3466, this would be 13·64 per 1000, or a trifle less than the average for the whole city. From the descriptions given it would appear that the fifth, the sixth, and the fifteenth are the most insanitary districts of Chicago. Of the fifth division we are told :—

> It embraces some of the most densely populated and poorest-housed areas in the city. The former sixteenth ward in the northern part of this division had a population of 148 to the acre in 1900 The eighteenth ward is essentially a lodging-house district with a shifting population—crowded in winter, sparse in summer—largely adults without steady occupations. The population of the division as a whole, is mainly of the poorest classes, with a large foreign element and a relatively large child population. The dwellings are old, largely of wooden construction, and usually overcrowded.

The population being set down at 466,052 and the number of deaths at 6962, this is a death-rate of 14·7 per 1000, and indicates that the insanitary conditions described were telling on the population, though if these figures are trustworthy the inhabitants still enjoyed for a large town an exceptionally low death-rate.

Of the sixth division we are told :—

> This is the poorest and most densely populated area of the north side, having a population of 125,875 mainly of foreign birth.

As the number of deaths was 1789 this equals a death-rate of 14·21 per 1000. In regard to the fifteenth district the official description says:—

> The area is chiefly of low ground, poorly drained, and the general sanitary conditions are exceedingly unfavourable. The habitations are principally old wooden structures.

The population was 50,800, the number of deaths 751, or a death-rate of 14·7 per 1000.

Such was the situation in 1901 and it will be seen that what were described as the worst districts had a slightly higher death-rate while Packingtown enjoyed the low death-rate which the abundance of open spaces should confer. In the short space of two years a remarkable change may, however, be noted. Though the board of health takes upon itself to increase its estimate of the population of Chicago to 1,873,880 it will be found that the death-rate has augmented considerably, for instead of 13·88 per 1000 it is now put down at 15·42 per 1000. The increase of deaths is much greater in proportion than that of the population. Unfortunately, I have no estimate as to the distribution in the 15 sanitary divisions of the 115,855 new inhabitants of Chicago The number of deaths per division which occurred in 1903 is given and if calculated on the basis of the population as given in 1901 then the death-rate per 1000 has increased from 14·7 to 17·8 in the fifth division, from 14·21 to 15·98 in the sixth division, and from 14·7 to 15·5 in the fifteenth division. In the eleventh division, the Packingtown district, the increase is from 13·64 to 17·76, and in spite of the figure just given for the fifth division the general opinion or *impression* I found prevalent in Chicago is that the death-rate is higher in Packingtown than in any other part of the city. Unless the population of Packingtown has greatly increased in the two years mentioned this would now seem to be the case; at least, it can be said that the death-rate is as high in Packingtown or the eleventh division as in the fifth division and that in these two districts the death-rate exceeds considerably that of the average for the whole of Chicago. Then there remains this important argument, that if the higher death-rate in the fifth division be explained by reason of insanitary conditions prevailing in that district, the poverty, thriftlessness, and uncertain earnings of its inhabitants, the same argument does not apply to the eleventh division or Packingtown. Dr. Hedger, in dealing with the fact that there were proportionately more cases of tuberculosis in Packingtown than in other parts of Chicago, started with the impression that the homes of the inhabitants would be found in a more insanitary condition than in other parts of the city. A lengthy and minute investigation proved that in other parts of Chicago the overcrowding and the insanitary conditions of the dwellings were much worse. Therefore, if the homes are better and nevertheless the death-rate is higher, then it is the character of the work which does the harm. This, especially in regard to tuberculosis, would not be the first time a similar condition has been discovered. It has been demonstrated on a much larger scale by the comparison of the reduction in the prevalence of tuberculosis in England and in Germany. In England more women and in Germany more men have benefited. The explanation of this difference is simple. In England our improvements have in the main effected the sanitation of private dwellings and this is where most women work and spend their time. In Germany the law enforcing the insurance of all the working classes has led to greater improvements in the sanitation of factories and workshops and has therefore proved of more benefit to men than women. Conditions that favour the spread of tuberculosis also favour many other diseases and in Packingtown these conditions are to be found in the work that the people do rather than in any exceptionally insanitary dwellings. On the contrary, the people are much better housed than is generally the case with that class of worker.

(To be continued.)

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9044 births and 5251 deaths were registered during the week ending Jan. 14th. The annual rate of mortality in these towns, which had been 19·4, 22·4, and 19·9 per 1000 in the three preceding weeks, further declined to 17·5 per 1000 last week. In London the death-rate was 16·8 per 1000, while it averaged 18·3 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 7·6 in Willesden, 8 1 in Hornsey, 8·6 in Hastings, 10·1 in Reading, 10·5 in Leyton, 11·0 in Handsworth (Staffs.), and 11·2 in Walthamstow; while the highest rates were 24·3 in Newport (Mon.), 26·5 in Middlesbrough, 26·7 in Warrington, 27·6 in Swansea, and 35·8 in Stockton-on-Tees. The 5251 deaths in these towns last week included 378 which were referred to the principal infectious diseases, against 399, 475, and 399 in the three preceding weeks; of these 378 deaths, 114 resulted from measles, 86 from whooping-cough, 60 from diphtheria, 42 from scarlet fever, 40 from diarrhœa, 31 from "fever" (principally enteric), and five from small-pox. No death from any of these diseases was registered last week in Hornsey, Hastings, Brighton, Southampton, Ipswich, Handsworth (Staffs.), Smethwick, Aston Manor, Wallasey, Warrington, Rotherham, and Newport (Mon.); while the highest death-rates from the principal infectious diseases were recorded in East Ham, Nottingham, Bury, Middlesbrough, Stockton-on-Tees, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Bristol, Nottingham, Liverpool, Wigan, Stockton-on-Tees, Cardiff, and Merthyr Tydfil; from diphtheria, in East Ham, Northampton, King's Norton, and Stockton-on-Tees; from whooping-cough in Grimsby, Huddersfield, Hull, and South Shields; from "fever" in Bury; and from diarrhœa in Middlesbrough. The mortality from scarlet fever showed no marked excess in any of the large towns. Of the five fatal cases of small-pox registered in these towns last week one belonged to London, one to Oldham, one to Bradford, one to West Hartlepool, and one to South Shields. The number of small-pox cases under treatment in the Metropolitan Asylums hospitals, which had been 14, 17, and 18 at the end of the three preceding weeks, had further risen to 19 at the end of last week; one new case was admitted during the week, against nine, five, and one in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, on Saturday, Jan. 14th, was 2192, against 2394, 2387, and 2308 on the three preceding Saturdays; 194 new cases were admitted during the week, against 242, 201, and 187 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 416, 521, and 443 in the three preceding weeks, further declined last week to 301, and were 107 below the number in the corresponding period of last year. The causes of 61, or 1·2 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Portsmouth, Salford, Leeds, Newcastle-on-Tyne, Cardiff, and in 44 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Warrington, Blackburn, Preston, Sheffield, West Hartlepool, Sunderland, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 21·2, 21·6, and 20·6 per 1000 in the three preceding weeks, rose again to 21·6 per 1000 during the week ending Jan. 14th, and was 4·1 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·4 in Paisley and 15·6 in Greenock, to 23·9 in Glasgow and 27·7 in Aberdeen. The 723 deaths in these towns included 45 which were referred to whooping-cough, 16 to diarrhœa, 12 to measles, five to diphtheria, four to "fever," and three to scarlet fever. In all, 85 deaths resulted from these principal infectious diseases last week, against 90, 78, and 79 in the three preceding weeks. These 85 deaths were equal to an annual rate of 2·5 per 1000, which was 1·2 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 31, 40, and 37 in the three preceding weeks, rose again last week to 45, of which 38 were registered in Glasgow, four in Edinburgh, and two in Perth. The deaths from diarrhœa, which had been 12 and 13 in the two preceding weeks, further rose to 16 last week and included 11 in Glasgow and three in Dundee. The fatal cases of measles, which had been 19, 20, and 14 in the three preceding weeks, further declined last week to 12, of which seven occurred in Aberdeen and four in Glasgow. The deaths from diphtheria, which had been two and four in the two preceding weeks, further rose to five last week, and included two in Glasgow and two in Edinburgh. The fatal cases of "fever," which had been eight, two, and eight in the three preceding weeks, declined again last week to four, all of which were registered

to diseases of the respira-

ch had been 174, 184, and 182 in the three preceding weeks, were 183 last week, and were 15 below the number in the corresponding period of last year. The causes of 21, or nearly 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 24·6, 25·0, and 25·6 per 1000 in the three preceding weeks, declined again to 22·6 per 1000 during the week ending Jan. 14th. During the past four weeks the death-rate has averaged 24·4 per 1000, the rates during the same period being 18·2 in London and 18·5 in Edinburgh. The 164 deaths of persons belonging to Dublin registered during the week under notice were 22 below the number in the preceding week, and included 21 which were referred to the principal infectious diseases, against 12, 26, and five in the three preceding weeks; of these, 12 resulted from measles, four from diarrhœa, two from diphtheria, one from scarlet fever, one from whooping-cough and one from "fever." These 21 deaths were equal to an annual rate of 2·9 per 1000, the death-rates last week from the same diseases being 1·0 in London and 1·4 in Edinburgh. The fatal cases of measles, which had been ten, 18, and three in the three preceding weeks, rose again last week to 12. The deaths from diarrhœa which had been one, six, and one in the three preceding weeks, rose again to four last week. The 164 deaths in Dublin last week included 32 of children under one year of age and 44 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons showed a slight decline from the numbers recorded in the preceding week. Six inquest cases and three deaths from violence were recorded; and 65, or nearly two-fifths, of the deaths occurred in public institutions. The causes of 11, or nearly 7 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

Royal Navy Medical Service.

The following appointments are notified:—Fleet Surgeons: H. X. Browne to the *Vivid* for Devonport Yard and H. S. R. Sparrow to the *Cambridge*. Staff Surgeons: E. C. Cridland to the *Forte*, on recommissioning; A. E. Kelsey to the *Scylla;* and E. T. Meagher to the *Fire Queen* for the *Hercules*, for voyage to Gibraltar. Surgeons: W. B. Macleod to the *Hermione* for voyage to Ascension and back; G. C. C. Ross to the *Leviathan* and on replacing the *Bacchante;* L. Lindop and F. E. Anley to the *Bacchante* for passage home; G. H. S. Milln to the *Fire Queen* for disposal; E. A. G. Wilkinson to the *Vivid* for disposal; R. Hughes to the *Penguin*, additional, and on recommissioning; H. C. Ross to the *Ganges;* A. F. Fraser to the *Surprise;* E. Folliott to the *Imogene* on recommissioning; G. Ley to the *Flora* on commissioning; N. J. Roche to Plymouth Hospital; F. R. Featherstone to the *Fire Queen* for disposal, lent to the Royal Naval College, Osborne; and E. Cox to the *Pembroke* for disposal.

Royal Army Medical Corps.

Lieutenant H. B. Connell is seconded for service under the Foreign Office (dated Dec. 31st, 1904). Captain C. J. O'Gorman, D.S.O., from the Seconded List, to be Captain (dated Jan. 1st, 1905). Captain P. G. Stock resigns his commission (dated Jan. 14th, 1905).

Volunteer Corps.

Rifle: 5th Volunteer Battalion the Royal Scots (Lothian Regiment): Surgeon-Captain T. Wood resigns his commission (dated Jan. 14th, 1905). 3rd (Dundee Highland) Volunteer Battalion the Black Watch (Royal Highlanders): Edward Fox MacLeod Neave to be Surgeon-Lieutenant (dated Jan. 14th, 1905). 2nd Volunteer Battalion the Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): The undermentioned Surgeon-Lieutenants to be Surgeon-Captains: H. Allan (dated Jan. 14th, 1905) and J. H. Maclean (dated Jan. 14th, 1905).

Deaths in the Services.

Sir James J. L. Donnet, K.C.B., Inspector-General of Hospitals and Fleets, R.N. (retired), on Jan. 13th, at Bognor, in his eighty-ninth year. He entered the Royal Navy in 1840, became fleet surgeon in 1845, deputy inspector-general in 1867, inspector-general in 1875, and retired in the following year. He was present in the *Vesuvius* at the operations on the coast of Syria and at the siege and fall of the fortress of St. Jean d'Acre, and he had charge of the Hospital at Acre after the fall of that place (war medal, Syria clasp, and Turkish medal). Later he acted as secretary to the diplomatic mission sent by the British Government to the Sultan of Morocco and was in medical charge at the successful capture and destruction of the town of Ngunduvan, in Viti Levu, Fiji. He served in the Arctic Expedition in 1850–51 (*Assistance*) when the first footsteps of Franklin were discovered (Arctic medal) and was senior medical officer of the flagship *President* at the attack of the allied squadrons on the stronghold of Petropaulowski, in Kamschatka, in 1854, and at its dismantling in 1855. He was in administrative and executive charge of Port-Royal Hospital, Jamaica, during the epidemic of yellow fever of 1867 and 1869. He was principal medical officer in charge of medical wards of Royal Naval Hospital, Haslar, during the epidemics of small-pox and enteric fever and cases of fever and dysentery after the Ashantee war in 1873–74, and in administrative and executive charge of Royal Naval Hospital, Malta, in 1874. In 1877 he was appointed a member of the committee appointed to inquire into the causes of the outbreak of scurvy in the Arctic Expedition under the command of Sir George Nares, K.C.B. He was awarded the good service pension in 1878, the Diamond Jubilee medal in 1897, and the Coronation medal in 1902. He was appointed honorary surgeon to Her late Majesty Queen Victoria in 1870 and honorary physician in 1893.

The War in the Far East.

Since writing last week on this subject many events of much moment have taken place although none of them can be said to have any special medical interest. The Czar has issued an order of the day in which he announces the fall of Port Arthur, pays a tribute to Russian valour, and points to the past history of Russia as giving an assurance of the ultimate victory to his Imperial Majesty's troops and fleets. What is the truth about Port Arthur and the circumstances leading up to its surrender are matters which have yet to be determined. According to the statements now put forward the surrender was an inglorious end to the siege. It is alleged not to have been brought about by want of ammunition and scarcity of food or the loss of positions. It seems clear from the accounts which have been published that the physical plight of the Russians in Port Arthur was, after all, far better than that of General Sir George White's army at Ladysmith at the time of its relief. It is stated that the Japanese were told at first that only 4000 unwounded men remained but the number proved to be 24,000, who have been actually shipped to Japan. A large number of them were suffering from scurvy or were very slightly wounded but there was no sign of their having starved. The hospital supplies had, however, failed. It is, meanwhile, very ungenerous to seek to belittle the spirit and the deeds of the Russian garrison until all the facts are better known than is now the case.

As regards the belligerent armies in Manchuria the state of relative inaction still continues. There has, indeed, been a big cavalry raid on the part of the Russians, but it practically led to no results so far as the objects in view were concerned, the Cossack force being repulsed with much loss by the Japanese. There is, if true, some rather ominous news of the failure of the Trans-Siberian railroad to meet all the requirements of the situation in Manchuria and of the increasing difficulty of supplying the material wants of General Kuropatkin's large army.

Correspondence.

"Audi alteram partem."

THE ORGANISMS OF VARIOLA, VACCINIA, AND VARICELLA.

To the Editors of The Lancet.

Sirs,—As several of your correspondents have been discussing the characters of the organisms of variola and vaccinia the following case may interest them. It is interesting as proving that two specific fevers may coexist, that the protective effect of vaccination does not last for eight years, and that it is almost impossible to give an opinion with certainty in mild cases of variola.

I was treating a typical case of scarlet fever at the beginning of the small-pox epidemic here in 1901. Six days after I first saw him (during which time he was isolated) he developed some spots on the legs and the arms which became papular, vesicular, and pustular. I diagnosed variola. The diagnosis was confirmed by three other medical men. On careful cross examination of the boy I found that he had been visited on the second day of his scarlet fever confinement by an old friend who slipped into his room for a few moments unknown to the nurse. This man had been helping to disinfect a house in which several cases of small-pox occurred. The period between exposure and the appearance of the rash was therefore only five days. The boy was eight years of age and had good vaccination marks. There were no constitutional symptoms except a very slight rise of temperature when some of the spots became pustular.

When the scarlet fever appeared I advised the removal of a younger sister to a friend's house at the seaside. This child was about six years of age and had never been vaccinated. I vaccinated her on Oct. 9th, before the brother developed the scarlet fever on the 14th. On the 21st she left for the seaside, with a vaccination scar on her arm. On the 26th the medical officer of health (having been warned to keep his eye on her) saw her and found a number of tiny vesicles with shotty feel on the forearms wrists and legs These faded in a day or two There were no symptoms The child was not exposed to personal contact with the visitor who gave the disease to her brother, having been from home on that day There was not any case traced to her afterwards, although she was only partially isolated The probable explanation is that the spots were a delayed vaccination rash or a mild case of varicella

I am, Sirs, yours faithfully,
H G JAMISON, M D R U I
Edmonton Jan 16th 1905

THE TREATMENT OF HÆMOPTYSIS

To the Editors of THE LANCET

SIRS —In THE LANCET of August 20th (p 522) and Oct 1st (p 942), 1904, under the head of "The Medical Treatment of Deep seated Hæmorrhage," I contributed a series of eight cases in which 13 attacks of hæmoptysis (12 phthisical and one mitral) had been, with one exception, all stopped within three minutes by inhalation of amyl nitrite In the exception the bleeding continued in reduced amount for ten minutes Since writing the above I have received the following from Dr E Leslie Pooler of South Australia "I have tried the amyl nitrite treatment for pulmonary hæmorrhage with complete success On the night of Sept 27th, at 11 30 P M, I was called for the first time to see Mr A, aged 45 (a tubercle case), who I was told, had been bleeding since 10 P M There was about a pint of blood Inhalation stopped the hæmorrhage almost instantaneously On Sept 28th, 29th 30th, and Oct 1st there were further hæmorrhages but each ceased immediately on the inhalation There has been no further hæmorrhage since Oct 1st"

In THE LANCET of Nov 19th, 1904, p 1406 I gave *a priori* reasons for believing that the internal administration of adrenalin would tend to exaggerate or to prolong hæmoptysis These anticipations seem fully confirmed by the experimental work of Dr T G Brodie and Dr W L Dixon on the "Alterations in the Systemic Circulation which tend to produce Engorgement of the Lung Capillaries, communicated to the Pathological Society of London[1] These investigators point out that there is no evidence that adrenalin produces any constriction of the vessels of the lung, that adrenalin produces engorgement of the lung, and further that ergot and digitalis both act similarly Do not these facts all point to amyl nitrite inhalation as the rational treatment for hæmoptysis?

I am, Sirs, yours faithfully,
FRANCIS EVERARD HARE, M D
Gower street, W C, Jan 16th 1905

THE CASE OF DR A D GRIFFITHS

To the Editors of THE LANCET

SIRS,—In your issue of Dec 17th, 1904 p 1733, under the title "A Vile Conspiracy," you published an account of an important action which was tried

held at Swansea last month the

Griffiths of Bridgend, a member o

the British Medical Association and of the Cardiff Medical Society The outstanding facts of the case will still be fresh in the minds of your readers and it will be remembered that Mr Justice Bray pointed out that Dr Griffiths s actions had been correct in every particula

summing up the judge intimat

that in their

The jury,

Dr Griffiths

with £500 damages, or five times as much as he had asked for

At a meeting of the South Wales and Monmouthshire branch of the British Medical Association subsequently held at Carmarthen a motion was passed unanimously expressing the sympathy of the branch with Dr Griffiths in his painful experience and congratulating him on the way in which he had justified its faith in his unblemished character A similarly worded motion was also unanimously passed at a joint special meeting of the Cardiff division and of the Cardiff Medical Society on Jan 4th and also at a meeting of the Incorporated Society of Medical Officers of Health At the joint meeting referred to it was made known that, as had been anticipated, none of the awarded damages will be realised by Dr Griffiths and that his legal expenses for the action amounted to something like £205 It was strongly felt that an opportunity should be given to his fellow members of the profession and others to express their practical sympathy with Dr Griffiths who with commendable courage and determination had successfully met so dangerous an attack not only on his own reputation but also on the *bona fide* status of the general practitioner

A committee was accordingly appointed to establish a fund to defray the unavoidably heavy bill of costs The committee consists of the chairmen and honorary secretaries of the Cardiff division of the British Medical Associa and of the Cardiff Medical Society respectively, Dr R S Stewart and Mr W Randall of Bridgend, with Dr A P Fiddian, 23 The Walk Cardiff, as treasurer Donations to the fund will be gratefully received and acknowledged by the treasurer or by the undersigned

We are, Sirs, yours faithfully,
THOS WALLACE, M D R U I,

R S STEWART, M D Glasg,
Superintendent Glamorgan County Asylum
Bridgend
EWEN J MACLEAN, M D Edin,
12 Park place Cardiff (Honorary Secretary
Cardiff Division British Medical Association)
Jan 15th 1905

The treasurer begs to acknowledge the following donations already received or promised —

	£		d		£	s	d
Dr R S Stewart	2	2	0	Dr W Mitchell Stevens	1	1	0
Mr W Randall	2	2	0	Mr Herbert Jones	0	10	6
Dr D R Paterson	2	2	0	Mr D A Fitzgerald	0	10	6
Dr W Campbell	1	1	0	Mr J W Gill	0	10	0
Dr P Rhys Griffiths	1	1	0	Dr A P Fiddian	1	1	0
Dr Ewen J Maclean	2	2	0	Dr J Biggs	0	10	6
Mr F W S Davies	0	10	6				

PRECOCIOUS LACTATION IN MALE INFANTS

To the Editors of THE LANCET

SIRS,—I think it is not yet generally recognised in the profession that the secretion of milk is natural in the newly born of both sexes

, attains its maximum between

after birth That the process

at upon the secretory activity of true acinous glandular structures has been proved histologically by De Sinétz,[1] Variot, Kolliker, Barfurth, and others It is to abnormal persistence or recrudescence of this physiological process that such cases as that reported by Mr R M McQueen in THE LANCET of Jan 7th, p 25 are due This type of precocity is more frequently seen in female than in male children and it is

but not invariably, accompanied by other signs

ous sexual development I have elsewhere cited

ses of this kind[2] In male children I have met with but very few similar examples A typical case was, however, reported a few years ago by Rogers[3] and another by Dalziel[4]

I am, Sirs, yours faithfully
W ROGER WILLIAMS
Clifton Bristol, Jan 7th 1905

CHLOROFORM ANÆSTHESIA COMPLICATED BY A FIT.

To the Editors of THE LANCET

SIRS,—I have been kindly permitted by Mr E Michels, senior surgeon to the German Hospital, to recount this case A man, aged 32 years, on Dec 3rd, 1904 fell from his bicycle while smoking, owing he said, to a sideslip, and the pipe stem was driven into his tongue He was not rendered unconscious He obtained treatment but as he did not improve he came to the German Hospital on the evening of Dec 8th and was admitted. The following afternoon he was taken to the operating theatre in order that his condition might be [illegible] under an anæsthetic. His breathing [illegible] considerably hampered by extensive swelling in the submaxillary region and of the tongue, the latter protruding somewhat between the teeth, I proceeded to administer chloroform by means of a drop bottle and Skinner's mask, very gradually and with a free supply of air. The patient appeared to take the anæsthetic well until the onset of the excitement stage, which, as Mr. Michels, who was standing by, remarked, took the form of a typical epileptic fit. I immediately withdrew the chloroform and in a few seconds the fit ceased, but with it respiration also, the patient quickly showing urgent signs of asphyxia. I advised immediate tracheotomy, which Mr. Michels at once performed, with the result that on just compressing the chest regular respiration was restored. An examination of his mouth was then made and the patient put back to bed. Shortly afterwards, in the presence of Mr. Michels, the patient had another apparent epileptic, fit, and again two hours later a third, remaining after each in a semi-delirious condition. He, however, died early the following morning, Dec. 10th, apparently from heart failure. There was no history of epilepsy or Bright's disease. The urine was not examined on admission as the patient did not pass any, having been without food or drink for some time previous to admission owing to difficulty in swallowing.

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[1] THE LANCET, Dec. 4th, 1904, p 1784

[1] la Mamelle des Enfants Nouveau Nés Archives de

British Gynæcological Journal,

May, 190

[3] Brit Med Jour vol i 1897 p 29

[4] Glasgow Medical Journal, June, 1894

Post mortem the urine in the bladder was tested and found to contain one-fifth albumin, no sugar, and no blood; the kidneys were quite healthy, both to the naked eye and also microscopically; there were some congestion of the brain, œdema of the lungs, and some old pleural adhesions; all the other organs were healthy. There were an abscess in the tongue and purulent cellulitis of the neck.

The case, to my mind, is interesting for the following reasons: (1) What was the nature of the fits? Were they epileptic or were they uræmic? (2) Was the asphyxia the result of the fit or was it simply due to the condition of the man's neck and mouth?

I am, Sirs, yours faithfully,
ALEX. H. BREWER,
Jan. 13th, 1905. Honorary Anæsthetist to the German Hospital.

THE M.D. DEGREE OF THE UNIVERSITY OF ST. ANDREWS.

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to a paragraph in THE LANCET of Dec. 17th, 1904, p. 1763. The last Scottish Universities Commission, which finished its sittings in 1897, abolished the old power of granting ten M.D. degrees a year to practitioners of 15 years' standing and 40 years of age which the University of St. Andrews previously enjoyed.

I am, Sirs, yours faithfully,
E. WAYMOUTH REID,
Dean of the Faculty of Medicine, University of St. Andrews.
University College, Dundee, Jan. 11th, 1905.

THE ROYAL ORTHOPÆDIC HOSPITAL.

To the Editors of THE LANCET.

SIRS,—My attention having been drawn to the fact that the name of the hospital has been omitted this year from the Medical Directory, notwithstanding the fact that I made the annual return to the publishers, I shall be glad if you will kindly find space for this letter in the next issue of your journal in order that your readers may not form any wrong impression from this omission.

The hospital, having disposed of its site in Oxford-street and Hanover-square and the amalgamation with the National Orthopædic Hospital of Great Portland-street having, through the initiative of King Edward's Hospital Fund for London, been decided upon, is occupying temporary premises at 55, Bolsover-street, W., in proximity to the National Orthopædic Hospital, where its work is being carried on as usual.

Last year there were 3732 attendances of out-patients; and, by arrangements with the National Orthopædic Hospital, 133 in-patients were admitted and treated by the medical staff of this hospital. This arrangement will continue in force until such time as the amalgamation can be brought about and the rebuilding of the premises for the combined hospitals commenced.—I am, Sirs, yours faithfully,

Jan. 18th, 1905. TATE S. MANSFORD, Secretary.

THE BENEFITS OF LARGE ENEMATA.

To the Editors of THE LANCET.

SIRS,—The recent pronouncement of an eminent surgeon with regard to the treatment of obstinate constipation by ablation of the large intestine induces me to send you this record of my own personal experience, thinking it may be of value to some of your readers. I am now in my seventy-seventh year. In my early career when a medical student I contracted a very severe attack of dysentery at the time when cholera was very prevalent in London; and some years after on coming to London when greatly exhausted with work I was similarly seized and lost consciousness. The dysentery was most acute and I have a very vivid remembrance of the treatment, prescribed by the late Sir William Gull—viz., large doses of ipecacuanha, which certainly relieved the agony, but nauseated me to such an extent that my remembrance shudders at it still. More than 15 years ago I began to notice that the evacuations were getting smaller and smaller and that the difficulty in gaining effectual relief was becoming serious. I had a long and trying experience with aperients, small doses of castor oil, sulphur, hyoscyamus or belladonna, with soap or colocynth, and aperient waters, but these at first all seemed to do well enough but they became fitful in their time of operation, ar[illegible] practice this was exceedingly [illegible] became an intolerable nuisance. Moreover, it became quite clear that the contraction of what I presumed to be cicatricial in respect of the history was getting tighter and this led me to consider whether dilatation from below might not prove a very simple and easy means of ridding myself of these daily discomforts. This was the commencement of my use of enemata. I began with a pint of warm water the last thing at night, now more than 15 years ago. Before long I found that this was insufficient and I increased it to one and a half pints and then to two pints, and for some years lately some 56 to 60 ounces. I can always insure a good and complete relief of the bowels and generally I go to sleep about eleven o'clock and sleep till six. I manage to place myself in the posture as though I were lying down, so as to prevent the undue sagging of the intestine from the pressure of so large a quantity of fluid. After I began to use the large injections I gradually noticed that I was enabled to part with larger motions and now one of somewhat larger size proves to me that the calibre of the intestine in the part affected still keeps a grip upon the moving mass. I have not been able to see in my own case the injury thought to result from large enemata. I think there are many advantages. The emptying of the bowel of flatus, of feculent matter, not always perhaps in cases of this nature of the most salubrious type, brings with it refreshing and abundant sleep, removes headaches, and leaves the mind and body clear for the work and thought of another day. I have so greatly benefited by this method myself that I consider my lengthened experience of its value may be worthy the consideration of any who are contemplating the removal of their large intestine.

I am, Sirs, yours faithfully,
Jan. 17th, 1905. X

THE CAUSATION OF SEX.

To the Editors of THE LANCET.

SIRS,—The letter of "Medicus" in THE LANCET of Jan. 7th, p. 58, is not a solitary observation and his results are confirmed by other if less exact trials of the same general nature. There is little doubt that his observations are perfectly accurate so far as they go, but it is perhaps worth while to observe that there are two large factors which he does not mention though he has probably not overlooked them. He has been needlessly tender with the theory of the "predetermined" ovum.

Of these, the first is the relative age of the parents. It is a point of very considerable importance that the mother whose reproductive powers are senescent is extremely prone to produce male offspring only. This observation seems to be true not only of mammalia generally but also of aves; moreover, it is frequently seen to be true of homo and is a factor quite disassociated from any paternal factors. As a sort of corollary to this factor is the much less marked tendency of the immature sire to beget female issue. This tendency is less marked relatively but it is intrinsically evident enough and more frequent than the male tendency of the senescent mother though weaker in action.

The second great factor is the at present inexplicable tendency of certain female strains to produce female issue only. This factor is the strongest of all applying to homo, so far as long research will justify the statement. These observations, based on a combination of genealogical and medical studies, can easily be tested by anyone caring to work at the subject and one of the first points to attract the student's attention will be the frequency with which estates coming by the lass go by the same way, often for several successive generations, apparently until an exceptionally virile sire intervenes.

I am, Sirs, yours faithfully,
Jan. 12th, 1905. MEDICUS ALTER.

TAXATION OF HOSPITALS IN RESPECT OF MALE SERVANTS.

To the Editors of THE LANCET.

SIRS,—On behalf of the managing committee of a provincial hospital, I would beg you to find room in THE LANCET for the insertion of the following which bears upon a subject of great interest to all hospitals. During the month of December an Inland Revenue Form, No. 132, "Declaration for Local Taxation (estab., &c.) Licences," was forwarded to me to be filled up for the year 1904, the suggestion made by the local revenue officer being that one or more of the men engaged in the necessary service of this institution come within the "definitions" for *male servants* given on the said form. The contention of my committee is that all the men engaged here are employed on duties connected with the work and daily routine of the hospital and of the patients therein and not in any exclusive capacity, and, acting under my committee's instructions, I have made a return to that effect. We should be glad to hear through your valuable columns whether similar claim is made in the case of other hospitals either in London or in the provinces, and, if so, what is the nature of the return made from those institutions.—I am, Sirs, yours faithfully,

Jan. 10th, 1905. A HOSPITAL SECRETARY.

THE ASYLUM MEDICAL SERVICE.

To the Editors of THE LANCET.

SIRS,—I am glad to see by the letter of "M.B." in your issue of Dec. 31st, 1904, p. 1888, that at least one assistant medical officer has the courage to protest against the treatment which is meted out to his colleagues in the asylum service. The present unsatisfactory state of affairs has gone on quite long enough and in the interest not only of the medical staff but also of the patients committed to their charge a change is desirable, even essential. As long as the medical staffs of asylums are content to exist under their present conditions it is useless to insinuate that the fault lies at the door of those in authority, be they Commissioners in Lunacy, visiting committees, or even medical superintendents. The fault and the remedy lie in their own hand. But how few will ever take the trouble to place their views on paper. There are three distinct classes of assistant medical officers in asylums: (1) those who on entering it intend to remain in the service, devoting their lives to the study and treatment of mental diseases and thus in time becoming specialists; (2) those who, newly qualified, seek an asylum appointment in order that they may read for some further examination, on the passing of which they have set their ambition; or (3), those who unable to afford to enter general practice immediately they become qualified take an asylum post with the intention of waiting for a suitable opening in some district which may be known to them. When the opportunity presents itself they leave and are succeeded by colleagues with possibly similar views. To such as these an asylum appointment is but a means to an end. The end having been attained they depart and as a rule trouble no more about lunacy or asylums unless they be called on to certify a patient in the course of their general practice.

In the case of an assistant medical officer who enters the asylum service with the intentio[illegible] in it the case is very different. [illegible] and hope with an initial salary of anything from £120 to £150 per annum with the usual allowances. Three or four years pass by and he finds [illegible] diseases in addition [illegible] with which he star[illegible] notwithstanding his increased experience in a special science he is still drawing the same salary as when he entered the asylum service fresh from the hospital. His colleagues who are senior to him have little, if any, prospect of promotion in the future. True, they have had more years of service and consequent experience, but their salaries are very little in excess of what was considered sufficient remuneration for him when he entered the service without any special knowledge of lunacy. Then come weary years of waiting, hoping that one of his seniors may be promoted to one of the few vacant medical superintendencies which may chance to occur at rare intervals, and in most cases with resulting disappointment. His senior colleague, should he be unsuccessful in obtaining the post of medical superintendent in some other asylum, is in, if possible, a more hopeless plight. He has given the best years of his life to the study of mental diseases. What is his reward? A salary of perhaps £250 or £300 per annum and should he be over 40 years of age the probability that he may expect no further promotion or increase of salary. Moreover, there is a rule that no assistant medical officer can be married. (I believe there are one or two cases in which the senior assistant medical officer can do so if he likes.)

To the junior members of the staff this is not such a hardship as to their seniors. The pay and accommodation of a junior assistant medical officer put matrimony out of the question but when a senior comes to the age of, say, 40 years he may have some desire to have a home of his own after living for years in two rooms. With all respect for the authorities who govern asylums I would ask, What has a man done who has given the best years of his life to their service that he should be debarred from entering the matrimonial state should he so desire? As far as I can ascertain there is no other branch of the public service in which such a restriction is imposed on the permanent medical staff. It may be argued by those who favour the present system of enforced celibacy in the case of asylum assistant medical officers that a similar rule is in force in the hospitals and Poor-law infirmaries. To them I would point out that in neither case do the medical officers accept their appointments as a permanency. They, as a rule, leave after longer or shorter periods and enter general practice or one of the services, the experience which they gained during their term of office being of immense value to them in their future careers. With the asylum medical officer the case is absolutely different. After some years, as "M.B." correctly states, spent in the treatment of mental diseases a man has become a specialist and is thus more or less unfitted for general practice. The special experience he has gained in the asylum is of comparatively little use to him outside the walls, his duty for years having been more to treat mental diseases than physical ailments. Therefore there is no analogy between the cases.

With regard to the striking differences between the salaries paid to medical superintendents as compared with those of senior assistants I do not for a moment suggest that the medical superintendent, who is according to the Lunacy Act the chief responsible official of an asylum, is paid too [illegible] is that there is far too great a drop from [illegible] £800 to £1000 [illegible] his deputy who, it must be remembered, in the absence of the chief has to take the full responsibility at one-third, or even in a few cases less than, the chief draws. This increase of responsibility, if prolonged owing to the illness of the medical superintendent or other cause, is not always recognised by the committee, or [illegible] is doled out to the senior assistant [illegible] medical [illegible] It must [illegible] luties and [illegible] ischarged [illegible] assistant have now to be deputed to the [illegible] r last report strongly condemned the erection of these huge places, but despite this, committees ignore the recommendations of a body whom the public look upon as experts in such matters and continue to erect enormous costly "houses for the [illegible]ntion of the insane"—one really cannot call them hospitals for the treatment of mental diseases.

The question of leave is also the source of much complaint in asylums. The medical superintendent gets one month or in some cases six weeks annually, the assistant medical officers 28 days or perhaps in a few cases 31 days. Occasional leave is grudgingly accorded and then only one night can be spent outside the asylum gates unless a special appeal is made to the chairman of the committee who, unless there is some special reason given for wanting leave other than annual, may refuse it. Anyone with common sense must appreciate the fact that constant association with the insane is not conducive to exhilaration. Therefore a change of short duration at fairly frequent intervals, exclusive of annual leave, becomes not only desirable but even necessary to those who have charge of them. If the best men are to be attracted to the study of lunacy, which is becoming daily a more and more alarming factor in our social system, it behoves the authorities to amend the conditions of service of the assistant medical officers who have served them so long uncomplainingly. By this means alone can good men be induced to enter the asylum service as a permanency. Under the present system the junior post in asylums is usually sought after as a temporary abiding place where examinations may be read for or as a pleasant resting place until some better or more congenial employment turns up.

I am, Sirs, yours faithfully,

Jan. 13th, 1905. A. M. O.

L'INSTITUT DE VACCINE ANIMALE, PARIS.

(FROM A SPECIAL CORRESPONDENT.)

MOST of the vaccine used in France in general, and in Paris in particular, comes from the Institut de Vaccine Animale at No. 8, Rue Baller, Paris, a private foundation dating back to 1864 and due to M. Chambon whom I found still hale and hearty on the occasion of my visit. M. Chambon *has been succeeded in the directorate by Dr. Saint-Yves* Ménard, veterinary surgeon, physician, and professor of hygiene at the Central School of Arts and Crafts, who himself most kindly showed me his establishment.

Perhaps the most striking feature of this institution is that it provides for direct vaccination from the calf in Paris in all cases without exception. However carefully done, the processes for preservation and dispensing of a vaccine lead most certainly to its deterioration in strength, whereas the success of the immediate inoculation has been most constant and satisfactory. Vaccination in France may fortunately be said to know no enemies—a fact which is attributed by some to the non-existence in France of the elderly spinster, thanks to the male population being little depleted by the claims of empire; thanks also, perhaps, to the ranks of the potentially political spinsters being considerably thinned by sisterhoods. The people, therefore, are easily persuaded to be vaccinated and vaccination is brought freely down to their very doors by vigorous and enlightened municipalities such as that of the city of Paris. In every one of the 20 boroughs (*arrondissements*), usually in the charity offices (*bureaux de bienfaisance*) at the town halls, and in every one of the chief hospitals free vaccination directly from the calf is performed once a week on one particular day and at one particular time of day, and at the Academy of Medicine it is performed three times a week, the complete list being printed in convenient form on quarto paper and widely advertised. *Every night the unvaccinated in the shelters* are vaccinated. If anywhere a case of small-pox breaks out the fact is telephoned to the Vaccine Institute, an official is sent on a bicycle to impress on all neighbours the need of vaccination and to post notices,[1] and a public vaccination is held on the spot, often in the street, the next morning. For the purpose of vaccination the calf with its fourth, fifth, or sixth day pustules is sent down in one of the eight cars specially constructed something like hunt carts for the purpose, in charge of a driver accompanied by a medical officer. Under proper precautions most channels of contamination are thus removed and the figure for successful results of this direct calf vaccination is officially given as 100 per cent. Exact returns for the lymph distributed in tubes are unobtainable. The vaccinations performed by the institute for the ten years 1890-99 are as follows:—

—	Vaccinations.	Revaccinations.
1890	35,496	55,734
1891	37,369	85,055
1892	36,026	58,803
1893	40,813	187,206
1894	38,140	207,034
1895	36,023	120,006
1896	36,827	93,261
1897	38,696	102,931
1898	39,012	104,712
1899	36,986	105,546
Totals	375,370	1,125,288

These figures are made up as follows:—

—	Vaccinations.	Revaccinations.
Hospitals	116,863	411,284
Boroughs	212,481	47,553
Houses infected by small-pox	5,384	89,594
Public schools	1,628	455,611
Various	39,014	121,246
Totals	375,370	1,125,288
Grand total	1,500,658	

This for a population of 2,500,000 gives an average of 6 per cent. vaccinations or revaccinations per annum.

This service involves the employment of four medical men besides the director, the skilled staff being completed by nine assistants and an accountant. The eight cars imply a further equipment of horses, drivers, and stable-hands, but they save the processes of preparation, storage, and distribution of the lymph thus used. The Vaccine Institute accordingly contains not only a waiting room, a couple of vaccination rooms, a laboratory for the preparation and storage of vaccine, and offices for packing and clerical work, but also stabling for 20 calves and eight driving horses, coach-house, and a room for inoculating the calves. As this is all confined in a small area it speaks well for the cleanliness of the arrangements that there is no suspicion of a stable smell about the house. One enters first by the hall into the waiting room, the walls of which are a museum of Jenner lore. There is a French portrait in oils of Jenner, recently acquired by Dr. Ménard, and dated the thirteenth year of the republic (1802), holding in his hand a treatise, "Sur la Vaccine." But Jenner never was in France. There is an autograph letter from Jenner to his son Robert dated London, Nov. 2nd, 1814, when he was tediously awaiting by Royal command the arrival of the Emperor of Russia and entertaining parties of from 12 to 15 at breakfast. There is a steel engraving of a French portrait of the English physician Wilmotte who personally brought the first vaccine to France. There are numerous portraits and caricatures in honour or in detraction of the pioneers. Passing through this room the visitor enters the vaccination rooms, carefully built and simply fitted up with due regard to the needs of asepsis, mercurial and boric lotions being also provided, and outside is a clean tiled recess in which the vaccine is taken from the calf at the moment of operation. After being once used no pustule is employed again.

Next one comes to the stable for 10 calves, which is warmed by hot-water pipes and well ventilated, the most comfortable and the cleanest stable and the cleanest calves that I have ever seen The latter are all of the same breed Limousins of a light bay colour, aged between five and eight months, and weaned some time previously, so that they live well on hay bran, and oats without being subject to diarrhoea They are hired for the purpose at 40 francs apiece and are brought straight from the country farms to the farm belonging to the institute outside the city whence after from three to ten days' observation they are transferred directly to the Rue Baller Here they are well washed every morning and the whole of the belly and both flanks are well shaved before inoculation presenting a clean surface of white skin After being thoroughly cleansed this surface is inoculated along vertical incisions an inch long and two inches apart in rows not immediately one above the other, and after four or five days—a day longer than in a sucking calf—the pustules are ready to provide vaccine for from five to 20 persons each Sixth day pustules are chiefly used for the preparation of vaccine pulp From 350 to 450 calves are used in a year After use they are handed over to the butcher for slaughter

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[1] The following is a translation of the notice.—CITY OF PARIS.—The inhabitants of No. ...., ... Street, and of neighbouring houses are informed that the municipal service of vaccination and revaccination by calf vaccine will be at their service in this house on .... They are invited, in their own interests and that of their families in order to avoid the spread of small-pox, to obey the directions of the medical men who will perform these operations. Those who are unable to be present are informed by the following table of the places, days, and hours of free vaccination. Small-pox is an eminently contagious disease. Vaccination and revaccination "are the only means of preventing and curtailing the epidemics of small-pox."—(Opinion of the Council for Health and Sanitation of the County of the Seine.) Beneath this is posted the weekly time-table of free vaccinations.)

After many experiments it has been found that vaccination of the calf with glycerinated vaccine pulp of two months standing gives the purest eruptions and this is now always used the vaccine being tested by 48 hours culture on sloped gelatine The pulp consists of the whole tissue of a pustule transferred directly, under proper precautions after washing with boric lotion, into glycerine in a nickel bowl It is then triturated and mixed with more glycerine up to an equal part in a special Latapie machine simple and easily sterilised, which has displaced the Dresden Chalybaus machine in use in most vaccine institutions It is then transferred into a sterilised glass flask fitted up like the common wash bottle of a chemical laboratory A clip on the distal end gives control of the outlet, a valvular ball of thin rubber like that used for administering chloroform in operations about the mouth, by occasional inflations by hand keeps up the pressure inside the bottle and a slender nozzle fits into the tubes to be filled The tubes in common use are of two sizes respectively for four and for 20 vaccinations and are therefore more easily managed than the tubes for single operations They are sterilised at 200° C in a Wiesnegg gas heated stove When filled the ends are sealed in a blow pipe worked by air pressure from a tall slender water cylinder in the corner of the little laboratory The tubes are thrust into cotton wool in small metal cases like the case of a clinical thermometer and this fits tightly into a cylindrically tunnelled plain piece of wood which is labeled and goes by post for five centimes

Vaccination is compulsory for all patients in all hospitals except under exemption by medical orders, it is also compulsory for all those in the municipal shelters who are not provided with a vaccination certificate And now by Article 6 of the new Public Health Law[2] dated Feb 15th 1902 as the readers of THE LANCET are aware[3] vaccination is made compulsory during the first the eleventh and the twenty first years of life all children in the schools and recruits under the conscription law being revaccinated Schoolmasters furnish lists of children requiring revaccination The operation if unsuccessful, is repeated always three times The twenty second instead of the twenty first year should have been prescribed as recruits do not join the army till the end of their twenty first year and until this mistake is rectified there will be some difficulties The method by which the new law is to be enforced is laid down in a presidential decree of July 27th 1903 and detailed in a ministerial circular to the prefects The authority is the prefect of each department, the autocratic representative of our county council acting under the advice of a general council and of a departmental council of health The prefect nominates and controls the medical men the midwives and the remaining *personnel* of the service The general council advises upon the creation of special vaccination areas upon the time table, and upon the remuneration of vaccinators which averages at present about half a franc for each operation But the Academy of Medicine and the national advisory committee of public health actually determine the general duties of vaccinators and advise the Minister of the Interior as to the control of establishments for the preparation of vaccine Various measures are prescribed for securing the satisfactory operation of the law and it will be interesting and instructive to us in England to watch its results now that it has for the first time come into force with the new year

Result of vaccinations—The report of the director as to the efficiency of his work is as follows ' In our calf to arm vaccinations complete success is the rule With vaccine preserved in tubes the proportion of successes is always about 100 per cent, except for an occasional accident Our vaccine institute is a private establishment charged with the public services of the city of Paris and county of the Seine (for hospitals and charity offices) As to the number of tubes distributed by other vaccine establishments I have no information

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[2] See "La Santé Publique" (Législation Sanitaire de France) par Henri Monod Paris Librairie Hachette et Cie 1904 20 francs See also THE LANCET Feb 6th, 1904 p 194 Triple Vaccination in France

[3] THE LANCET Jan 16th (p 194) and Feb 6th (p 393) 1904

NOTES FROM INDIA

(FROM OUR SPECIAL CORRESPONDENT)

The Bombay Exhibition (Health Section)

THE large exhibition now being held in Bombay possesses an important health section at which demonstrations on the manufacture of the plague prophylactic form a leading feature but in addition demonstrations are given on the method of extraction of snake venom on the defects in water fittings and on the prevention of waste of water, and on the bacteriological treatment of sewage The novelty connected with the plague prophylactic is in the bottling otherwise it is manufactured in the old way The flask of "vaccine' ready for bottling is fitted with an apparatus previously sterilised, which draws off a portion into a glass bulb An indiarubber stop seals the exit from the atmosphere The new form of phial is made to terminate in a fine point which is sealed after the phial has been sterilised and exhausted of air The point of the phial is thrust through the indiarubber seal into the bulb of ' vaccine' fluid and the point is broken off by impinging against a small steel bar The vaccine rushes into the phial which when filled is withdrawn and at once sealed Successive phials are filled until the flask is emptied By this process the prophylactic does not come in contact with the air The phials are kept for ten days and a percentage of them is tested before being issued A sample of This is accomplis phials which conta small proportion of the fluid is thus retained from each phial Another interesting exhibit consists in models of some of the worst chawls of Bombay and in contrast some of the new buildings erected by the Improvement Trust Nothing could better illustrate the amazing development which is going on in Bombay The municipality has organised large models in bas relief of the Tansa waterworks of the island of Bombay, models of the system of house connexions of the water filters and of a new detritus trap These exhibits will possess a very high educational value The health section of this enterprising exhibition is a great success

Further Rise in the Plague Mortality

The plague returns for the week ending Dec 17th show that throughout India there were 18,284 deaths This is a rise of 855 over the previous seven days

The New Director General

Much surprise is felt at the announcement that the post of Director General now held by Sir Benjamin Franklin, I M S, will fall to Colonel Gerald Bomford I M S, who has many seniors and has only recently left his post of principal of the Calcutta Medical College It is the opinion however of many that he possesses great administrative capacity

Lathyrism

The report of the inquiry into the occurrence of lathyrism has been recently published and shows that the common belief which connects the prevalence of lathyrism with the long continued and excessive use of the vetch known as Kesari dal is correct It was found that the paralysed persons had eaten lathyrus in large quantities and for a long time and that no one was paralysed who had not eaten it. Many who found paralysis coming on gave up this vetch as food and recovered.

Further Scientific Investigation into the Etiology of Plague.

On his arrival at Bombay Lord Curzon announced that he had been in communication with the heads of the Royal Society and with the authorities of the Lister Institute on the subject of further scientific investigation into the etiology of plague. The Punjab Government has made official proposals to the Government of India and the Government of India has forwarded a dispatch to the Secretary of State. At the same time the corporation of Bombay had arrived independently at the same conclusion —viz., that further inquiry was urgently needed. The concurrence of authoritative opinion arrived at without consultation shows how widely the opinion is held that more should be done to discover means for combating this increasing scourge. We may therefore expect to hear shortly of the definite appointment of a further plague commission. It is to be hoped that all the members will be scientific investigators and that no civilians will be nominated. There are no questions of administration or of policy requiring their presence and the inquiry needed is a purely scientific one.

Dec. 31st, 1904.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Floodgate-street Area.

THE Floodgate-street area was again the subject of public comment at the annual meeting of the Birmingham magistrates. Alderman Cook, the chairman of the health committee, drew the attention of the magistrates to the report of the medical officer of health on the area, in which he attributes the high mortality to excessive drinking; he moved that all magistrates be supplied with a copy and said that the very least they could do was to give it a full and serious consideration. This was seconded and Mr. A. M. Chance, the chairman of the licensing committee, in supporting it, took the opportunity of stating how important and able a report he deemed it. An influential meeting of the citizens' committee, which was largely instrumental last year in directing attention to the subject, has also met to consider what steps should be taken in view of the Brewster sessions to be held next month. The meeting passed no resolution, deciding to await indications of the policy likely to be adopted by the magistrates. The laying on of a supply of water to each house in the courts of this same area was considered at the last meeting of the Birmingham water committee. A sub-committtee which had been appointed to consider a communication from the health committee on this question reported that the use of standpipes for courts led to a great waste of water owing to the users allowing the taps to run more or less continuously and that now that the Welsh water-supply was available there was no reason—so far as they were concerned—why a supply should not be laid on to each house. The report was adopted as the answer to the health committee.

Drunkenness during the Past Year.

At the annual meeting of the magistrates Mr. Chance, the chairman of the licensing committee, referred to a report received from the chief constable relating to the number of persons convicted for drunkenness during the years 1902, 1903, and 1904. In 1902 the number was 2576, in 1903 3064, and in 1904 3478. Commenting upon these statistics Mr. Chance thought their unfavourable nature was attributable to the Act of 1902 and to its more stringent enforcement by the police. The statistics, in his opinion, showed that, much as they all desired a reduction in the number of licences, it was not the only factor to be considered. He did not believe that drunkenness was on the increase in Birmingham. A communication from the Home Department about the disregard shown for the regulations concerning the black list drew forth the opinion that the list had proved an utter failure, that persons who had been placed upon it were brought up almost daily. The Brentry Homes for Inebriates was the subject of a special report to the magistrates by Mr. J. C. Lord. He expressed himself as satisfied with the sanitation and administration of the homes and with the health and behaviour of the inmates. He regretted that of the 15 beds allotted to Birmingham only eight were at present filled by local cases; the more so because he was of opinion that more good would accrue from the sending of suitable cases to a reformatory than by sending them to prison. He would like to see those starting on a career of drunkenness sent there and wished to impress upon the younger members of the bench the importance of looking carefully into all cases with a view to this course of action.

The Birmingham Water.

The medical officer of health submitted to the water committee at its last meeting the results of analyses of samples of the Birmingham water. A sample taken at Frankley before filtration on Dec. 15th was found to possess a marked purity and to show less colour than the previous ten samples. The persistent brown colour heretofore has occasioned a certain amount of anxiety among the more nervous of the community.

Handsworth and Medical Relief.

At a meeting of the West Bromwich board of guardians it was decided to divide the Handsworth parish into two districts for medical relief purposes—viz., No. 1 district to consist of Sandwell, Soho, and Murdock wards; and No. 2 district of Birchfield and Heathfield wards and the parish of Perry Bar. The reason for the division is the enormous growth of the district during late years. In consequence of the division two medical officers will be appointed at salaries of £70 each per annum instead of one, as at present, at a salary of £110.

Health of the City.

The health returns show that for the week ending Dec. 31st, 1904, the death-rate was 25·3; for the week ending Jan. 7th the death-rate was 21. The zymotic death-rate for the former week was 1·9, as against 0·7 for the first week of this year. The reduction in the zymotic death-rate was due particularly to the decrease in deaths from diarrhœa and pulmonary tuberculosis. At the end of last week there were 193 patients in the scarlet fever hospital, as compared with 211 at the close of the previous week, and the typhoid fever wards contained 19 patients as against 26.

Health of West Bromwich.

The medical officer of health of West Bromwich has just issued his sanitary summary for the year 1904. This shows a birth-rate of 33·6 and a death-rate of 15·9, the decennial averages being 35·2 and 18·6 respectively.

Bequests to Local Charities.

By the will of the late Mr. William Ansell of Sutton Coldfield the local charities have benefited to the extent of £5000.

Jan. 16th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Infantile Death-rate at Dukinfield.

AT Dukinfield 1 in every 3 children born dies in infancy. It seems as if all efforts to reduce this mortality were fruitless. It is said that the county authorities and Mr. F. Vacher, the medical officer of health, "have repeatedly roused the ire of the town council by their scathing comments" on the town's record of mortality. The suggestions of the county council health committee have been put in operation without reducing the death-rate. The sanitation, under the care and guidance of Mr. Bancroft, the chairman of the sanitary committee, has been greatly improved. "A health-giving breeze sweeps through the town from the adjacent moors and the water-supply is second to none in its purity." Four or five years ago it was thought that the milk-supply might be faulty and at the wish of the county council a sterilised milk depôt was opened. This new venture tickled the sense of humour of the people who, though living in Cheshire, closely resemble their near neighbours of Lancashire in this peculiar quality, which is quaint and racy if not grounded on knowledge; and this venture of sterilised milk was killed by ridicule in about two years. It is said, indeed, that the infantile death-rate was not lower but higher during the use of sterilised milk, though there was probably no connexion between them. Last month the deaths were equal to 325 per 1000, the highest in Cheshire. When all general influences noxious to health have been so far as possible removed without apparent result the inquiry should go nearer home The population is a manufacturing one the mothers work in the mills, and the infants are of necessity left to the care of others Mothers and caretakers are, with occasional exceptions steeped in the grossest ignorance The natural food of the child is not forthcoming, for the mother in most cases is a poor creature, unable to furnish it and the child receives all kinds of substitutes most of them hurtful It is difficult to root out the ignorance and [illegible] more especially in a people [illegible] is called "independence [illegible] ing ' meddled with, but perhaps more may be hoped for in the next generation if as is foretold the education given in the elementary schools is to be so changed as to be really useful to the children in their after life Some instruction in the simple laws of health and in the care and feeding of young children may surely be given In the meantime a society like that of the Manchester Ladies Health Society may by its tactful and sympathetic ministrations do something to lessen the ignorance and in some cases the apathy, underlying the waste of life that has become so common as to be almost disregarded

Wanted to Sit on the ' Live Rail

The dangers surrounding the path through life seem to increase with every application of science and the electric or electrified railway may be taken as an illustration About a week or ten days ago two drunken fellows were found trespassing about midnight on the Lancashire and Yorkshire line near Southport This portion of the line is ' electrified [illegible] it on the live rail [illegible] too drunk to decline [illegible] is foot on it adding that he was prepared to meet his Maker A pointsman telephoned for help and with the aid of three porters the men were got off the line safely, though they several times lurched in dangerous proximity to the ' live rail Each man was fined 20*s* and costs which may help to remind them of the dangers of the "live' rail and of being drunk when near it But apart from any question of drunkenness there is no doubt that with the increasing use of electrical appliances dangers are multiplied and it is greatly to be desired that more care should be taken to diminish these dangers as much as possible

Jan 17th

LEEDS

(FROM OUR OWN CORRESPONDENT)

Annual Report of the Medical Officer of Health

AT the first meeting of the sanitary committee of the Leeds city council Dr J Spottiswoode Cameron presented his annual report for 1904 from which it appears that the birth rate was 28 and the gross death rate was 18 the average birth and death rates for the last ten years standing at 31 and 19 respectively The ratio of deaths under one year to 1000 births is 176, as against an average of 171 for the previous four years There had been 64 cases of small pox with two deaths

Leeds Crematorium

Messrs Toisoul Fradet, and Co of Paris have supplied the crematorium which has just been erected at Lawnswood Cemetery with one of their lighting gas furnaces and the experimental trials, as well as the first actual cremation which took place recently have been eminently successful This is the first furnace of its kind erected in this country and it is claimed that the temperature can be regulated to a nicety and the amount of hot air admitted also so that at first rapid desiccation of the body takes place and then complete combustion occurs on a lowering of the temperature with the admission of an extra amount of hot air A crematorium on similar lines is shortly to be erected at Bradford

Small pox

Small pox has been prevalent in some of the districts around Leeds, notably in Dewsbury and the neighbourhood Last week there were 21 cases notified in Leeds and removed to the hospital These were mostly due to an outbreak at a common lodging house and at houses in the insanitary area At the end of the week there were 28 patients under treatment in the hospital as against ten at the end of the preceding week For some time the resident staffs of the infirmary and dispensary have been especially on the alert for the possibility of cases turning up in the out patient rooms and several cases have in this way been detected and dealt with The infirmary has refused admission except in cases of emergency to patients coming from townships known to be infected and the attendance of patients from infected areas at the x [illegible] en suspended On [illegible] en 90 and 100 of [illegible] medical officers, nurses porters wardmaids and servants—had not been revaccinated for three years, which had been selected as a working time limit of safety, and these were all revaccinated except three of whom two were leaving the service of the infirmary and had been vaccinated five years ago

The Sale of Poisons

The Bradford stipendiary has delivered his judgment in a case tried before him on Jan 4th Six local registered druggists were summoned for an alleged infringement of Sub section A of the 17th Section of the Pharmacy Act of 1868 which makes it unlawful to sell any poison to any person unknown to the seller, unless introduced by some person known to him The summonses were taken out by the secretary of the Patent Medicine Vendors and Drug Stores Association The general issue was dealt with on one summons and it appears that a box of Rankin s ointment which contains veratrine was supplied to a woman without any questions being asked It was advanced for the defence that the ointment was a poisonous compound prepared for the destruction of vermin and that such a preparation though containing a scheduled poison was exempt from the section of the Act under which the summons had been taken out The stipendiary convicted and imposed a fine of £2 with £1 14*s* 6*d* costs and intimated that he would consider the question for the statement of a case if application were made to him within seven days

Grants to University Colleges

A memorandum from the Treasury dealing with the subject of increased grants to university colleges states that the amount voted for 1903 04 was £27 000 and that the amount voted for 1904-05 is £54 000 The original grant of £27 000 is distributed among the various colleges as before Of the additional £27 000 a sum of £9000 is to be distributed substantially on the old basis, a further sum of £9000 is to be similarly allotted for the year 1904-05 only as the present year is of a [illegible] anges which the committee [illegible] of distribution cannot be [illegible] ffect The committee reserves its propo als as regards the remaining £9000 The effect of this so far as the University of Leeds is concerned is that the grant now stands at £4000 as against £2300 for last year

University of Leeds

Professor R H Hartley having resigned the professorship of public health the council of the University has offered the chair to the medical officer of health of the city Dr Spottiswoode Cameron A demonstrator in the subject is also to be appointed

Scholarships for Medical Students

The following rules embody some changes in the regulations 1 The medical scholarship of 64 guineas which covers the complete course of lectures at the medical school, is now to be awarded on the result of the joint matriculation examination under certain conditions 2 The infirmary scholarship of the value of 40 guineas given by the faculty of the infirmary and covering the course of clinical instruction is to be awarded under certain conditions on the result of the first M B examination held in June of each year 3 As heretofore medical students who are studying also for the B Sc may hold the Akroyd and Brown scholarships the Leeds City Council scholarships, and certain free studentships under the grant of the city council

Jan 17th

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Royal Infirmary: Annual Report.

THE annual report of the Edinburgh Royal Infirmary reminds the public that the present buildings have been in occupation for 25 years. The growth of the institution is abundantly illustrated by the figures given in the report. In 1880 the number of indoor patients treated was 5315; in 1904 they had reached a figure almost double that—namely, 11,125. The number of outdoor patients treated had more than doubled, having risen from 15,000 to 33,412. The ordinary income had risen from £21,541 to £33,814 and the ordinary expenditure from £27,818 to £49,808. The number of patients treated in the infirmary during the year with which the present report deals was 11,125; of these 858 died. There was an increase of 671 over the preceding year. The average daily number of patients was 810. The ordinary income amounted to £33,814, an increase of £1128 over the previous year. The ordinary expenditure amounted to £49,808, or £2207 above that of the preceding year. Important changes have been decided upon in the surgical out-patient department. There had been a good deal of criticism of this department in the Edinburgh evening papers and the result has been as follows. The department is to be under the continuous supervision of one of the assistant surgeons, these gentlemen taking the work in rotation for four months at a time and during those months they are to be relieved of all other duties in the infirmary. The surgeon on duty is to be assisted by such house surgeons, dressers, and nurses as may be necessary and he is to have two day and two night porters. A house surgeon is to be constantly present in the department both day and night. In addition a small operating theatre is to be added to the department. The report, of which the foregoing gives the most important details, was submitted to a meeting of the court of contributors on Jan. 2nd, the chair being occupied by the Lord Provost. In submitting the report the chairman referred to the decision of the meeting of contributors with reference to the rule of an age limit for the honorary staff. He thought it was understood that the rule was not to be applied to the present professors or to the members of the ordinary staff in the second or third terms of tenure of office and the board was acting on that presumption. The board has thus made a rule applicable to all future appointments and one which will affect the tenure of office of only two or three of the present assistant staff. It would have saved hours of controversy and weeks and months of heart-burning if at the outset it had been intimated that all present holders of office were to be exempt from the new rule; as it is, peace now reigns for the few victims of the new rule appear to be indifferent to its effect. Time alone can show whether the infirmary is wise in making this rule for its physicians.

University of Edinburgh: Annual Report.

The annual report of the University of Edinburgh shows that there were 1480 students of medicine during the year: of these 683 belonged to Scotland, 352 were from England and Wales, 113 from Ireland, 74 from India, 238 from British Colonies, and 20 from foreign countries. The number of women attending extra-academical lectures with a view to graduation in medicine in the University was 116. During the year the degree of M.B., C.M. was conferred on four candidates; that of M.B., Ch.B. on 161 (including 12 women); and the degree of M.D. on 61. With regard to the Carnegie foundation it is stated that students have availed themselves of it to take more classes than they would have otherwise done. A lectureship on the Practical Application of Anæsthetics has been established and also one on Infective Fevers. Dr. T. D. Luke has been appointed to the former, and Dr. J. O. Affleck and Dr. C. B. Ker of the City Hospital to the latter.

Typhus Fever in Aberdeen.

In his monthly report, which was submitted to the public health committee of the town council on Jan. 11th, Professor Matthew Hay, the medical officer of health, stated that on Dec. 20th, 1904, a case of supposed measles in a labourer residing in Shoe-lane was reported as requiring removal to the City Hospital on account of the patient having exhibited symptoms of delirium. At the hospital the man was found to be suffering from typhus fever. No other case of that disease was known to be in the city at the time and, indeed, no cases had been reported since 1899. There had, however, been some weeks previously among the children of the patient what were regarded as cases of measles, but as measles is unusually prevalent at present it could not be definitely assumed that these were cases of typhus fever. In the week following the admission of the patient to the hospital his wife became ill with similar symptoms and she was at once removed to hospital. Two days subsequently a case of supposed typhoid fever was notified from a house in West North-street and the active inquiries which were then made resulted in tracing a total of some 40 cases of illness with 10 deaths, now attributed to typhus fever. The earliest attacks seemed to have occurred in a house in Martin's-lane, where the father of the family had died so far back as Oct. 5th and where there had since been several cases of a similar illness. It is proper to state that owing to the rare occurrence of typhus fever in recent years comparatively few medical men have ever seen cases of it and are therefore less ready in recognising them when they unexpectedly occur, especially as the rash is often ill-defined and is difficult to see in dingy, badly lighted, and in many cases dirty houses, such as those in which the present epidemic had its beginning. The less serious cases in the children were not always seen by a medical man and the more serious cases in grown-up persons had the typical characters of the disease obscured in several cases by inflammation of the lungs, to which the general illness was regarded as being due.

Turner Memorial Hospital, Keith.

The annual meeting of the committee of the Turner Memorial Hospital was held at the hospital on Jan. 9th. The medical officer, in his report for the past year, said that 66 patients had been admitted, of whom 43 had recovered, 11 had improved, five had died, and there were seven in the hospital on Dec. 31st, 1904. Of the 66 admissions, 43 had come from the parish of Keith and seven from the parish of Grange. The treasurer, in his report for the year, stated that a sum of £285 stood to the credit of the capital account. The revenue for the year amounted to £592 and the expenditure to £450. The directors of the hospital afterwards met. It was decided to allow patients from the participating parishes who were suffering from infectious diseases to be admitted to the hospital at the rate of 12*s*. 6*d*. a week.

Jan. 17th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Action against a Medical Man.

IN the Nisi Prius Court on Jan. 16th, before the Lord Chief Justice and a special jury, the case of Hanrahan *v*. Parry was concluded. The plaintiff, Miss Frances Hanrahan, a barmaid residing in Dublin, sued the defendant, Dr. William Harrop Parry of Llanrwst, Denbighshire, to recover damages to the amount of £1500 for breach of promise of marriage. The Lord Chief Justice commented severely on the conduct of the defendant who proved to have been for years a married man. The jury awarded the plaintiff £300 which the Lord Chief Justice said was a proper verdict.

Erection of a Sanatorium for Consumptives in the County of Cork: Public-spirited Action of Local Authorities.

Some time ago a movement was inaugurated with a view to induce various public boards in Cork city and county to join together for the purpose of erecting and maintaining a sanatorium for consumptives. The local branch of the National Association for the Prevention of Consumption took up the project energetically. It sent deputations to the borough council, the county council, and to all the urban and rural district councils. The members of the deputations emphasised the importance of checking the ravages of consumption. They pointed out the terrible destruction of human life caused by pulmonary tuberculosis and what an advantage it would be to have an institution in which the disease could be arrested in its earlier stages. They referred to the contagiousness of the malady and expressed a strong opinion that the establishment of a sanatorium would within a short time mean a saving in the rates. The various public boards, 28 in number, took an intelligent view of the situation and agreed to strike a rate of 1*d*. in the £ for the erection and maintenance of a sanatorium. A Bill has been passed through Parliament giving them the requisite powers and a committee of 56 members held their first meeting on Jan. 7th. They appointed Mr. D. D. Donovan, medical officer of health, and Dr. P. J. Cremen to assist them in the selection of a site. It is also proposed to call in an expert to consult with those two gentlemen. Mr. Barter, St. Ann's-hill, Blarney, has very generously promised a contribution of £500 towards the erection and equipment of the sanatorium. An institution of the kind is an absolute necessity, as pulmonary tuberculosis is unduly prevalent in the city and county. The public boards concerned deserve every credit for their benevolent and far-seeing action.

Physical Degeneration and Bad Hygiene.

Under the auspices of the Irish Association for the Prevention of Intemperance Professor G. Sims Woodhead delivered a lecture on Jan. 9th in the theatre of the Royal Dublin Society on the question "How far is Physical Degeneration the Result of Bad Hygiene and Intemperance?" Dr. James Little, who presided, said that nobody could walk through the streets of Dublin without noticing that a degeneration had taken place in the physique of our people. He did not think them worse than the people, say, in Vienna but they appeared to him to be much inferior to the workmen in Berlin and the north of Germany. Professor Woodhead in his lecture dealt chiefly with the conditions on which the nutrition of the body depended such as fresh air, suitable food properly cooked, temperance, &c. As regards the increase of lunacy in Ireland, he said that it did not seem to go on side by side with increase in drinking, as was the case in England and Scotland, where increased consumption of alcohol among certain classes was invariably associated with a corresponding increase in lunacy. Sir Francis Cruise proposed a vote of thanks to the lecturer which was seconded by Sir Lambert Ormsby. Mr. T. W. Russell, M.P., in proposing a vote of thanks to Dr. Little for presiding, said that in dealing with the situation in Dublin they should not forget that the city contained a greater number of the very poor than any other of the same population in the United Kingdom, and when he thought of the awful state of affairs in the tenement houses, how the people lived in single rooms, how they were fed—or rather not fed—he felt inclined to wonder that they were ever sober.

Rainfall in Belfast in 1904.

Meteorologists will be interested in the following particulars as to the rainfall in the Belfast district for the year 1904. The information is based on the returns from Queen's College, Belfast, and from Goschen, Springfield. The latter place is in the neighbourhood of Belfast, about 150 feet above sea-level, as compared with Queen's College, which is 68 [illegible] total fall for the year 1904 was at [illegible] ·841 inches and at Springfield it [illegible] fell at the lower level (Queen's College) on 197 days, while at the higher level it fell on 293 days. The total rainfall in 1904 was below that in 1903, when the figures were 42·339 inches, the highest recorded for over 30 years. During December, 1904, the rainfall was 2·957 inches, the highest previously recorded for December was 8·86 inches in 1876, and the least was 1·81 inches three years later. A rather interesting fact has been made out at Queen's College and that is that the old rain-gauge statistics for the past 40 years may be regarded as absolutely accurate. Last year the College authorities placed in the grounds a new Snowden rain-gauge one foot from the surface. The readings from this were narrowly compared with the old one seven feet from the surface and no difference has been found. The driest month in 1904 was October; rain fell more frequently in April than in any of the other 11 months. August was a wet month and in addition to the gauge registering the greatest rainfall, on 21 days there were downpours. The highest temperature during the year was recorded on July 29th—71·5° F. in the shade—and the lowest—25·3° in the shade—was on March 11th. There were 40 days less rain than in 1903. The greatest rainfall in 24 hours was on Sept. 2nd—0·860 inches—and the average for the past 39 years was 35·512 inches. The greatest velocity of the wind was on Oct. 5th and 6th; there were thunderstorms on four days during the year, that of July 12th taking place between 7 and 8.30 in the evening. The last month of the year was the finest for many years and 1904 the best for 11 years.

Royal Victoria Hospital, Belfast.

The board of management, on the recommendation of the medical staff, at its meeting on Jan. 4th, appointed Dr. T. Houston to act as pathologist for the remainder of the winter session.

The Belfast Cripples' Home.

The bazaar on behalf of the Cripples' Home, which was opened on Dec. 6th, 1904, by Lady Dudley and at which His Excellency the Lord Lieutenant was present, has, after all expenses have been paid, realised a sum of £7300. As showing the interest taken by the poorer classes in the effort upwards of a quarter of a million pennies were received.

Jan. 16th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Estimation of Carbon Monoxide in the Atmosphere.

AT the meeting of the institute which was held on Jan. 9th M. Armand G[illegible] bert. Levy and M. [illegible] the estimation of [illegible] test will show the [illegible] tion of 1 part in 100,000 parts of air. The method is as follows. The suspected air is passed over per-iodic acid contained in a U tube kept at a temperature of 80° C. The carbon-monoxide if present decomposes the per-iodic acid, setting free iodine. M. Gautier fixes this on copper and estimates the amount by weighing while M. Levy and M. Pécoul pass the air and the iodine through chloroform which takes up the latter. The amount of iodine is estimated by a colorimeter scale and from the amount of iodine the quantity of carbon-monoxide is deduced. The method is absolutely accurate and no other element present in the atmosphere will reduce per-iodic acid. By its aid the atmosphere in the neighbourhood of a suspected stove can easily be examined in plenty of time for the necessary precautions to be taken.

Jan. 17th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Plague at Suez.

SIX cases are now under treatment at the infectious hospital and are recovering; all are bubonic, two femoral, one axillary, two cervical, and one pre-auricular. One pneumonic case was found dead and since then a second patient has been taken ill with pneumonia in the same house. The first case was found on Dec. 10th and since there have been ten others. This is the first time plague has spread in Suez for at least 60 years, though individual cases have often been imported during the last few years. This time it may have arrived with cargo from India, for one dead rat was discovered in a bale of goods, or it may possibly have come with merchandise from Upper Egypt. All the cases so far found have been in the same quarter of the town and there has been a considerable mortality among the rats. The rats are now being poisoned and trapped as far as possible. Dr. J. E. Creswell has injected two bubonic cases with the anti-plague [illegible] Pasteur Institute in Paris; in both the [illegible] not again rise and the glands [illegible] inful though one of them subsequently suppurated. This serum is sent out with instructions in six languages. It is prepared from immunised horses [illegible] mended both for prevention and for treatment. [illegible] used every ten [illegible] centimetres are [illegible] times. In bad [illegible] cases it is suggested that a double injection of 20 cubic centimetres in a vein and 40 cubic centimetres subcutaneously should be tried. The only other occupants of the infectious huts are two cases of confluent small-pox, from which an Englishman and a Chinaman are convalescing, both having been landed from homeward bound ships. The only other place where plague is present in Egypt is El Toukh in Lower Egypt and there are only about six cases under treatment.

Pilgrims at Suez.

For the last two months pilgrims on their way to Mecca have been assembling at Suez and every week steamers carry them away to Jeddah in batches varying from 300 to 1500. The old khans or caravanserais in the town are full of picturesque travellers from Syria, Turkey, the Caucasus, Turkestan, Morocco, Lake Chad, and even from Cape Town. The Moors prefer an encampment of tents on the seashore near a favourite mosque. The Cape Town pilgrims, who are perhaps the least numerous, are Mussulmans descended from the old Arab traders who have intermarried with the colonials in Cape Colony and they all talk English. One woman this year claims Irish descent. The khans are yellow-washed with lime before and after their annual occupation but they are badly ventilated and some of them smell horribly of underground cesspools which can never be deep because of the high level of the subsoil water. The women with their children lodge on the upper floor of the khans. The Egyptian contingent of pilgrims this year will number about 5000, being only half the number of last year. The present arrangements for protection from returning pilgrims are as follows. On their return journey from the holy places all pilgrims of all nationalities are stopped at Tor to undergo quarantine and disinfection according to regulations which depend upon the then state of health at Mecca. After leaving Tor the non-Egyptian pilgrims pass through the Suez Canal and are not allowed to land in Egypt. The Egyptian pilgrims, on the other hand, are visited by the male or female quarantine officers when the ship reaches Suez and if any cholera or plague be discovered on board the steamer all the passengers are sent back to Tor. If the ship be passed as healthy she moors alongside the pilgrim wharf specially set apart for this purpose and divided off by barriers from the rest of the quay and the pilgrims are allowed to land one by one, their passports are examined and their addresses are taken, and the list is forwarded to the sanitary inspector of the district to which they are going. As a second line of defence every pilgrim is then individually seen by Dr. Creswell, the medical officer of the port, who allows the obviously healthy to proceed without delay but keeps all the doubtful under observation for a thorough examination. After a detailed examination each man is either passed as healthy or is transferred to the isolation hospital where his disease is thoroughly investigated. This is the only way of knowing whether a returning pilgrim is suffering from diarrhœa, dysentery, or cholera, or whether his fever is due to plague or to malaria, his enlarged glands to tubercle or to plague, and his pneumonia to influenza, to plague, or to the relatively innocent pneumococcus.

Cairo, Jan. 9th.

NEW YORK.

(From our own Correspondent.)

Report of the Surgeon-General of the Public Health and Marine Hospital Service of the United States for 1904.

This report, which has just been issued, states that at the close of the fiscal year 1904 the commissioned corps of the service consisted of 118 officers as follows: the surgeon-general, six assistant surgeons-general, 25 surgeons, 36 passed assistant surgeons, and 50 assistant surgeons. During the fiscal year 840,714 immigrants were inspected by officers of the service to determine their physical fitness for admission as prescribed by the immigration laws. By far the greater number of these were landed at New York, and of 633,811 who arrived at that port 1368 were deported, 756 of these being sent back suffering from trachoma. Boston received 80,017 immigrants 106 of whom were deported. The immigration to Baltimore was 56,371 of whom 98 were deported. Acting Assistant Surgeon Safford of Boston says in his report that there seems to be a decided increase in the physically and mentally defective immigrants from Great Britain and Ireland. The report of the division of sanitary reports and statistics shows a total of 25,106 cases of small-pox in the United States for the fiscal year 1904. The total for the previous fiscal year, 1903, was 42,590 cases, so that the numbers for 1904 are a very substantial decrease. The surgeon-general recommends the establishment of a leprosarium in the continental United States. Plague, which has existed in San Francisco since March, 1900, though reported occasionally during 1904, has steadily diminished. The current number of the report contains 640 pages of reading matter and is replete with valuable information and statistics relating to public health. It contains, moreover, several original papers of much scientific and medical interest contributed by officers of the service. The volume reflects great credit upon Surgeon-General Walter Wyman and the officers of the service.

Poisoning by Wood Alcohol.

The fatalities which have occurred recently in Russia as a result of poisoning by wood alcohol have again attracted the attention of the medical profession of the United States. Until about a year ago the methyl alcohol in use in Russia was too repugnant to taste and smell to be used as a beverage. In the early part of 1904, however, "purified" deodorised wood alcohol, known in the United States under the name of "Columbian spirits," was introduced into Russia, since which time 35 cases of blindness and death from the internal use of wood alcohol have been recorded. As in the United States, methyl alcohol has been used in Russia in the manufacture of beverages and internal remedies. When more than 20 persons died in New York some few months ago from drinking spirits adulterated with wood alcohol the public were thoroughly aroused and the newspapers clamoured for legislative action but the circumstances now seem to be almost forgotten.

The Atmosphere of the New York Subway.

Owing to the agitation in the lay journals with regard to the impure condition of the air of the New York subway Professor Chandler was called in to make an investigation into the matter. His report states that the air of this partially underground railway is, considering the circumstances, remarkably free from impurities and that statements to the contrary rest on no sound foundation. Notwithstanding this expert opinion a feeling still exists in the minds of many that there is room for improvement in the conditions prevailing in the subway. At a meeting of the advisory board of the New York health department held on Dec. 13th, 1904, many members expressed the opinion that the present stone roadbed was unsuitable and that to render the air pure a new roadbed should be made. This should be smooth so as to permit of sweeping and thorough cleansing, an impossible task under existing conditions.

Jan. 9th.

AUSTRALIA.

(From our own Correspondent.)

Infectious Disease in Victoria.

The return of infectious diseases for the last fortnight, presented at the last meeting of the Board of Public Health of Victoria, showed the following comparison between the corresponding periods of last year and this. Typhoid fever: for the State—1903, 16 cases, 2 deaths; 1904, 19 cases, 1 death; for the metropolitan area—1903, 8 cases, 1 death; 1904, 9 cases, no deaths. Diphtheria: for the State—1903, 30 cases, 4 deaths; 1904, 78 cases, 5 deaths; for the metropolitan area—1903, 19 cases, 3 deaths; 1904, 31 cases, no deaths. Scarlet fever: for the State—1903, 47 cases, 1 death; 1904, 21 cases, no deaths; for the metropolitan area—1903, 35 cases, 1 death; 1904, 10 cases, no deaths. A Bill is now before the State Parliament dealing with the Queen Victoria Infectious Diseases Hospital. Its object is to compel all the municipalities concerned to contribute to its maintenance. Since Oct. 1st, when the hospital was opened, 63 patients have been admitted.

Prevention of Tuberculosis.

A deputation from the local branch of the National

Association for the Prevention of Consumption recently waited on the Chief Secretary of New South Wales to ask for assist[illegible] ple a knowledge of the b[illegible] ease of the disease. The [illegible] to print 100,000 leaflets and to allow these to be distributed in the institutions under Government control. The Government was further asked to establish a hospital for incurable cases of consumption. The Minister replied that the Government printing was not under his department. He could see no objection to the distribution of the leaflets as desired. The establishment of a hospital for incurable cases seemed reasonable; he could not promise, however, that the Government would erect it but the matter would receive consideration. Another deputation, from the Queen Victoria Homes for Consumptives, also asked the Chief Secretary for an increased subsidy. It was stated that in the year 1898 the subscriptions to the homes totalled £834 and in 1899 they amounted to £643 and no subsidy was received in either of those years. In 1901 the subscriptions were £658 and the subsidy amounted to £600; in 1902 the subscriptions were £978 and the subsidy was £804; and in 1903 the subscriptions reached £1455, with a subsidy of £1000. The bare cost of maintaining the homes last year was £4000, so that the committee had been compelled to encroach on the capital fund. It was asked that this year the sum of £2000 at least should be placed upon the Estimates to be available for the homes on the £ for £ basis. The committee had already received £1700 this year in subscriptions. Next year there would be about 22 extra beds available at Wentworth Falls Sanatorium, which would mean an increase of £1100 per annum in the expenditure. The committee was doing a work which would otherwise have to be carried on by the Government, since it was the consumptive poor for whom it was providing. Last year 113 patients were received at the Thirlmere Home and 50 at Wentworth Falls. The committee had received no money from the Government towards its building fund and had received nothing from the Government for pauper patients. The Chief Secretary said that he recognised the noble work which the homes were doing and he was also impressed with its importance from an economic aspect. He understood that £1000 were already placed on the Estimates and he could not say without consultation with his colleagues what the Government was prepared to do about providing an additional £1000. He would, however, make a recommendation to the Cabinet on the matter. —The Kronheimer wing for consumption at the Austin Hospital, Melbourne, is in a peculiar position. Ever since the committee of the Austin Hospital decided to accept Mr. Kronheimer's gift and to erect the building, the municipal authorities at Heidelberg have strenuously protested against the proposal, and the successive Ministers of Health have been interviewed and have stated their antagonism to the proposal. In spite of this the committee has gone on with the building. Now it is finished, but it cannot be opened for patients until authority is given by the Board of Health. Under the powers of the Health Act the Minister of Health can supersede the board and in this case did so, refusing to sanction the building, and when application was made to the board for formal permission to open the board referred the committee to the Minister. The committee waited on the Minister and asked him to sanction the opening but so far he has not acceded to the request.—At the last meeting of the committee of the Victorian Homes for the Aged and Infirm a letter was read from the chairman of the Board of Health asking whether the committee would take under control buildings to be erected by the Government close to the committee's institution for the treatment of consumption. After some discussion it was decided that the committee would accept the management of the proposed consumption hospital provided the financial arrangements were satisfactory.

Hospital Affairs.

The new wards at the Stawell Hospital were formally opened on Nov. 25th, 1904, by Sir John Forrest. He said that the wards had been built and fitted with the most modern requirements by Mrs. W. H. Syme as a memorial of her late husband, Dr. Syme, whose long and valuable services to the hospital and to Stawell well deserved so fitting a memorial. He felt sure that the people of Stawell would never forget the work of Dr. Syme and that his memory and that of his wife, who had erected such splendid buildings, would always remain green.—Dr. John Williams has resigned his position as physician to the Melbourne Hospital. In recognition of his long services, extending over 30 years, the committee appointed him consulting physician. Dr. W. R. Boyd, senior physician to out-patients, was appointed physician to in-patients in place of Dr. Williams. Dr. J. Johnston was appointed honorary anæsthetist in place of Dr. L. J. Balfour, resigned.

Medical Examination of Pilots.

The Marine Board of Victoria has adopted regulations for the pilot service which will come into force as soon as gazetted. They provide that subsequently to the nomination of a candidate for a vacancy he shall be examined by a medical practitioner nominated by the Board and certified to be qualified, mentally and physically, to perform the duties of a pilot [illegible] tified [illegible] the st[illegible] or after the coming into force of the regulations, until he attains the full age of 50 years, shall be examined and passed by a medical practitioner to be approved by the Marine Board as physically and mentally fit to continue to perform his duties as a pilot at intervals of not more than 24 calendar months and after having attained that age until he attains the full age of 60 years, at intervals of not more than 12 calendar months, and in the case of a pilot who under the [illegible] he age of 60 years, [illegible] at intervals of not [illegible] lot until he arrives [illegible] before or after the [illegible] at intervals of not [illegible] the case of a pilot who under the regulations does not necessarily retire at the age of 60 years, after he attains that age at intervals of not more than six calendar months, shall have his eyes examined [illegible] ibed stand- [illegible] the Marine [illegible] testing of a pilot or of his eyesight or vision any defect is discovered which in the opinion of the medical examiner may within a variable time render the pilot unfit for service, such pilot shall submit himself for re-examination within lesser intervals. Re-examination in case of casualty and examination after absence from duty are provided for. It is further stated that [illegible] the coming into [illegible] s a pilot shall [illegible] years. In the [illegible] ge of 65 years the sufficiency of any licence held by him after he attains the full age of 60 years, whether before or after the coming into operation of these regulations, is conditional upon his presenting himself from time to time before the Marine Board when required and being permitted by the Marine Board to continue on service. Such permission shall not relieve the pilot from satisfying the requirements of the [illegible] as regards examination at the prescribed in- [illegible] may be examined into by a special board of three examiners, members of the medical profession. Every applicant for appointment as a pilot must be quite free from any sign of organic disease or degeneration, and be in general up to the first-class standard of health required by an insurance society of good standing.

Civil Ambulance Corps.

The annual report of the Civil Ambulance and Transport Corps of the St. John Ambulance Brigade, presented to the annual meeting, stated that 1605 cases had been attended to, the distance travelled being 6207½ miles. The total number of cases taken to the hospitals was 1100. Of these 469 were conveyed to the Sydney Hospital, 271 to the Royal Prince Alfred Hospital, and 106 to private institutions. From the inception of the brigade 14,774 persons have received the benefit of its services. After the amalgamation the headquarters, Balmain, and Newtown ladies' branches formed themselves into a nursing division and had been of great assistance to the corps. Notwithstanding that every effort had been made to minimise the expenditure the accounts for the eight months showed a deficiency of £114 6*s.* 2*d.* It was very necessary that the funds should be largely augmented during the current year if the corps was to maintain its proper standard of efficiency and usefulness. The staff had ably maintained its reputation for energy and attention to duty.

The Supply of Medical Practitioners in Victoria.

The annual report of the University of Melbourne for the year 1903–04 shows that the number of medical students attending lectures is 251.

Medical Man charged with Perjury.

An extraordinary charge has been partly investigated by the St. Kilda bench of magistrates. Mr. Paris Nesbit, K.C., of South Australia, a well-known but eccentric barrister who has been more than once committed to a lunatic asylum, charged Dr. R. E. Schlesinger with perjury when giving evidence that Mr. Nesbit was a lunatic in the year 1885. In consequence of the certificates of Dr. Schlesinger and Dr. Simmonds, since dead, Mr. Nesbit was committed to an asylum and detained there from April 29th to July 29th, 1885. He now alleges that Dr. Schlesinger's statements were false. He called several lay witnesses, including the Chief Justice, to say that they thought him sane at the time he was committed. He then asked for an adjournment which was granted.

Death of Dr. D. A. Gresswell.

The State of Victoria has suffered an incalculable loss by the death of Dr. Dan Astley Gresswell, chairman of the Board of Public Health. He was unquestionably one of the most capable officers who ever administered an important department. He had a most comprehensive and detailed knowledge of everything pertaining to hygiene and public health; he worked indefatigably in the administration of his department; scrupulous and firm, but always courteous, he soon earned and held the esteem and respect of the whole community. He set before him an extremely high ideal of public duty and strove to realise it with extraordinary energy and enthusiasm. Dr. Gresswell was born on Sept. 11th, 1853, at Louth, Lincolnshire. He was one of the 12 sons of Mr. Dan Gresswell, a veterinary surgeon, who was widely known for his skill and scientific attainments and who did much to raise veterinary medicine to a higher and more scientific level. Dr. Gresswell was educated at Oxford, where he took his M.A. and M.D. degrees, his medical studies being carried on at St. Bartholomew's Hospital and School. He had a brilliant career at college, gaining the Radcliffe Travelling Fellowship. His thesis on the natural history of scarlet fever attracted considerable attention and is recognised as the authoritative work on the subject. He early turned his attention to hygiene and public health and obtained an appointment as assistant inspector of the Local Government Board. He was recommended by Sir Richard Thorne for the post of medical inspector of the new board of public health of Victoria and was appointed to that post in 1890, commencing duty on March 25th of that year. He immediately made exhaustive inquiries into the sanitary condition of Melbourne and of Victoria and made numerous recommendations which, though causing many protests from vested interests, have been practically carried into effect. He was really the author of numerous legislative measures, notably on food adulteration, meat supervision, and milk supervision, and spread broadcast through the State numerous wall sheets and papers on the prevention of influenza, typhoid fever, and other infectious and epidemic diseases. In 1894 he was appointed chairman as well as medical inspector of the board. He worked persistently and, in face of much opposition, with steadfast courage and tact to improve the health of Victoria and to keep the State free from outbreaks of epidemic and infectious disease, and his efforts must have saved the community thousands of pounds. It was almost entirely due to his efforts that Victoria escaped the plague which played such havoc in the neighbouring states. He took a warm interest in the profession and was president of the Medical Society of Victoria and of the Victorian branch of the British Medical Association. Dr. Gresswell's health began to fail in November, 1898, when he had an attack of septic cholangitis which kept him from work till May, 1899. He seemed fairly well until last February when he had a similar and severe attack. He resumed duty in May but was obviously weak. On Nov. 23rd he was again attacked and gradually got weaker and died on Dec. 11th. The funeral was attended by a large number of prominent men, including the Premier, the Chief Secretary, a representative of the Governor, representatives of the medical societies and various public bodies, and many leading medical men. He leaves a widow but no children.

Death of Dr. W. Finlay.

Dr. William Finlay, formerly of Balmain, New South Wales, died recently at Bowenfels, where he had gone to recruit his failing health.

Dec. 5th, 1904.

Obituary.

THOMAS WOODS, M.D. GLASG., L.R.C.S. IREL., M.R.C.S. ENG., L.A.H. DUB., L.M. DUB.

Dr. Thomas Woods, who died on Jan. 5th at Birr (or Parsonstown), King's Co., Ireland, graduated in 1839 and attained a great reputation as a general practitioner and was held in the highest esteem by the medical profession and the public. At the time of his death Dr. Woods was in the ninetieth year of his age. He was the author of "Phthisis," "Lord Rosse's Telescope," and "Reasons against the Theory of Evolution," and contributed numerous articles to the medical and scientific journals. His series of papers which appeared in the *Philosophical Magazine* in 1852 on the "Heat of Chemical Combinations" caused considerable stir in the scientific world and contributed to the foundation of "thermo-chemistry." He was also interested in photography since the time it was in its infancy and did much to advance the art to the perfection to which it has at present attained. He enjoyed for a long time a large and lucrative practice and held up to the present year all the principal Poor-law and other appointments in the town. From a personal point of view he presented the character of the philanthropist. He was always willing to help the sick and needy and was unwearied in performing deeds of mercy with no thought for his own individual advantage, while his manner of living was quite simple. He was twice married and leaves a large family to deplore their loss. Four of his sons are in the medical profession.

DAVID MITCHELL ARTHUR, M.B., C.M. ABERD., J.P.

THE announcement of the unexpected death of Dr. D. M. Arthur of Cults, Aberdeenshire, which took place on Jan. 9th, was received throughout the district with general regret and he will be deeply mourned by the whole community among which he had laboured for over 20 years. Until about the end of 1904 Dr. Arthur was assiduously engaged in professional duty and only his more intimate personal friends were aware of his illness. He was the third son of the late Rev. David Findlay Arthur, for 50 years Free Church minister of Banchory-Devenick. After the completion of his medical curriculum he graduated at Marischal College, Aberdeen, in 1880 and proceeded to Ceylon where he practised for about two years but his health breaking down he returned to Scotland and started the practice of his profession in Cults. He applied himself with zeal and success to his work, winning in a high degree the confidence of his patients and the esteem and affection of a wide circle of friends. Several years ago he was made a justice of the peace and he held several public appointments the duties of which he discharged with scrupulous fidelity. He was medical officer of the parishes of Peterculter and Maryculter and for the County Hospital at Summerfield, in conjunction with Dr. D. Maver. Dr. Arthur, who was unmarried, is survived by a sister and two brothers, one of the latter being Dr. Alexander T. Arthur of Cults. The deceased gentleman was in his fifty-first year.

JOHN FRASER, M.B., C.M. ABERD.

THE death took place on Jan. 9th, at Pitchaish House, Ballindalloch, of Dr. John Fraser, youngest and last surviving son of Mr. Hector Fraser of Aberdeen. Dr. Fraser graduated as M.B., C.M. at the University of Aberdeen in 1903 and after acting as a locum-tenent in Preston he went, about a fortnight ago, to Ballindalloch in a similar capacity, where he contracted a severe cold which developed into pneumonia. Dr. Fraser was very popular with his patients His death is all the more sad from the fact that his brother, Mr Hector Fraser, died in May last

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND —The following gentlemen having passed the necessary examinations and having conformed to the by laws and regulations have been admitted Fellows of the College —

John Arthur Hayward M.D Lond. L R C P Lond St Bartholomew's Hospital Diploma of Member dated Feb 12th 1899 Cecil Edward Marriott M C Camb L R C P Lond Cambridge University and University College Hospital Member Feb 13th 1896 Francis Joseph Hasslacher M B Lond, L.R C P Lond King's College Hospital, Feb 11th, 1897 John Clay M B B S Durham L R C P Lond Durham University Member May 4th, 1898, Herbert Dean P London
Hospital Member Jul cGavin
M D Lond, L.R C P m and
London Hospital M Ferrier
Walters L R C P Lond, University College and Royal Infirmary, Bristol Member July 25th 1900, Reginald Cheyne Elmslie M B, B S Lond, L.R C P Lond St Bartholomew's Hospital Member May 9th 1901, George Ernest Waugh M.D Lond B A Camb L R C P Lond Cambridge University and University College Hospital August 1st 1901 William Francis Harriott Coke, L.R C P Lond St George's Hospital Member Oct 7th, 1901 Ernest Rock Carling, M B B S Lond, L.R C P Lond Westminster Hospital, Member Nov 14th 1901, Somerville Hastings M B B S Lond, L.R C P Lond, Middlesex Hospital Member Feb 13th, 1902, Hugh Davies Colley B C

Jefferson Faulder B.A Camb, L R C P Lond August 4th 1903
Neville Ivens Spriggs M B B S Lond
Hospital Member August

B A B Sc
niversities and
Ch B Aberd
Hospital not
a Member

The following gentlemen have passed the first professional examination in anatomy and physiology for the diploma of Fellow —

h B Sc. New Zealand University
ital and King's College Mathew
to M R C S Eng L R C P Lond
ollege and Middlesex Hospital
Bartholomew's Hospital Godfrey Eustace
Charles Cork
Univers
B Sc
Hospit
Ch B
Kings
M B
Alexan
M R C
Hospit
St Ba
Sc L
pit
L R C
Hospit
Londo
pital
versity
Cambr
pitals
Univer
M C
versity
M B
pital,

College and Royal Infirmary, Liverpool; David Ranken Durham College of Medicine and King's College London Philip Alfred

85

who were referred
both anatomy and physio
only

MEDICAL MEN CALLED TO THE BAR —We note the two following names of medical men who have passed the final bar examinations E Hugh Snell, M D, B Sc Lond, D P H Cantab, F R S Edin, medical officer of health of the city of Coventry and a member of the Middle Temple, and W Alfred Brend, M B, B Sc Lond, M A Cantab, who is a member of the Inner Temple

PRESENTATION TO A MEDICAL MAN —Dr Ernest W White, who has just retired from the medical superintendency of the City of London Asylum, Dartford, after nearly 18 years' tenure of office was the recipient of an illuminated address and a silver tea and coffee service from the members of the visiting committee (past and present) at a dinner given on Jan 11th by its chairman, Sir George Wyatt Truscott, who, in making the presentation, alluded in felicitous terms to Dr White's faithful and distinguished services to the Corporation of London On Jan 13th Dr. White was also presented by the staff of the asylum with a silver mounted tantalus as a mark of esteem and regard

FIFTH RUSSIAN SURGICAL CONGRESS — On Jan 10th the Fifth Congress of Russian Surgeons was opened in Moscow with little ostentation by a speech by one of the veterans of Russian surgery, Professor Rein, who had to deplore the thinning of the ranks of the members of the Congress, on the one hand, by the direct demands of the army in the Far East and on the other hand, by the consequently enormous increase in calls on the attention of those who remain in Russia Three notable deaths had to be recorded —viz, those of A A Bobroff, N V Sklifosovski, and K. Ph Klein, the second of whom, Sklifosovski, said the speaker 'we had begun to place after the great N I. Pirogoff' The attendance numbered about 100 The president chosen for the Congress was Professor M S Subbotin of the St Petersburg Military Medical Academy

COMPLIMENTARY DINNER TO MR PRIESTLEY SMITH —Mr Priestley Smith's recent resignation of the post of honorary ophthalmic surgeon to the Queen's Hospital, Birmingham was made the occasion of a very interesting gathering on Jan 14th, when his past house surgeons entertained their former chief at a dinner in the Grand Hotel Birmingham Dr C E Purslow presided and Mr Wilfrid Allport acted as vice president and secretary Mr Allport in proposing "The Guest of the Evening," briefly alluded to the work which had made Mr Priestley Smith's name so well known, to his great powers as a teacher, and to that unfailing sympathy and kindly help in all their difficulties which ever won for him the love and admiration of all those with whom he was associated The toast which was drunk with musical honours, was received with great enthusiasm Dr Purslow, before proceeding to make the presentation spoke of the unanimity with which the idea of the dinner and the presentation had been taken up He pointed out that of 43 residents who had served under Mr Priestley Smith during his long tenure of office it was only possible to circularise 36, since two were deceased and five were abroad, thousands of miles away, and would not have had time to reply Dr S Barwise in supporting, spoke of Mr Priestley Smith's kindliness of nature and the influence for good that he had always exerted on those with whom he came in contact, citing instances showing his uniform consideration for the patients and all those around him Dr Purslow then presented a silver rose bowl (of the loving-cup pattern) and a pair of massive silver candle sticks The bowl bore the following inscription "Presented to Priestley Smith Esq, M B Ch M, F R C S Eng, by his past house
oken of
" Mr
edings,
Priestley Smith,
in a characteristic speech warmly expressed his thanks for

the honour that had been shown him and for the presentation, which, he said, would ever be for himself and his family a pleasurable memento of the occasion.

Literary Intelligence.—Messrs. P. S. King and Son will shortly publish a book on "Infantile Mortality and Infants' Milk Depôts," by Dr. G. F. McCleary, the medical officer of health of Battersea, in which district a municipal milk depôt has been engaged in feeding babies for over two years. The importance of improper feeding as a factor in infantile mortality is, it is stated, fully explained in the work and an account is given of the history and practical working of the infants' milk depôts in this country and in America, and of the similar institutions—the "Consultations de Nourrissons" and "Gouttes de Lait"—in France. Full particulars are given as to the cost of the various appliances necessary for the work of a milk depôt, which should be helpful to members of the medical profession and of local authorities who wish for information on the subject. The book is illustrated.

Westminster General Dispensary. — This institution, which was founded in 1774 and is lodged in 9, Gerrard-street, has recently been renovated and brought up to date through the generosity of the treasurer, Mr. J. F. Blackwell. The house, which still bears marks of its having been one of the old Soho mansions, has been admirably adjusted for its present purposes. A new heating apparatus has been put in, the resident medical officer's quarters have been provided with a bath-room, electric light has been installed, and the floors in the rooms set aside for the reception of patients have been laid in marble mosaic. This, of course, makes cleanliness a far easier matter to obtain than in the days when the old-fashioned ordinary planking was used. The staff consists of two consulting surgeons, one consulting physician, three visiting physicians, three visiting surgeons, a dental surgeon, and a resident medical officer. The institution does good work in a quarter which is now very poor, though about 160 years ago it was one of the most fashionable parts of London.

Society for the Relief of Widows and Orphans of Medical Men.—A quarterly court of the directors of this society was held at 11, Chandos-street, London, W., on Jan. 11th, Mr. Christopher Heath, the President, being in the chair. The President announced the death on Jan. 5th of Mr. J. B. Blackett, who had filled the office of secretary to the society for 37 years, and the following motion was carried unanimously:—

> That this court has received with deep regret the announcement of the death of Mr. Joseph Blackett, M.R.C.S., who has so ably filled the office of secretary to the Society for the Relief of Widows and Orphans of Medical Men since 1868. The court desires to place on record its appreciation of the valuable services of Mr. Blackett to the society and of his unvarying kindness to, and consideration for, the annuitants of the charity, and wishes to convey to his family its sincere sympathy in their bereavement.

52 widows and 16 orphans had received a Christmas present, amounting in all to £574, in addition to their annuities. A sum of £1293 was allotted in payment of the half-yearly grants to the annuitants. Four new members were elected and one new application on behalf of a widow was received. Four applications for the vacant office of secretary were received and considered and Mr. Edward J. Blackett, M.R.C.S., L.R.C.P., was elected to succeed his father as secretary.

American Mosquito Extermination Society.—The second annual convention of the American Mosquito Extermination Society was held in New York and in Brooklyn on Dec. 15th and 16th, 1904. According to the report of the proceedings given in the *Scientific American* of Dec. 31st, the opening meeting was held at the New York Aquarium, where the process of mosquito hatching was shown by living examples and Mr. Frank Moss read a paper containing suggestions as to the adoption of uniform State laws pertaining to mosquito extermination. At the evening meeting two papers were read, one by Colonel W. C. Gorgas, M.D., on the Sanitation of the Panama Canal Zone so far as Mosquito Extermination relates to it; and the other by Dr. E. Porter Felt, New York State entomologist, on Diversities among New York Mosquitoes. On Dec. 16th the following papers were read or demonstrations given: by Dr. Walter Wyman, surgeon-general, and Dr. J. M. Roseneau, director of the United States Hygienic Laboratory, Washington, on the Methods of Examination and Dissection of Mosquitoes for Parasites; by Dr. Thomas Darlington, health commissioner, on Mosquito Extermination in New York City; and by Dr. Quitman Kohnke, president of the New Orleans Board of Health, on the Methods of Transmission of Yellow Fever by Mosquitoes and on the Non-infectiveness of Yellow Fever apart from Mosquitoes.

The Leeds Triennial Musical Festival.—Most of the medical charities of Leeds are interested in the success of the Triennial Musical Festival, for the committee is in the habit, after making provision for an adequate reserve fund, of distributing the profits among them in certain proportions. The first festival was held in 1858; since the year 1874 they have been held every three years, and as a result of 12 festivals a sum of upwards of £20,000 has been allotted to the charities. Great though the musical success of the 1904 festival was the financial results have been disappointing, for the profits amount only to £300. This is attributed to the period of depression in trade which has affected directly or indirectly all classes of the community. After much discussion by the committee it was agreed to distribute the sum of £1000 among the charities by drawing for the first time on the reserve fund which would then remain at £4000. This decision has met with general approval. Every one admits that the primary object of the festival is musical, but there are many who are influenced to become subscribers by their interest in the charities of Leeds. The money has been distributed as follows:—General Infirmary, £560; Leeds Public Dispensary, £120; Hospital for Women and Children, £120; and £40 to each of the following—viz.: District Nurses' Association, Blind Institution, Tuberculosis Association, Cookridge Convalescent Home, and Workpeople's Convalescent Homes.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Close, Napier, L.R.C.S. Irel., L.R.C.P. Edin., has been appointed Medical Examiner for Recruits for the West Somerset Imperial Yeomanry, at Chard.

Hodgson, H., M.B., M.S Lond., has been appointed Certifying Surgeon under the Factory Act for the Alresford District of the county of Hants.

Scott, C. R., M.B., C.M. Edin., has been appointed Certifying Surgeon under the Factory Act for the Abingdon District of the county of Berks.

Snell, E. H., M.D., B.Sc. Lond., D.P.H., has been appointed Honorary Sanitary Officer to the Coventry and Warwickshire Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Bolton Infirmary and Dispensary.—Junior House Surgeon. Salary £100 per annum, with apartments, board, and attendance.

Central London Throat and Ear Hospital, Gray's Inn-road, W.C.—Honorary Second Assistant Anæsthetist.

Chesterfield and North Derbyshire Hospital and Dispensary.—Honorary Ophthalmic Surgeon.

Chester General Infirmary.—House Surgeon. Salary £100 per annum, with residence and maintenance.

County Asylum, Rainhill, near Liverpool.—Assistant Medical Officer, unmarried. Salary £150 per annum, increasing to £350, with apartments, board, attendance, and washing.

East London Hospital for Children and Dispensary for Women, Shadwell, E.—Pathologist and Registrar. Honorarium £100 per annum.

Eccles and Patricroft Hospital.—House Surgeon, unmarried. Salary £70 per annum, with board and washing.

Farringdon Dispensary and General Lying-in Charity, 17, Bartlett's Buildings, Holborn-circus, E.C.—Honorary Dental Surgeon.

Halesworth, Patrick Stead Hospital.—Surgeon. Salary £50 guineas a year.

Hospital for Epilepsy and Paralysis and other Diseases of the Nervous System.—Resident Medical Officer for six months Salary at rate of £50 a year, with board and washing.

Hospital for Sick Children, Great Ormond-street, London, W.C.—Assistant Physician. Also Assistant Casualty Medical Officer, unmarried, for six months. Salary £20, with board and residence.

Huddersfield Infirmary.—One Physician, Two Surgeons, and One Ophthalmic and Aural Surgeon (all honorary).

Leeds General Infirmary.—Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

Liverpool Dispensaries.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

Manchester, Ancoats Hospital.—Resident House Surgeon Salary £100 per annum, with board, residence, &c. Also Resident House Physician. Salary £80, with board, &c.

Manchester, Chorlton-upon-Medlock Dispensary. — Honorary Medical Officer.

Manchester Hospital for Consumption and Diseases of the Throat and Chest (Bowdon, Cheshire).—Resident Medical Officer. Salary £100 per annum, *with board, apartments*, and washing.

Metropolitan Ear, Nose, and Throat Hospital, Grafton-street, Fitzroy-square, W.—Anæsthetist.

Monmouthshire Asylum.—Junior Assistant Medical Officer. Salary £150 per annum, with board, lodging, and washing.

National Orthopædic Hospital, Great Portland-street, W.—Honorary Assistant Anæsthetist.

New Hospital for Women, Euston-road.—Three Senior Assistants (female).

Poplar Hospital for Accidents, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

Rangoon, Dufferin Maternity Hospital.—Resident Lady Doctor as Superintendent. Salary Rs. 400, rising to Rs 500, with house, partially furnished.

Royal Ear Hospital, Dean street, Soho-square, W—Clinical Assistants. Also Honorary Dental Surgeon.

Royal London Ophthalmic Hospital, City-road, E.C.—Assistant Surgeon.

Sunderland Infirmary.—House Physician, House Surgeon, and Assistant House Surgeon. Salary in each case £100, with board, residence, and washing.

Tottenham Hospital, London, N.—Honorary Assistant Physician Also Pathologist. [illegible]

Victoria Hospital [illegible] S.W.—*House* Surgeon for [illegible] board and lodging.

Wangford Rural District.—Medical Officer of Health. Salary at rate of £80 a year.

Winchester, Royal Hants County Hospital.—Honorary Surgeon-in-Ordinary.

Worcester General Infirmary.—House Physician. Salary £80 per annum, with board and residence.

Births, Marriages, and Deaths.

BIRTHS.

Clarke.—On Jan. 4th, at Windsor House, Morley, Yorks, the wife of W. Travers Clarke, M.R.C.S., L R C.P., of a son

Garle.—On *Jan.* 13th, at Farleigh, Foxley-lane, Purley, the wife of R. H. W. Garle, M.R.C.S., L R C.P, of a son.

Gray.—On Jan. 15th, at 24, *Ormskirk-street*, St. *Helens*, the wife of Andrew Gray, M.D., of a son.

Scott.—On Jan. 14th, at 62, Belsize Park-gardens, Hampstead, the wife of Sydney Scott, M.S. Lond., F.R.C.S. Eng, of Welbeck-street, Cavendish square, W., of a son.

Tatham.—On Jan. 9th, at Castle-street, Abergavenny, the wife of A. L. Tatham, M.D., of a daughter.

MARRIAGE.

Unwin—Hall.—On Dec. 5th, 1904, at Terrace Congregational Church, Wellington, N.Z., William Howard Unwin, M.D., to Phyllis E. Hall.

N B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

During the week marked copies of the following newspapers have been received:—*South Wales Daily News, Surrey Advertiser, Hertfordshire Mercury, Windsor and Eton Express, Manchester City News, Bucks Advertiser and Aylesbury News, Westminster Gazette, Army and Navy Gazette, Glasgow Evening Times, Leeds Mercury, Sussex Daily N*[illegible] *Dublin Expres*[illegible] *Moment ronicle.* [illegible]

Notes, Short Comments, and Answers to Correspondents.

MALADVERTISEMENT.

Our attention has been called to an advertisement in various newspapers of the articles issued by the Capsuloid Company of 31, Snow-hill, London, E C. The advertisement implies, and we must believe it is intended to imply, that The Lancet has recommended the wares of the [illegible] turn [illegible] sort, [illegible] attributed to us will cause the advertisers to refrain from their incorrect statements or some papers from printing such statements in return for cash. We noticed favourably certain capsuloids manufactured by this company as a method of administering iron. It would seem that the proprietors of the Capsuloid Company having assumed for trade purposes that iron well administered prevents hair from falling out or turning grey consider themselves justified in publishing or at any rate hinting that The Lancet has recommended capsuloids for this purpose. We do not think highly of the morality or manners of such tactics.

TWO QUERIES CONCERNING TOBACCO.

To the Editors of The Lancet.

Sirs,—Perhaps the following information will interest your readers. *"H. D." asks for "anti-nicotine tobacco." If such a preparation* existed it would be useless and would have to be made up with flavouring which is most undesirable—the lighter the tobacco the less nicotine generally

Dr. James Savege asks the "effect of snuff on the heart." In the course of my association with tobacco, about 25 years, I have known men all this time, every working day, to be inhaling tobacco dust or fumes produced in the process of manufacture Uninterrupted good health is the general rule of all persons engaged in tobacco proceedings of every kind and generally of large consumers. It would be very interesting to know how often persons suffering from any trouble of upper air surfaces use snuff. Since snuff has almost gone out of use influenza, catarrh, and other troubles seem to have increased and the pernicious cigarette.

I am, Sirs, yours faithfully,

St. Leonards on Sea, Jan. 17th, 1905. F. V. Chalmers.

PS —Since the last Budget the mid-rib of the tobacco leaf has largely increased; this is [illegible] cent. of "wood" [illegible] that his "tobacco [illegible] and every essence [illegible] good tobacco.

To the Editors of The Lancet.

Sirs,—A brand of tobacco named "Timco Flake," sold by J. P. Burns, 17, South Exchange-place, Glasgow, is said to have all nicotine extracted and I have smoked it without feeling the usual effect of tobacco

I am, Sirs, yours faithfully,

Jan. 16th, 1905. P. C. S.

THE CHOICE OF AN ANÆSTHETIC.

To the Editors of The Lancet.

Sirs,—I should be greatly obliged if some of your numerous readers would advise me as to the best and safest anæsthetic to use in minor operations on children (nævi, circumcision, &c.), three or four months and two or three years old respectively, in cold weather in country cottages; also whether Junker's inhaler for chloroform is suitable and safe for young children.

I am, Sirs, yours faithfully,

Jan. 17th, 1905. Hector.

WANTED—DIAGNOSIS AND TREATMENT.

To the Editors of The Lancet.

Sirs,—I shall be glad if any of your readers can help me in the diagnosis and treatment of the case whose history follows For two or three years a young girl has been attending at my surgery at intervals of two or three months suffering from little septic wounds of the fingers and hands. Unless incised these rapidly advance in the *ordinary manner*, causing a certain amount of cellulitis. The girl's father is a grocer and she takes an active part in the shop, handling more especially cheese and bacon. In all other respects she is a very healthy girl. No other part of her body is ever affected and no other member of the family presents the symptoms. What is the cause of these sores?

I am, Sirs, yours faithfully,

Jan. 16th, 1905. J. Marsh, M.B. Edin.

A WIND PRESSURE SIGNAL FOR THE PREVENTION OF RAILWAY ACCIDENTS.

In this country it is extremely rare for a railway train to be derailed by the force of the wind but such an occurrence has happened and as recently as 1903, when it will be remembered that during the great gale of Feb. 27th of that year a mail train was blown over on Levens Viaduct, on the Furness line, and almost fell into the sea.

According to our contemporary the *Yorkshire Post*, the Furness Railway Company, in order to prevent similar accidents, has now erected an ingenious instrument which will automatically warn the signalmen on duty at Cark and Plumpton when there is unusual wind pressure of sufficient force to be dangerous to trains crossing the viaduct. The apparatus consists of a combined wind-pressure gauge and recorder and is connected with an electric arrangement by means of which bells are set in motion at distant signal-cabins. These bells will continue to ring so long as the velocity of the wind on the viaduct is dangerous to passing trains, consequently all traffic will be stopped until the wind pressure falls below the point of danger.

PLANS FOR AN ASYLUM.

To the Editors of THE LANCET.

SIRS,—Can you or any of your readers tell me where I can see or procure rough plans and specifications for a small asylum for the insane? I have just been appointed medical superintendent of an old asylum the buildings of which would have been considered disgraceful 50 years ago and I intend to obtain the building of a new institution if I possibly can. The asylum would have to be for at least 60 patients and the estimate should include all reasonable modern conveniences and improvements. I shall be glad of any information on the subject.

I am, Sirs, yours faithfully,

Jan. 15th, 1905. MEDICAL SUPERINTENDENT.

WOMEN AND MEALS.

IN few of the discussions on physical deterioration has it been brought prominently enough to the front how women generally, and especially housewives and mothers of families of the middle classes and of the artizan and mechanic sections, shirk the duty of preparing proper meals for themselves and their children when the husband and father is absent at business, at the shop, or "inside," to use the phrase employed by the workers in large factories. "Feed the brute" is an aphorism familiar in all classes of society but the necessity for feeding properly also his offspring and their mother does not seem to be equally apparent. There are too many husbands and fathers who could give evidence that when they have questioned their wives on the subject of dinner—the dinner, that is, of the wives and children—more often than not they have been told, "Oh, I didn't stop for any, I was too busy with washing (or cleaning, or sewing, or some other domestic duty) and did not trouble to get dinner at the proper time; then the feeling of hunger went off and I didn't want any dinner." In such circumstances, if the father inquires what the children had he will be told, "I boiled them an egg" or "They fancied a slice of bread and jam," or "They had a lump of bread pudding." This sort of thing continued from day to day cannot be the right way for women and prospective mothers to build up the strength either of themselves or their offspring, and, it should be observed, it is not through compulsion that the mother of the family has no proper dinner but simply through bad management or laziness. When the head of the family comes home to dinner he and the family have proper meals because he demands them for himself, and on such occasions he always finds that the wife and family can eat their meals properly and with relish. He may be told that it is his presence and his company which give his family their good appetites but this is only a roundabout way of stating the truth. He insures the decent dinner and the decent dinner provokes the appetite. The amount to which actual deterioration of the race exists among us has been much exaggerated, but undoubtedly the widespread evil of inattention to meals by the housewives of England is responsible for a good deal of their physical ill-health and that of their offspring. Every general practitioner knows this.

THE TITLE OF DOCTOR.

To the Editors of THE LANCET.

SIRS,—I am an M.B., B.C. Cantab., and write to ask you your opinion whether or not I have any right to style myself "Doctor" on cards, letters, door-plate, &c. I know some M.B.'s who do so but I personally believe that they have no right to the title. Strangely enough, I have some ambitious relatives who become annoyed when I request them not to address me as "Doctor." If I could show them in your esteemed journal a definite statement on this question it would be looked upon as authoritative by them.—I am, Sirs, yours faithfully,

Jan. 18th, 1905. M.B., B.C. CANTAB.

*** There is no "right," but custom sanctions a Bachelor of Medicine being addressed as "Doctor" and we follow this style in our own columns.—ED. L.

THE TREATMENT OF STRICTURE.

To the Editors of THE LANCET.

SIRS,—I have now under my care two cases of gonorrhœa treated about six weeks in the usual way, but both have a contracted urethra about one inch below the meatus; one may be a chancre. There is glandular enlargement in left groin. The other appears simple stricture; in each case the discharge has practically ceased. I shall be glad to learn what would be the best treatment in each case.

I am, Sirs, yours faithfully,

M.R.C.S., L.R.C.P.

*** Six weeks is a rather short space of time for the formation of a urethral stricture and it is possible that our correspondent's suggestion as to one case is correct—namely, that there is a chancre present. If this be so, or if there is any real suspicion that it may be so, mercury should be given in the usual way. If a true fibrous stricture has formed in the urethra, about one inch from the meatus, it may be treated by dilatation with bougies. With fuller details as to the conditions present it might be possible to make more definite suggestions for treatment.—ED. L.

LADY HOSPITAL MANAGERS.

To the Editors of THE LANCET.

SIRS,—Could you or one of your correspondents kindly tell me (1) what hospitals, besides Edinburgh and Bradford, have ladies on the managing committee, and (2) with what success?

I am, Sirs, yours faithfully,

Bath, Jan. 12th, 1905. R. DUCKWORTH.

◆

Mr. W. Somerville.—There are so many missionary societies under whom medical mission work can be undertaken that we cannot advise our correspondent as to any particular one. He might apply to the Society for the Propagation of the Gospel, the Society for Promoting Christian Knowledge, the Universities Mission to Central Africa, the Church Missionary Society, the Archbishops' Mission to the Assyrian Churches, or the Guild of St. Luke. Names and details will be found in any of the Church year books.

A. B.—We always consider it highly inadvisable that an assistan should start in practice in the town where his principal reside The circumstances alluded to—the absence of a bond and th alleged unfair treatment of the assistant—must determine th ethics of the case and lead the assistant to form his own judgment but our advice to him is to seek his fortune elsewhere.

M. H.—We do not quite understand our correspondent's question and he has not intrusted us with his name.

Rusholme will obtain all the information that he requires from the Colonial Office.

Medical Diary for the ensuing Week

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (25th).—St. Bartholomew's [illegible], University College (2 P.M.), Royal Free (2 P.M.), Middle [illegible] (3 P.M.), St. Thomas's (2 P.M.), Lo [illegible] (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (26th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), [illegible], Middlesex (1.30 P.M.), St. Ma [illegible] North-West London (2 P.M.), C [illegible] 2.30 P.M.), Metropolitan (2.3 [illegible] St. Mark's (2 P.M.), Samaritan [illegible] den-square, (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's [illegible] Charing Cross (3 [illegible] Mary's (2 P.M.), [illegible] M.), Gt. Northern [illegible] London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.).

SATURDAY (28th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.). St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (23rd).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8 30 P.M. Discussion on Hæmaturia (introduced by Dr. A. E. Garrod and Mr. B. Clarke).

ODONTOLOGICAL SOCIETY OF GR [illegible] square, W.).—7 P.M. Council. 8 P.M. [illegible] Mr. Parfitt: An Extreme Case of [illegible] R. D. Pedley: The Relation [illegible] Diseases.

TUESDAY (24th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover square, W.).—8.30 P.M. Mr. H. Lett: An Analysis of 99 Cases of Inoperable Carcinoma of the Breast treated by Oöphorectomy.

THERAPEUTICAL SOCIETY (Apothecaries' Hall, Blackfriars).—Papers:—Dr. Dixon: On the Action of Alcohol on the Heart.—Dr. Gimlette: On the Malay Treatment of Yaws.

THURSDAY [illegible]

HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne street, Edgware road, W.).—8 P.M. Clinical Evening. Patients in attendance at 8 P.M.

FRIDAY (27th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square' W.).—8 P.M. Exhibition of Clinical Cases followed by Discussion. Patients will be in attendance from 8 to 9 P.M.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17, Bloomsbury-square, W.C.).—3 P.M. Papers.—Prof. A. W. Crossley: Pharmaceutical Regulations in Germany.—Mr. P. H. Marsden: The Laws relating to Pharmacy in Russia.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (23rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. J. Galloway: Clinique. (Skin.) 5.15 P.M. Mr. J. Hutchinson, jun.: Fractures and Dislocations, the Additions to our Knowledge since the Introduction of X Rays (with lantern illustrations).

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. H. J. Davis: Cardiac Disease: Organic.

TUESDAY (24th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. R. Hutchison: Clinique. (Medical.) 5 15 P.M. Mr. H. B. Robinson: Cystic Affections of the Breast.

POST GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.)—5 P.M. Dr. S. Taylor: Treatment of Various Diseases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.)—4 30 P.M. Dr. A. E. Giles: Endometritis and Erosion.

WEDNESDAY (25th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. M. Collier: Clinique. (Surgical.) 5.15 P.M. Mr. E. T. Collins: Glaucoma (with lantern illustrations).

POST-GRADUATE COLLEGE (West London Hospital. Hammersmith-road, W.).—5 P.M. Mr. Armour. Tumours of the Groin.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.)—6 P.M. Demonstration:—Dr. Wylie: Naso-Pharynx.

THURSDAY (26th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical) 5.15 P.M. Mr. E. Willett: Anæsthetics.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.)—5 P.M. Mr. Armour Tumours of the Groin.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Abercrombie: Demonstration of Medical Cases. (Post-Graduate Course.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4 30 P.M. Mr. H. W. Carson. The Present Position of [illegible]

[illegible] UMPTION AND DISEASES OF THE [illegible] P.M. Lecture: Dr. J. E. Squire. [illegible] Disease and their Significance [illegible]

SAMARITAN FREE HOSPI[illegible] 3 P.M. Mr. Malcolm: [illegible]

THE HOSPITAL FOR SI[illegible] 4 P.M. Lecture:—Dr. [illegible]

FRIDAY (27th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. L. Paton: Clinique. (Eye.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Armour Tumours of the Groin.

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THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1904, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 19th, 1905.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall.	Solar Radia in Vacuo	Maximum Temp Shade.	Min Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Jan. 13	30 42	S W.	...	46	44	34	34	35	Overcast
" 14	30·37	S	..	65	43	34	36	37	Fine
" 15	30 12	S E	...	46	41	33	31	33	Fine
" 16	29 68	S E.	...	43	43	24	Fzn	24	Cloudy
" 17	29 20	W.	0 54	48	44	24	40	41	Foggy
" 18	29 84	W.	...	53	43	34	35	36	Fine
" 19	30·31	S.W.	...	37	37	31	Fzn	32	Foggy

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A Clinical Lecture

ON

RICHTER'S HERNIA.

Delivered at St. Mary's Hospital on Dec. 15th, 1904,

BY V. WARREN LOW, M.D., B.S. LOND.,
F.R.C.S. ENG.,

SURGEON TO OUT-PATIENTS AT THE HOSPITAL.

GENTLEMEN,—I have lately had under my care in the wards of this hospital four cases of the condition known as Richter's hernia. This affection differs somewhat in its course and symptoms from the ordinary cases of strangulated hernia and its diagnosis is not always an easy matter. For this reason it is constantly overlooked in its earlier stages and in consequence its mortality is high. I am also inclined to believe that it is not so rare a condition as was previously thought, as there have been several other cases in the hospital within the last year, in addition to the four under my care. Nearly 20 years ago a certain amount of controversy waged over the name that should be given to this variety of hernia. Mr. Treves in an exhaustive paper read before the Royal Medical and Chirurgical Society in 1886[1] suggested that these partial herniæ should be called after Richter who had published a book on Hernia in 1778 (dedicated, by the way, to George III.), in which there was a chapter on what he called small herniæ, amongst which were included these partial herniæ. Mr. Treves pointed out that Littré in 1700 had described a variety of hernia in which a diverticulum, evidently that diverticulum now known as Meckel's, escaped into a hernial sac; but it was obvious that Littré had not contemplated the variety of hernia now under consideration. At the time of Treves's paper exception was [illegible] the very excellent [illegible] the name of an [illegible] d the somewhat [illegible] ggested instead. [illegible] question and it would, I think, be as difficult to avoid the term Richter's hernia as it would be to escape from a "Bell's palsy" or a pair of "Spencer Wells's forceps."

Treves's paper still remains the best summary of the facts in connexion with this condition. It is, as you all probably know, a strangulation of part only of the circumference of the gut wall, the area involved varying from a quarter, or even less, up to two-thirds or three-quarters of the circumference. It will be evident that in those cases where the larger proportion of the wall is involved the remainder of the lumen will, in all probability, be occluded by the kinking of the coil of intestine. The main facts recorded by Treves, as the result of a careful study of 53 cases, are that it is almost invariably the small intestine which is involved, generally the ileum, and that the area of gut wall strangulated is that opposite the mesenteric border. It occurs more frequently in women and in femoral herniæ; it only occurs in adults and, curiously, is more common on the right side. All four of my cases were women with right-sided femoral herniæ. The symptoms at first tend to assume a milder character than in the ordina[illegible] The vomiting is less severe [illegible] onset, and rarely feculent [illegible] the whole process of strang[illegible] and will often respond to aperients. Persistent diarrhœa has been known to exist throughout. The hernial protrusion may often escape notice and partly owing to this fact gangrene of the strangulated area is common (27 out of 53 cases collected by Treves) The mortality is therefore high. It is interesting to note, however, that cases of spontaneous cure occasionally occur with the formation of a fæcal fistula which afterwards closes of itself. The first two of these cases were published in THE LANCET of Sept. 24th, 1904, p. 895, and I will only here give a brief *résumé* of the chief points of interest.

CASE 1.—A woman, aged 30 years, was admitted to St. Mary's Hospital on Feb. 3rd, 1904. She had had a small lump in her right groin since Jan. 30th; this lump had appeared in the previous September and had then been regarded as an inflamed crural gland. It had disappeared under local treatment and there had been neither vomiting nor constipation. During the attack for which she was admitted there had been vomiting and her bowels had not been opened for three days before her arrival at the hospital. On admission she appeared ill but was not collapsed. Her temperature was normal, her pulse was 96, and her respirations were 18. There was a small tender swelling in the position of a right femoral hernia over which the skin was reddened and œdematous. There was slight distension of the abdomen but the abdominal walls were mobile and flaccid and there was only the slightest degree of tenderness. Operation showed that the hernial sac only contained pus and fæces and that the bowel had slipped back into the abdominal cavity. There was general peritonitis present, the peritoneal cavity containing fluid fæces. Near the internal opening of the femoral canal lay a coil of lower ileum of which a portion of the circumference, two-thirds, had been nipped to form a Richter's hernia. The herniated portion was gangrenous and had perforated in two places. Through a middle-line incision this coil of intestine was excised and Paul's tubes were tied into the patent ends of the intestinal canal. The patient, however, sank and died 20 hours afterwards.

CASE 2.—A woman, aged 41 years, was admitted to St. Mary's Hospital on March 5th, 1904. She had noticed a sudden pain and swelling in the right groin on Feb. 25th; she vomited at the onset of the pain. She continued to get about the house for four days before she took to her bed and was not admitted to hospital till the eighth day of her illness. Her bowels had not been opened during this period in spite of enemata and for the last four days there had been persistent vomiting. On admission her pulse was 120, her respirations were 28, and her temperature was 97° F. There was no marked evidence of collapse and the woman was cheerful. The abdominal walls were flaccid and not in the least degree tender. In the position of a right femoral hernia was a small tender swelling over which the skin was slightly reddened and œdematous. On incising this purulent fluid escaped from an empty hernial sac. Median laparotomy showed general purulent peritonitis but no fluid fæces were present in the peritoneal cavity as in the last case. A coil of lower ileum was found, of which roughly half the [illegible] herniated portion was covered with thick yellow recent lymph. The coil containing the herniated portion was fixed on the abdominal wall outside the peritoneal cavity and the latter was well flushed and drained. On the 9th the coil, which had then recovered its normal shape, was replaced in the abdominal cavity and the woman made an uneventful recovery.

In my remarks on these cases I pointed out, among other features of similarity, the insidious nature of their onset. In the first one it was only on the fourth day of the illness that the case was considered sufficiently serious to require operation, while in the second the woman got about her house for four days of her illness and it was not until the eighth day that she was brought to hospital. I would also draw your attention in the first case to the fact that in the previous September a similar attack to that for which she came to hospital was ascribed by a competent observer to inflammation of a crural gland.

CASE 3.—A woman, aged 56 years, was admitted to St. Mary's Hospital on July 30th, 1904, for "intestinal obstruction." She stated that for eight months she had suffered from some vague intestinal disturbance characterised by occasional colicky pains and flatulence with nausea. Her bowels had been irregular in their action but she said that she had not before been definitely "obstructed"; she [illegible] uring the last year [illegible] of the attack for [illegible] k previously she had been seized with abdominal pain and sickness and that these symptoms had gradually increased in severity. It was stated that before admission the vomiting had been stercoraceous in character. Her bowels had not been opened since the onset of the attack but there was not absolute obstruction and she had passed flatus up to the time of her admission. She was a spare woman who had evidently lost flesh, her tongue was dry and brown, and her breath was foul. Her

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[1] Transactions of the Royal Medical and Chirurgical Society, 1886.

TABLE I.—SHOWING THE RECORDED CASES OF MYELOPATHIC ALBUMOSURIA.

No.	Date and place of publication.	Observer.	Age.	Sex.	Necropsy.	Duration of disease.	Urine.	Morbid anatomy.	Remarks.
1	1848, Philosophical Transactions and (1850) Transactions of the Royal Medical and Chirurgical Society.	Bence Jones and MacIntyre.	45	M.	Yes.	1 year and over.	Bence Jones albumose.	Bones of trunk brittle and filled with red gelatiniform substance.	Kidneys normal
2	1867, Zeitschrift fur Biologie.	Kühne.	40	M.	No.	(?)	,,	—	—
3	1889, Prager Medicinische Wochenschrift.	Kahler and Huppert.	46	M.	Yes.	Eight years.	Bence Jones albumose for six years.	Multiple myeloma. Diagnosis was osteomalacia.	—
4	1891, Nederlandsche Tijdschrift voor Geneeskunde.	Stokvis.	—	—	—	—	Bence Jones albumose.	Gelatinous masses in bones. Not examined microscopically.	—
5	1894, Prager Medicinische Wochenschrift, No. 51.	A. Raschkes.	65	F.	Yes.	—	Albuminoids = 1·30 per cent., of which 0·40 = albumose.	Not examined microscopically. New growths in the thorax and pelvis.	Pneumonia.
6	1897, Deutsches Archiv für Klinische Medicin.	Seegelken Stintzing of Vienna.	61	M.	Yes.	—	Bence Jones albumose.	Bone tissue replaced by thin tissue with large spaces and cellular growth.	—
7	1897.	Bogotto.	—	M.	(?)	3 years.	,,	—	—
8	1897, Berliner Klinische Wochenschrift.	Senator and Rosin.	36	F.	Yes.	(?)	,,	"Myelogenous round-celled sarcoma." Kidneys amyloid.	—
9	1897, Wiener Klinische Wochenschrift.	Ewald.	62	M.	Yes.	(?)	,,	One tumour of the size of an apple. Microscope showed myeloma.	—
10	1898, Transactions of the Royal Medical and Chirurgical Society.	Bradshaw.	70	M.	Yes.	1½ years.	,,	Sarcomatous growth diffused through the bones of the trunk.	—
11	1898, American Journal of the Medical Sciences.	Fitz.	53	F.	No.	(?)	,,	—	Myxœdema.
12	1898, Deutsche Medicinische Wochenschrift.	Magnus Levy and Naunyn.	—	M.	No.	(?)	,,	—	—
13	1898, Société Biologique.	Vidal de Périgueux.	44	F.	No.	(?)	Probably Bence Jones albumose.	—	—
14	1899, Deutsches Archiv fur Klinische Medicin.	Ellinger.	45	M.	Yes.	1 month.	Bence Jones albumose.	Multiple myeloma.	—
15	1899.	Sternberg.	24	M.	Yes.	18 months.	,,	Neoplasm and deformities of the flat bones.	—
16	1899, Russisches Archiv fur Pathologie, Klinische Medicin, and Bacteriologie.	Buchstab and Schaposchnikoff.	42	M.	Yes.	—	,,	Multiple myeloma.	Authors claim this to be the first in which Bence Jones albumose gave rise to correct diagnosis.
17	1900, Deutsches Archiv für Klinische Medicin.	Askanazy.	51	M.	Yes.	—	,,	Bones fractured. Marrow increased, gelatinous, red, like flesh.	Leukæmia present.
18	1900, Journal of the Boston Society of Medical Sciences.	James Wright.	54	M.	Yes.	—	,,	—	History of syphilis. The x rays used in diagnosis.
19	1900, Journal of Pathology and Bacteriology, December.	J. A. Milroy.	—	M.	No.	4 years.	,,	—	—
20	1901, Deutsche Medicinische Wochenschrift	Kalischer.	67	F.	Yes.	(?)	,,	Multiple myeloma. Infiltration of ribs.	—
21	1901, Brit. Med. Jour.	Bradshaw.	51	M.	No.	1½ years.	,,	—	Gradual onset. Sarcomatous tissue.
22	1901, Johns Hopkins Medical Bulletin.	Hamburger.	49	F.	No.	—	,,	—	—
23		,,	50	F.	Yes.	—	,,	Multiple myelomata.	Negress.
24	1901, Liverpool Medico-Chirurgical Journal.	Barr.	52	M.	No.	—	,,	—	Bone deformities during life.
25	1901, Munchener Medicinische Wochenschrift.	Jochmann and Schumm.	36	F.	Yes.	—	,,	Multiple myleoma.	First thought to be osteomalacia.
26	1901.	Rostoski.	—	F.	—	—	,,	—	—
27	1901.	Blair.	64	M.	—	—	,,	—	—
28	1902.	Hymans van den Bergh.	36	M.	Yes.	—	,,	Multiple myeloma.	Crystals of albumose obtained.

TABLE I.—SHOWING THE RECORDED CASES OF MYELOPATHIC ALBUMOSURIA—(*continued*).

No.	Date and place of publication.	Observer.	Age.	Sex.	Necropsy.	Duration of disease.	Urine.	Morbid anatomy.	Remarks.
29	1902, International Clinics.	Vickery.	46.	M.	No.	—	Bence Jones albumose.	—	(?)
30	1902, Clinica Medica Italiana, p. 211.	P. Crute.	60	F.	No.	—	"	—	—
31	1903, THE LANCET, Jan. 10th, p. 93.	Anders and Boston.	32	M.	No.	—	"	—	—
32			43	M.	—	—	"	—	—
33			33	M.	—	—	"	—	—
34	(?)	Boston.	50	F.	—	—	"	—	—
35	1903, Australian Medical Gazette.	Jos. C. Verco	63	M.	Yes.	6 years.	"	Multiple myeloma. One humerus affected.	—
36	1903, Transactions of the Royal Medical and Chirurgical Society.	F. Parkes Weber.	50	M.	Yes.	—	"	Multiple myeloma.	Gumma on the tongue.
37	1904, THE LANCET, April 16th, p. 1045.	Bruce, Lund, and Whitcombe.	51	F.	Yes.	9 months.	"	"	Femur and humerus affected.
38	1905, THE LANCET, Jan. 28th, p. 211.	Barr.	49	M.	Yes.	—	"	"	—
39	Not published.	Burgess and Hall.	59	M.	Yes.	9 months.	No albumose found in urine	"	Vertebræ, sternum, and ribs affected.

result of a special ferment. 3. It has been suggested that its production results from some loss of function of the bone marrow owing to the destruction of the latter.[23]

As regards the first hypothesis, Magnus Levy[24] states that in the case observed by him the excretion in the urine often attained 36 grammes per day. He calculated that the whole mass of the diseased red marrow could not contain more than 100 grammes. He considered, therefore, that the excreted albumose could not be derived from the bone marrow. But in Dr. Parkes Weber's case no Bence Jones albumose was found in any of the organs, and if it were due to abnormal proteid metabolism it would seem reasonable to find it in places such as the muscles and the liver, where proteid metabolism is most active. Dr. Parkes Weber found also in his case that a considerable alteration of diet maintained for two days had no effect in altering the quantity of proteid excreted in the urine. Dr. Bradshaw found, too, in one of his cases, that meals had little or no influence on the excretion of the proteid in the urine. He found that as much was excreted by night as by day, when the patient was taking meals during the day-time only, and he considered the rate of excretion to be "pretty constant throughout the 24 hours." From experiments (Stokvis) in which Bence Jones albumose was injected into the rectum and also in the veins of dogs and in which it was excreted unchanged by the kidneys it seems probable that once it is free in the blood it appears in the urine.

[illegible] D. [illegible] J. [illegible] b[illegible] They failed to find in these a body giving exactly the same reaction as those of the Bence Jones proteid in the urine. From the vertebræ and the ends of the femur, however (and in this case practically the whole of the skeleton was more or less involved [illegible] obtained a pro[illegible] Jones albumose [illegible] be obtained by employing similar methods from normal red bone marrow. They argued, therefore, that in this case at least the bone marrow was probably the seat of production of the proteid excreted in the urine. Professor Muir found in the tumour cells of the same case granules which he conjectured might be the progenitors of the Bence Jones albumose. Dr. Bradshaw and Dr. E. E. Glynn, however, made very careful examination of the tumour substance and bone marrow from Dr. Barr's case but entirely failed to find any trace of Bence Jones albumose in them. They failed also to find any trace of a ferment.

I cannot find any record of work done in support of the third hypothesis.

The blood.—Systematic examinations of the blood do not appear to have been made in many cases. Nothing beyond simple anæmia seems to have been established and in no case is it recorded that either myelocytes or nucleated red corpuscles were found.

The kidneys.—In some cases interstitial nephritis has been found. In some the kidneys were normal. The disease does not appear to have any necessary association with pathological changes in the kidneys.

DR. BARR'S CASE.

The patient, a man, aged 49 years, married, was admitted in January, 1903, into one of the surgical wards of the Liverpool Royal Infirmary. He stated that about the end of September, 1902, he began to suffer from "a bad back" which he thought to be lumbago or something similar. The pain began in the middle of the back, then extended to his side, and finally all round his body. He was treated for lumbago by his own medical attendant but, though relieved for a time, there was no permanent improvement. At the beginning of December he began to stay at home, lost flesh rapidly, and felt an increasing weakness. He was admitted to the Royal Infirmary on Jan. 10th, 1903.

On admission he gave a history of exceptionally good health, admitting no other illnesses than an ordinary cold. No history of syphilis [illegible] .ined. He stated, however, that [illegible] of winter, he and his fellow work[illegible] warming themselves by leaning their backs against a steam receiver. On one such occasion he felt a sudden severe pain in his back which incapacitated him from walking for two or three days. He remembered, too, having at times suffered some pain in the region of the kidneys. This was all he could remember of pain or sickness. His work, which had been chiefly in copper-rolling mills, had always been of the light labouring order. He had never been subjected to severe strains and had always had a good comfortable home. His appetite up to the present illness had been good. He had never been a great smoker but had chewed tobacco. He had evidently been addicted to alcohol. The family history revealed nothing of interest.

On Jan. 15th he was, at the request of the surgeon, seen [illegible] he patient [illegible] lumbago, [illegible] ial in this latter disease. The eleventh dorsal vertebra is prominent and the percussion note over it is somewhat impaired and there is tenderness on pressure. There is marked tenderness along the course of the eleventh dorsal nerve. On pressure on the head or buttocks he complains of pain shooting down his spine. There is an ill-defined fulness below the right costal margin and beneath the upper end of the right rectus muscle. A deep breath seems to catch him at the right lower ribs. The knee-jerks are considerably increased, especially the left There is no ankle clonus." On Feb. 23rd he was transferred to Dr. Barr's ward. His condition was then as follows. He was quite intelligent, his frame was wasted, his expression was listless, and his cheeks were flushed. His temperature was 98°F. There was no jaundice, cyanosis, or dropsy. His hands were pale, clear, and wasted. There were no glandular enlargements, his respiration was normal, and there was no cough. His memory and speech were quite unaffected. The patient was now unable to walk or to sit up in bed. All sensation in the lower limbs was lost, though a smart blow on the skin could be felt. Both knee-jerks were absent, as were also patellar and ankle clonus. The upper limbs were unaffected. Sensation below the level of the iliac crests was lost all round the body. There were no apparent vaso-motor or trophic disturbances, no abnormal flushing, localised pallor, sweating, or joint changes. There were no changes in the nails or the hair. The bladder and rectum reflexes were impaired and urine and fæces were passed involuntarily. The respiratory system was normal. The heart sounds were distant. The pulse was regular in time and force, 100 per minute, of low tension, and poor in volume.

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[23] Donetti. Rivista Critica di Clinica Medicina, Florence, Nov. 16th, 1901.

[24] Deutsches Archiv für Klinische Medicin, vol. lxiii., p. 276.

On Feb. 26th a rash of a somewhat punctate red nature appeared all over the body. It was especially marked on the arms and lower extremities. By the 28th the mischief had spread in a marked degree. All reflexes below and including the epigastric had disappeared. There was a complete loss of sensation extending as high as the umbilicus. There were a marked angular curvature of the spine at the level of the eleventh and twelfth dorsal vertebræ and a fracture of the third right rib at the junction with the costal cartilage. A slight swelling could be felt over the manubrium sterni and the bone itself did not feel firm. It appeared also unusually narrow, not being much over one inch in width. The diaphragm moved but there was no movement of the recti abdominis. The vaso-motor disturbance was marked and a measly rash covered the abdomen. The pulse was soft and feeble. The appetite was poor, the bowels were confined, and the motions were offensive. The liver and the spleen appeared to be normal. The urine, which had now to be drawn off, contained three grammes per litre of albumose. On March 9th the pain in the back and the right side had increased. The bladder had to be washed out with boric lotion. On the 13th the patient's temperature was 102·8°, the pulse was 122, and the respirations were 24. Percussion over most of the lower lobe of the left lung gave a dull note. The breathing was deep but not laboured and almost entirely abdominal, the inspiration was harsh, and the expiration was prolonged. The breath had a peculiar sweet odour. The cheeks were flushed and of a slightly purplish hue. On the 14th the temperature, which had been somewhat reduced, was again 102·4°, the respirations were 28, and the pulse was 112. The urine was normal as to chlorides, deficient in phosphates, and contained no acetone or diacetic acid. On the 20th for the last few days the patient had had muscular twitchings, especially marked on passing the catheter. Control of the bladder and the rectum was now completely lost and the urine dribbled away. There was no alteration in sensation. Speech was reduced to a hoarse whisper. The tongue was dry and coated with brown crusts. The temperature was 101°, the pulse was 118, and the respirations were 22. On the 22nd the patient was worse and much troubled with hiccough. This was relieved by cajuput oil and a mustard plaster over the epigastrium. The hoarseness was more marked. On the 24th at 8.30 A.M. the patient seemed to be fairly comfortable and was not complaining. At 8.50 the house physician was called but the patient was dead on arrival. A few minutes previously he had complained of a choking sensation.

Condition of the blood.—An examination of the blood on March 9th gave the following result: xanthocytes, 4,200,000 per cubic millimetre; leucocytes, 7900 per cubic millimetre; and hæmoglobin, 80 per cent. There were no nucleated red corpuscles. The differential count of the white corpuscles

TABLE II.—REACTIONS OF PROTEIDS OCCURRING IN URINE.

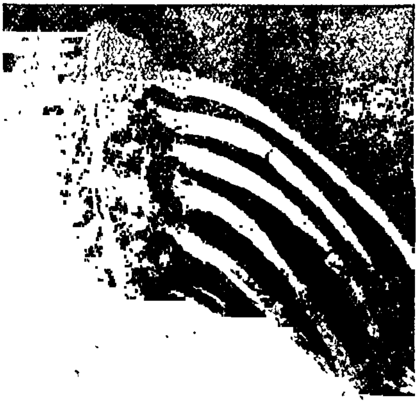
—	Heat.	Nitric acid.	Hydrochloric acid.	Potassium ferrocyanide and acetic acid.	Alcohol.	Saturation with NaCl and addition of acetic acid.	Biuret reaction.	Solubility in water.	Saturation with magnesium sulphate.
Serum albumin.	Coagulated about 73° C. Does not redissolve on boiling.	Precipitated. Does not redissolve on boiling.	Coagulated.	Coagulated:	Precipitated and coagulated.	Precipitated.	Violet colour.	Soluble.	Not precipitated.
Serum globulin.	Coagulated (in saline solution). Does not redissolve on boiling.	"	"	"	"	"	"	Insoluble.	Precipitated.
Bence Jones albumose.	Precipitated about 60° C. Redissolves on boiling; reappears on cooling (NaCl must be present and urine must be acid).	Precipitated; partially redissolved on boiling; reappears on cooling.	Ring formed at the junction of the acid and urine diluted 20 times (Bradshaw's reaction).	Very slowly precipitated. The precipitate becomes less distinct on boiling.	Precipitated.	"	"	Soluble in cold alkaline solution.	Slight flocculent precipitate.
Proto-albumose.	Soluble at all temperatures unless salt is present in sufficient quantity to precipitate it.	Precipitated. Redissolves on heating and reappears on cooling.	(?)	Precipitated. Redissolves on warming.	Soluble in 80 per cent. alcohol.	Precipitated. Redissolves on warming.	Red rose colour.	Soluble in hot and cold water and in saline solutions.	Precipitated.
Hetero-albumose.	Precipitated (in NaCl solution) at 65° C. Does not redissolve on boiling. The precipitate is soluble in dilute acid or alkali solution.	"	(?)	"	Precipitated (in neutral solution).	Opacity on heating.	"	Insoluble in hot and cold water. Soluble on addition of salt.	"
Deutero-albumose.	Not precipitated in NaCl solution or on boiling.	Not precipitated unless a considerable amount of salt is added.	(?)	"	"	Precipitated. Redissolves on warming.	"	Soluble in hot and cold water.	Not precipitated.
Peptone	Not precipitated.	Not precipitated.	Not precipitated.	Not precipitated.	Precipitated.	Not precipitated.	"	"	"

Pure Bence Jones albumose dissolved in water is entirely unaffected by heat. The effect of heat on it, when dissolved in urine, is probably due to the presence of uric acid.

was as follows: polynuclear, 82 per cent.; eosinophile polynuclear, 1 per cent.; transitional, 2 per cent.; lymphocytes, 10 per cent.; and large mononuclear, 4 per cent.

The general character of the urine throughout was as follows. About 30 ounces were passed in the 24 hours; it was orange in colour, cloudy and opaque, had a normal odour, and a specific gravity 1022. At first the reaction was acid; afterwards it was alkaline. The deposit consisted of granular casts and later of crystals of triple phosphates. The special albumose found will be discussed more fully. The urine gave the reactions in Table II.

Necropsy.—The post-mortem examination took place 27 hours after death. As regards the sternum, there were no spontaneous fractures. On sawing down the middle several small masses up to the size of a cherry-stone were found. Some were dark purple and others were greyish. The manubrium was hollowed out and contained a dark purplish mass. The sternum was very narrow. On the right side there was a line of fracture running downwards in the anterior axillary line affecting the third to the fifth ribs inclusive. The sixth, seventh, and eighth ribs were fractured in a line more posterior. The ninth, tenth, and twelfth ribs were not fractured. The eleventh rib was fractured one inch from the costal cartilage. In the fourth rib there was a loss of hard substance for about three inches and here there was a spindle-shaped tumour, of half the size of a pullet's egg, projecting into the pleura. On the left side the sixth and tenth ribs were fractured one inch from their heads. All the ribs contained small soft masses of new growth which made them extremely friable. As regards the spinal column, there was marked irregularity of the bodies between the ninth and eleventh dorsal vertebræ accompanied by some twisting, so that the tenth vertebra projected to the right side of the ninth. Some of the bodies had collapsed, so that the cancellous tissue was practically absent. The vertebræ in the lumbar region were softened The lungs were emphysematous, otherwise they were normal. The heart weighed 12 ounces. The nutrition was good and there was plenty of fat. The valves were somewhat [illegible]



Reproduction of photograph showing tumours in vertebræ and spontaneous fractures of ribs. (The specimen is in the Pathological Museum of Liverpool University.)

and rather firm. Round the large veins the colour was green, probably owing to the presence of putrefactive organisms. The spleen was rather diffluent. The cortex of the kidneys was diminished in size and studded with yellow patches of the size of a pin's head. The capsules could be readily stripped off. There was some pyelitis. The walls of the bladder were hypertrophied. The mucous membrane was injected and covered with a fleshy material. The ureters were dilated to twice the normal size.

Microscopic examination of the tumours.—I have made sections of the large soft tumour projecting from one of the ribs and also from the tumour growth in the ribs. The tissues were hardened in formalin and imbedded in paraffin. Some have been stained with hæmatoxylin and some with Mann's stain (eosin and methylene blue). The great majority of the tumour cells were of the lymphocyte type. No eosinophile cells were found. Many red blood corpuscles were to be seen in the sections but none of them appeared to be nucleated. There were some large cells containing a considerable amount of protoplasm and a reniform or double nucleus. In the large tumour projecting from the ribs there appeared to be some attempt at the formation of bone. I have not completed the microscopic examination and hope to make a further contribution on the subject.

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Liverpool.

A CASE OF ENCYSTED CEREBRAL ABSCESS.

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THE following case may be of interest as it presents some unusual features.

A girl, aged five years, was admitted into the Glasgow Royal Infirmary on July 28th, 1904, with a history of having had a fit a few hours previously. There had been a slight discharge of pus from the right ear for two years before admission but with this exception she had always been healthy. The fit consisted in irregular jerkings of the face and the limbs together with unconsciousness. The convulsions came on suddenly when she was at play and, so far as could be ascertained, did not begin in any definite order. Nothing suggestive of a rigor had been observed but it is very probable that the seizure took the place of what would have been a rigor in an older subject. When brought under observation the patient was pale and had generalised convulsions, most marked on the right side. When the movements ceased, which they did about half an hour before operation, the limbs were neither in a spastic nor paralysed condition. The eyes showed conjugate deviation to the right; the conjunctival reflex was present and the pupils were equal and fixed. The discs were slightly congested. A red fluctuant swelling was present behind the right ear and pressure on this increased the convulsive movements. The right meatus contained a quantity of fœtid pus and when this had been removed it was seen that the membrane had quite disappeared, its place being occupied by a mass of granulation tissue. The temperature was 102° F., the pulse was 120, and the respirations were 28.

First operation.—Operation was performed an hour after admission, the patient being still unconscious. An incision was made behind the ear when about half an ounce of pus escaped from the abscess in this situation. The mastoid was then seen to be perforated by a small opening in the region of the masto-squamosal suture. The antrum and middle ear were next exposed. These, owing to caries, practically formed one cavity which was filled with granulation tissue. On the granulations being removed the tegmen tympani was found to be eroded with a small perforation at one point. Through this opening a bud of granulations presented. This protrusion was gently pushed aside but no pus escaped. The parts were thoroughly cleaned and packed with a mixture of iodoform and boric acid.

The patient had a quiet night and awoke in the morning conscious and with the temperature 99·4°, the pulse 130, and the respirations 26. Two days later the first sign of paralysis appeared as a paresis of the right side of the face. This disappeared after ten days, by which time also the temperature, the pulse, and the respirations were normal, whilst the condition of the optic discs was stationary. The patient remained in this condition for seven weeks, though an occasional convergent squint was present, and she complained towards the end of a constant pain in the anterior aspect of the right forearm. All the movements of the ocular muscles were normal. During the whole of this time she was clear mentally, answering questions with promptitude and intelligence. Nine weeks after the operation the temperature, the pulse, and the respirations commenced to rise, the temperature running from 1° to 2° above normal. Three days after the beginning of this elevation of temperature she suddenly had another fit of generalised convulsions and at the same time she became unconscious, the insensibility rapidly deepening into coma. During this seizure, and persisting after it had passed off, there was an internal strabismus of the right eye, but apart from this there was nothing in the movements of a localising nature. The conjunctival reflex was absent and the pupils were dilated, fixed, and equal. The temperature ran up to 104·2°, the pulse to 160, and the respirations to 30.

Second operation.—When the granulations in the wound were removed it was found that the bone had been eroded from the tegmen tympani outwards along the roof of the cavity and upwards over the side of the skull to a point one and a quarter inches above the level of the posterior root of the zygoma. The edges of this erosion had a worm-eaten appearance and the bone for some distance round the hiatus was perforated in several places. Through this opening the congested dura mater projected and this on palpation could be felt pulsating. The membranes were incised and a hollow needle was introduced into the cerebral substance. At a depth of three-quarters of an inch from the surface the instrument came into contact with a firm resisting mass. The size of the tumour was ascertained by passing the needle in various directions but steady and fairly strong pressure failed to make it penetrate the substance. A solid tumour, probably tuberculous, with lepto-meningitis was diagnosed and as the mass seemed too large and too deeply situated for removal the patient was put back to bed where she died five hours later.

Necropsy (permission was given to open the head only).—At the post-mortem examination the surface of the brain was found to be dry and somewhat flattened with congestion of the blood-vessels, whilst the base was the seat of a lepto-meningitis. Adhering to the upper surface of the petrous bone was a fluctuant tumour of about the size and shape of a hen's egg. This mass was adhering to the dura mater directly over the tegmen, the point of union not being more than a quarter of an inch in diameter. No opening could be found through which fluid could be pressed from the interior. When an incision was made into the tumour thick creamy pus escaped and nothing was left behind but the dense capsule. The inner surface of this capsule was smooth and polished-looking whilst the outside had a flocculent appearance. The abscess had occupied the temporo-sphenoidal lobe, the cerebral substance surrounding it being much softened. The ventricles were filled with turbid fluid and the right was distorted from pressure of the abscess though a layer of softened brain substance separated them. The vessels of the ventricles were congested. The sigmoid sinus was healthy. Sections of the abscess wall showed an irregular network of connective tissue with a round celled exudation and a few tubercles with giant cells A few blood vessels were present in the outer part of the wall

Judging from the thickness and density of the abscess wall it must have been present for a considerable time probably starting about the onset of the otorrhœa Striking features in the case were the toughness of the wall of the abscess, as even after it was removed considerable force was necessary before a needle could be made to penetrate it and also the absence of symptoms referable to the abscess notwithstanding that the temporo sphenoidal lobe in which it was situated was destroyed to a very considerable extent The clinical aspect pointed more to a meningeal infection

Glasgow

RESEARCHES INTO THE ETIOLOGY OF CARCINOMA ON THE PRESENCE OF PLASMODIOPHORÆ IN CARCINOMATOUS TUMOURS AND THE SUCCESSFUL CULTURE OF THE PARASITES

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THE researches of which we wish briefly to record some of the results were undertaken specially with a view to testing the validity of the hypothesis that carcinoma is dependent upon the growth of a parasite of the same class as the plasmodiophora brassicæ which is known to cause tumour growths in various members of the cruciferæ, as well as in other plants This hypothesis has been strongly advocated in various forms by Behla Podwyssozki Roswell Park Gaylord,[1] and others, but only a certain amount of presumptive evidence has hitherto been obtained in support of it To most workers at the subject of cancer it has seemed so improbable that they have devoted themselves to entirely different lines of investigation Our own researches seem to show that it is in accord with fact We have at least succeeded in demonstrating the presence in carcinomatous tumours of bodies corresponding in form and in reaction to a special method to 14 phases in the developmental cycle of the plasmodiophora brassicæ and in growing from such tumours an organism which accurately represents several successive phases of a parasite of this class

On the threshold of the inquiry we were confronted with the difficulty already experienced by other worker of obtaining a clear view of the plasmodiophora brassicæ in vegetable tumours The ordinary staining methods were found to be useless for the purpose We devised special staining processes by which the organism was made to retain certain basic dyes but we found that when applied to carcinomatous growths they were of little value on account of the depth of the colour imparted to the tissue elements Nevertheless by these methods we were able to observe in carcinomata bodies having a very close resemblance to the plasmodiophora brassicæ and we were therefore encouraged to pursue the inquiry further It occurred to us that in a case of this kind in which ordinary staining methods had failed to yield satisfactory evidence either in support of or against the presence of a protozoan organism success might be attained by the employment of metallic processes The platinum method as used for the nervous system, was first tried and it proved to be of some utility for the purpose in view Among the other metallic methods which we tried was one of impregnating tissues with silver which had been partially worked out for the nervous system some years ago but which had been abandoned on account of certain practical difficulties it presented These difficulties were soon overcome and it was found that the method gave a better demonstration of the plasmodiophora brassicæ than any staining processes we had employed It was also found to be applicable to formalin hardened tissues from the human subject It has been chiefly by the use of this silver method and toning of the silvered sections with gold, platinum, and palladium (see appendix) that we have been able to recognise what appear to be the various stages of a plasmodiophora in carcinomatous growths as well as to identify the organism [illegible]

Plasmodiophora brass[illegible]

as found in the tumo[illegible] turnip and which are generally referred to in this country as ' finger and toe disease In America the condition is commonly known as "club root' and in Germany as "kohlhernie The plasmodiophora brassicæ was discovered by Woronin in 1876 and described by him in 1878 At this date he predicted that certain malignant growths in man would eventually prove to be due to a parasite of the same nature The various stages of the organism have also been described by Nawaschin De Bary, Gaylord and others The several descriptions that have been given do not fully harmonise with each other and a perusal of them leaves the impression that the observers have been unable owing to the difficulty that there is in s[illegible] to obtain a view of all of [illegible] With the aid of the [illegible] succeeded in tracing most of the various stages of its developmental cycle We find that this cycle is much more complicated than would appear from existing descriptions Important stages seem to have passed unobserved As will be seen the stages to which we refer are of vital importance for the investigation of the question of the presence of plasmodiophoræ in malignant tumours

From the descriptions that have been given one gathers that swarm cells having entered a root hair of the plant reach the interior of certain of the plant cells here they proliferate and stimulate the plant cells to divide, after a time several of these amœbæ lying in the protoplasm of a cell coalesce to form a plasmodium in which spores subsequently develop these spores reach the ground when the plant decays and with the advent of spring develop directly into the amœboid swarm cells, which may once more find their way into the root hairs of a young plant We have endeavoured to trace the various stages of the parasite not only during its sojourn in the vegetable host but also during its ectogenous existence which under natural conditions is passed in the ground We have found that the phenomena of this period can be studied in turnips in which the plasmodiophoræ have reached the spore stage if the roots are incubated for several weeks at a temperature of from 55° to 60° F

To follow the various phases of this organism even when it is well stained is by no means an easy matter Normal and degenerative tissue structures and granules complicate the histological pictures and give rise to many difficulties of interpretation From this cause we have in one particular at least [illegible] regard to the bodies which [illegible] We have recently found [illegible] fectly healthy turnip and notwithstanding the readiness with which on first view they seem to fit into the cycle we are forced to conclude that they have really no place in it The genuine spore is a nucleated body and the immediately succeeding stage is not granular, as we were led to believe, but the amœboid swarm cell We have also fallen into error in our former description[2] through not having had an oppo[illegible] [illegible] tumours and by hav[illegible] be completed from the [illegible] As the granular stage appeared to arise directly from a spore it seemed legitimate to infer that the amœboid swarm cell described by others represented a later stage By the use of improved methods of toning the silvered sections we have been able to trace the development of the swarm cells directly from the nucleated spore and to observe that it is from these minute amœboid bodies that the granular stage takes origin By the study of the earliest examples of kohlhernia that we could obtain[3] we have we think succeeded in tracing this stage and the immediately succeeding one on to the nucleated stage Our description of the life cycle differs from that of others mainly in the recognition of the granular and post granular stages without a knowledge

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[1] Fourth Annual Report of the Work of the Cancer Laboratory of the New York State Board of Health 190[illegible]–03

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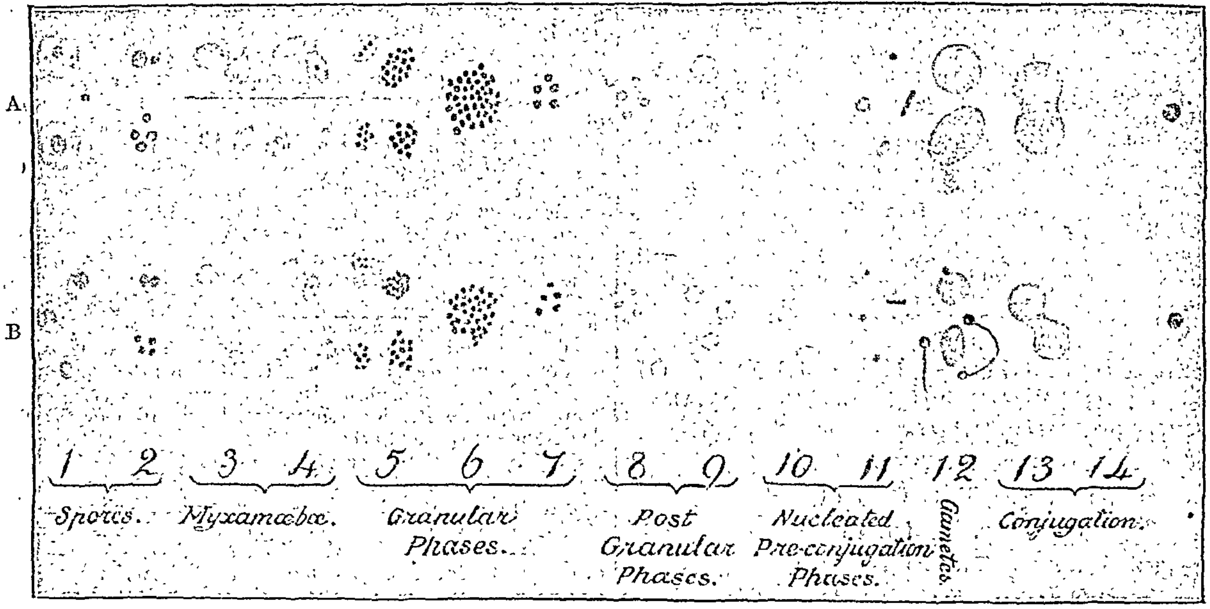


FIG. 1.

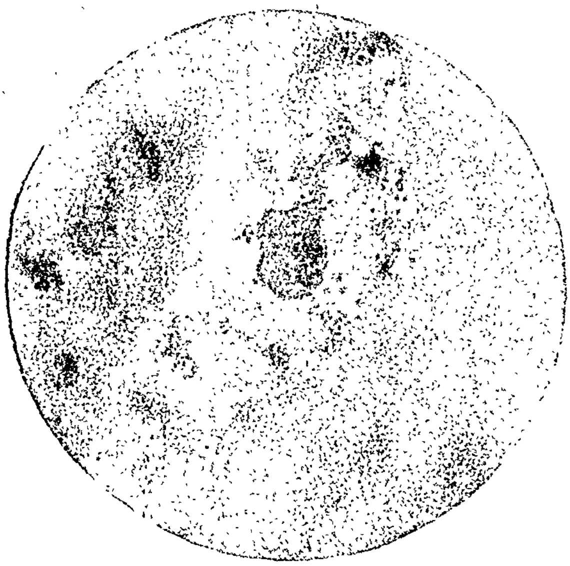


FIG. 2.—Plasmodiophora brassicæ. Early post-granular phase in protoplasm of turnip cell. Palladium-gold toning. (× 1000.)

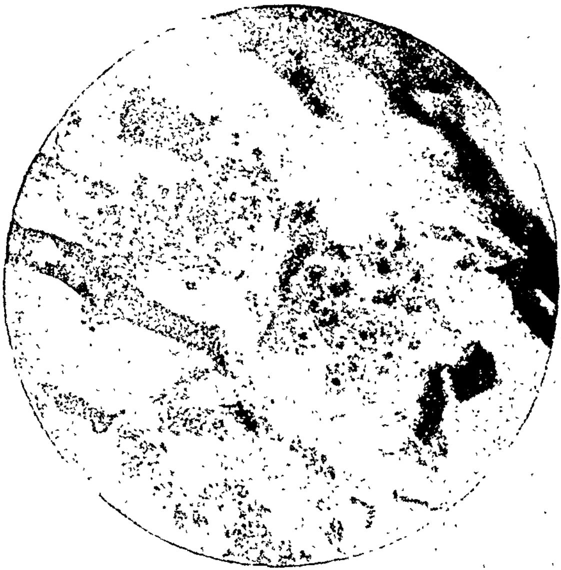


FIG. 3.—Plasmodiophora brassicæ. Nucleated pre-conjugation phase in turnip cell. Platinum method followed by methyl violet. (× 1000.)

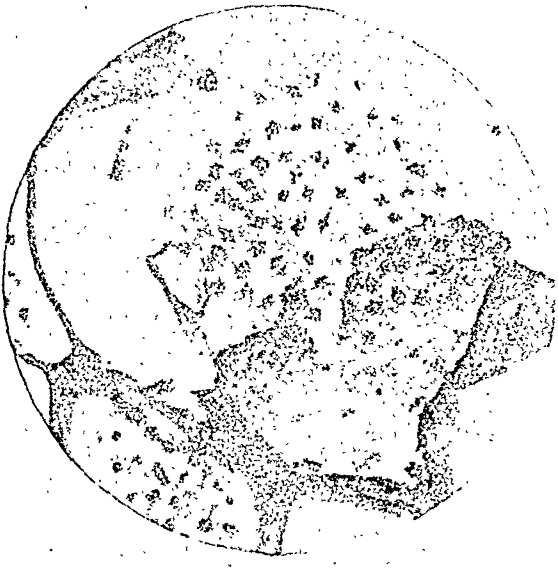


FIG. 4.—Plasmodiophora brassicæ. Nucleated pre-conjugation phase in mitosis. A carbol-fuchsin and carbol-thionin

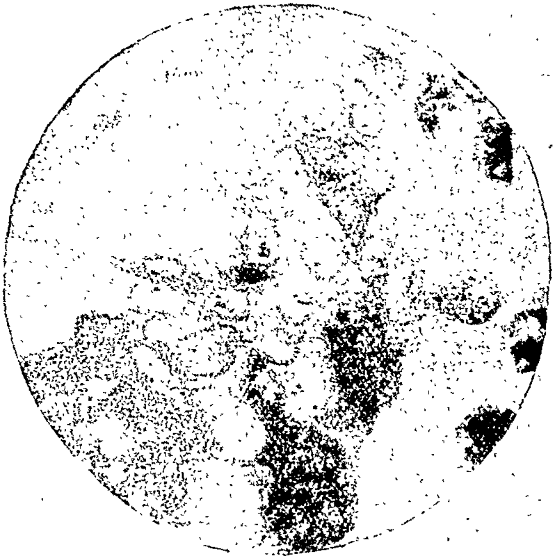


FIG. 5.—Plasmodiophora carcinomatis. Granular stage in nuclei of epithelial cells in a secondarily infected abdominal gland;

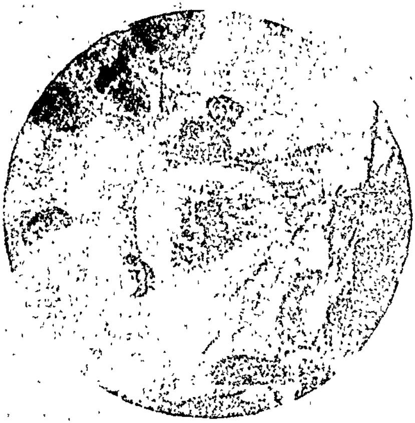


FIG. 6.—Plasmodiophora carcinomatis. Post-granular phase in protoplasm of dividing epithelial cell. *Mammary* carcinoma. Gold toning. (× 1000)

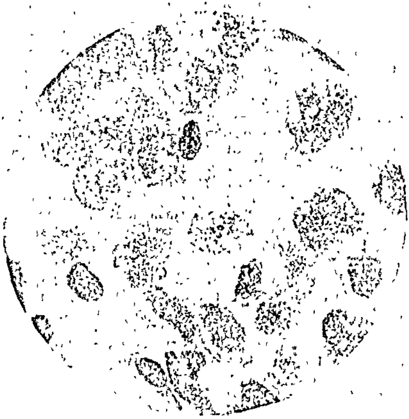


FIG. 7.—Plasmodiophora carcinomatis. Nucleated pre-conjugation phase in nucleus of epithelial cell. Mammary carcinoma. Platinum toning followed by methyl violet method. (× 1000.)

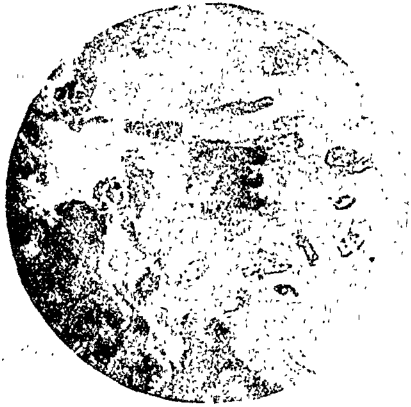
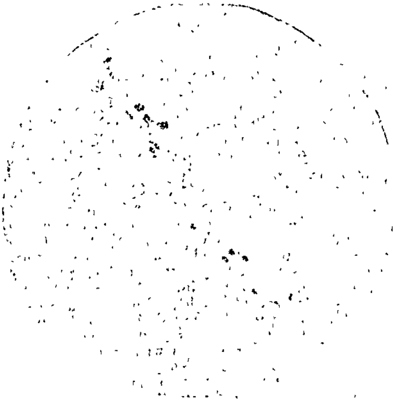


FIG. 8.—[illegible] ly which may repre- [illegible] body in centre of [illegible] testinal carcinoma



F [illegible] Meg [illegible] be in section [illegible] Palladium- [illegible]

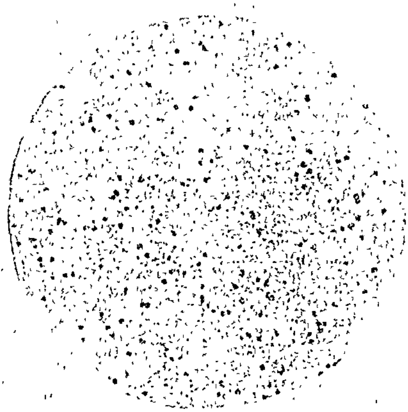
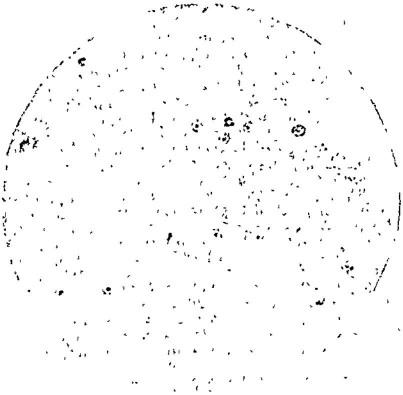


FIG. 10.—Plasmodiophora carcinomatis. Late post-granular phase in section of a culture from a case of intestinal carcinoma. Gold toning. (× 1000.)



Fi [illegible]

of which the question of the relation of carcinoma to plasmodiophoræ would inevitably remain obscure.

We begin with the spore which under natural conditions falls into the ground and lies dormant until early summer. It appears in silver-gold preparations of kohlhernia in turnips as a pale, round body from 1μ to 2·5μ in diameter, having a brown or black granular nucleus, measuring from 0·8μ to 1·4μ (Fig. 1, A 1). When this spore begins to germinate its nucleus undergoes some process of division which it is difficult to trace accurately. It appears to be initiated by the throwing out of a small body from the nucleus. Either two or four small dark bodies are ultimately formed (A 2). The immediately succeeding phase would appear to follow one or other of two courses, probably corresponding to a sexual differentiation. In one mode of development a pale reddish oval or pear-shaped non-nucleated body, from 1·8μ to 2·3μ in diameter, is formed (A 3). Within this there next appears an almost colourless oval central portion with well-defined margin and generally containing a minute dark particle (A 4). Then the clear central portion gradually enlarges and the dark granules within it multiply, whilst at the same time the marginal portion of the cell becomes attenuated (A 5). In the other mode of development the bodies resulting from division of the spore assume an oval form and a reddish, slightly granular appearance (A 3). More darkly stained particles, commonly four in number, soon become visible within them (A 4). There is next a gradual transformation into black granules indistinguishable from those resulting from the first mode of development. There is evidence that, prior to the development of the granules within them, both varieties of these bodies are motile. They very commonly invade the nucleus of the turnip cell and the second variety would appear also to invade the hyaline spheres which form a portion of the cell structure. They may even pass out of the vegetable cell in which they had origin. They are without doubt to be identified with the swarm cells or myxamœbæ described by others. In natural conditions they develop in the earth and having gained entrance to the root-hairs of a young plant travel by way of the vessels to various situations. Both varieties of myxamœbæ become transformed into the granular bodies which represent what we have termed the granular stage of the parasite (A 6). In silver sections toned with palladium and gold these bodies are generally deep black. The smallest of them are no larger than the most minute micrococcus. They are very frequently placed in rows of three and in these instances there is a suggestion of a delicate, unstained, uniting thread, the actual existence of which is, however, uncertain. These granules, which in natural conditions are now lying within the protoplasm of the cell of a young plant, gradually increase in size (A 7). At first they retain their dark appearance but this is gradually lost as they pass into what may be termed the post-granular phase (A 8). They now appear generally as pale reddish, almost homogeneous, round bodies with a sharply defined outline (Fig. 2). The protoplasm of the cell, which is more or less packed with parasites, becomes of a granular and opaque appearance, in consequence of which the outline of the organisms is obscured. The smallest of the parasites have at this stage a diameter of about 0·5μ, whilst the largest (A 9) equal the small forms of the next stage into which they gradually pass. This is the nucleated pre-conjugation stage. The nucleus, which is centrally placed, is at first very pale and difficult to recognise (A 10). The organisms gradually undergo a further increase in size and the nucleus becomes distinct (Fig. 3). At this stage they measure from 1μ to 3·4μ in diameter. They present at least five or six different aspects which as yet it has been impossible to arrange in any series. It seems probable that a sexual differentiation again underlies certain of these differences in appearance. The organism may be round or oval; the nucleus may be relatively large or small and occasionally a distinct nucleolus is present; and, as indicated above, the size of the organism, even when there is reason to believe that the post-granular stage has long been passed, exhibits a considerable range (A 11). There is clear evidence that the organisms divide by mitosis (Fig. 4). There is proof that the morbid proliferation of the vegetable cells is in active progress whilst the parasite is present in the granular stage only and that it may have advanced a considerable way before the nucleated pre-conjugation stage is reached. The next stage is that of the gamete (A 12). The nucleus disappears and the whole organism assumes an opaque, faintly granular aspect. All or most of the parasites in the cell undergo this transformation at the same time. Two adjacent cells then appear simply to fuse to form one (A 13). Simultaneously with this conjugation a distinct capsule forms round the zygote. The new cell has at first a finely granular, opaque appearance. Subsequently it diminishes in volume and becomes rounded in form. A remarkable alteration then occurs in consequence of which the body comes to have the appearance of four (sometimes more) round, pale globules, closely adherent to one another. Surrounded by its delicate capsule the organism has at this stage a very characteristic aspect. Very commonly several adjacent parasites appear to fuse and become enveloped by a common capsule. As, however, the final result is always the same—the formation of the peculiar bodies just described—it seems probable that there is a true fusion of only two individuals. At no stage of the process is there the formation of a multinucleated mass of protoplasm—i.e., a plasmodium. The term plasmodiophora brassicæ would therefore appear to be a misnomer. After a time the organism assumes the form of the nucleated spores already described and the cycle is completed. It will be noticed that in this cycle the large amœbæ figured by Woronin, and described also by others, have no place. It seems probable that what have been regarded as amœbæ were simply aggregations of the granules which arise in the swarm cells. Such aggregations may very commonly be seen within the vessels of the turnip at an early period of infection.

The bodies resembling plasmodiophoræ in carcinomatous tumours.—We have used for the purposes of our investigation chiefly carcinomatous tumours of the breast and malignant adenomata of the intestine (and secondarily affected abdominal glands) removed at operation. As controls we have used simple tumours and various inflammatory tissues, also removed at operation, as well as the tonsil, stomach, liver, and pancreas of the general paralytic and various nervous tissues.

The methods we have employed have been the same as those used for the study of the plasmodiophora brassicæ. It is not, however, to be thought that in these methods we have a means by which plasmodiophoræ can be specifically stained. Although they are capable of rendering such parasites visible they have the disadvantage that they at the same time colour almost everything else contained in the tissues. A partial exception is, however, to be made as regards the combined palladium and gold toning process with which we can claim to have made at least a beginning in the differential staining of certain stages of a plasmodiophora. To a greater or less extent in all the preparations the products of various pathological tissue changes, as well as some normal structures, simulate very closely many of the bodies which there are grounds for believing are plasmodiophoræ. The search for these parasites in carcinomata is therefore beset with difficulties and but for the fact that certain special structural characters can occasionally be recognised it would be impossible to derive any conclusive evidence either in support of, or against, their presence from the histological part of our investigation. There is, of course, room for difference of opinion as to the diagnostic value of any alleged special structural character. We can merely present the evidence as we have found it. The conclusions which it seems to us to warrant when taken in conjunction with that derived from cultures will be considered later.

The bodies in carcinomata, which we believe to be plasmodiophoræ, are considerably smaller than the plasmodiophora brassicæ. Both show a considerable range of size in all their stages and it is therefore somewhat difficult to estimate their average relative dimensions. Fuller investigation of the various phases of both parasites obliges us to regard the difference between them to be less than we have formerly estimated it to be. It may be stated that roughly the alleged plasmodiophoræ of carcinoma are about one-fifth of the volume of the corresponding phases of the plasmodiophora brassicæ. Bodies accurately corresponding in reaction and form to the resting spore of the plasmodiophora brassicæ may be observed, especially in palladium-gold preparations, lying between the epithelial cells, among the connective tissues, in the glandular spaces of adenomata, and occasionally within the nucleus or protoplasm of the epithelial cells. (Fig. 1, B 1.) The form of the protoplasm is not always rounded. Small dark bodies, devoid of any recognisable protoplasm, may also be observed and there are some grounds for supposing that they are really of the same nature as the nucleated bodies.

Forms representing the first phase in the transformation of the spore into myxamœbæ though rare may occasionally be seen (B 2) Bodies which may be young myxamœbæ (B 3) are common in the intracellular spaces and may occasionally be observed in the protoplasm or nucleus of the epithelial cells This phase is however one lacking in any distinctive characters The fully developed myxamœba in both its forms is represented by bodies which may occasionally be seen in the same situations (B 4) The clear oval central portion of one of these forms with its contained dark granule has a characteristic appearance which it is difficult to believe could be simulated by mere degenerative material The development of these myxamœbæ into the granules is represented more rarely (B 5) but the fully developed granules (B 6 and 7) are often present in abundance It is this stage of the organism which, both in kohlhernia and in carcinoma we have found to be in a measure specifically stained by the palladium and gold process of toning The method is however, uncertain in its results Its success appears to depend upon the fulfilment of certain precise conditions as yet not understood It has failed almost completely when again applied to a batch of sections with which on first trial it yielded a satisfactory result In our most successful preparations by this process granular bodies, having the exact appearance and arrangement of the granular stage of the plasmodiophora brassicæ, are present in considerable numbers in the nuclei of most of the epithelial cells and occasionally also in the protoplasm (Fig 5) They occur generally in small groups occasionally in masses There are grounds for believing that in silver gold preparations these bodies are often obscured by nucleolar matter which tends to deposit around them as they lie in groups within the nucleus of the cell Similar bodies occurring singly or in groups may be observed in some of the tissue spaces, but as various forms of degenerative granules which tend to reduce silver salts are common in this situation it is impossible to attach any special significance to them The post granular stage (B 8 and 9) is also represented but less abundantly than the preceding one The bodies corresponding in reaction and in form to this stage appear also to be present chiefly in the nuclei of the epithelial cells As they stain much less deeply than the granules they are difficult to recognise in this situation When however, an epithelial cell containing them divides by mitosis they are temporarily thrown into the protoplasm and can then very commonly be recognised (Fig 6) They may be observed in large numbers in cells in which the

that they can

that they are

less abundant (B 10 and 11) It is represented by bodies of round oval or irregular form which may be seen either in the nucleus of the epithelial cells or in the protoplasm of a dividing cell more rarely in the protoplasm of a resting cell They measure 1 3μ to 1 5μ When in the nucleus of an epithelial cell in a silver gold preparation bodies of this kind are obscured by the chromatin and nucleoli We have however been able to see them clearly in silver preparations which after toning with platinum have been stained in a special way with methyl violet (Fig 7) In these preparations the chromatin is darkened by the platinum whilst the suppo ed parasites take up the methyl violet stain We have a silver gold preparation in which these bodies lying in the protoplasm of a dividing epithelial cell of a carcinoma of the breast appear to be undergoing mitotic division More or less deeply tinted non nucleated bodies which correspond in characters *to the gametes of the plasmodiophora brassicæ* are not uncommon within the epithelial cells and in the interstitial tissues (A 12) This form is however so lacking in distinctive morphological characters that it certainly

products of tissue

are some grounds

e plasmodiophoræ associated with carcinoma are actively motile and that they may therefore at times exhibit the morphological characters of wandering cells In all silver gold preparations of carcinomata, wandering leucocytes and connective tissue corpuscles constitute a striking feature They generally stain deeply and are often thrown out into long narrow threads as they force their way between the masses of proliferated epithelial cells For a long time we assumed that all such appearances were to be regarded as merely manifestations of the phagocytic activity of these cells, although we again and again noted appearances which it was difficult to reconcile with this view These consisted especially in the occasional presence of very small deeply staining bodies stretched out into fine threads and terminating at one or both extremities in the *form of a minute knob* We have recently been able to study these bodies to better advantage in the palladium gold preparations (Fig 1, B 12 and Fig 8) They are only rarely present and a considerable search is generally required before one is found The

about 0 5μ in diameter

xtremely delicate It may

of course, no proof that these bodies are wandering gametes We simply direct attention to their presence and point out the possibility of their being of this nature Hour glass forms which would represent the conjugation of the parasites have occasionally been observed within the protoplasm of the epithelial cells and in the surrounding tissues This again is a form which is too indefinite in character to be distinguished from various products of tissue degeneration The phase of the plasmodiophora brassicæ which immediately follows conjugation has on the other hand very distinctive features We have a preparation from a carcinoma in which there is lying at the edge of proliferating epithelial cells a body in which these features are exactly reproduced upon a slightly smaller scale (*B 14*) *The next stage is that of the nucleated spores* which has already been described

It will be noted that as the granular phase is receded from the supposed parasites gradually diminish in number In this respect there is a striking difference from what obtains in kohlhernia We have, however, only to consider for a moment the comparative conditions under which the two parasites are living to find an adequate explanation The vegetable host differs from the mammalian one in having no phagocytic cells There is the most conclusive evidence *that very active phagocytosis is constantly in progress* within carcinomatous tumours This action may be manifested in tumours in which as far as can be seen, there are no dead or degenerated epithelial cells requiring to be removed As already stated the phagocytic cells may commonly be observed fixed in the act of moving about between the epithelial cells being stretched out into long winding threads terminating at either extremity in a bulb Appearances may not infrequently be noted which seem to indicate that one of these bulbs has penetrated into the protoplasm of an epithelial cell That this actually occurs seems to be borne out by *the fact that occasionally a leucocyte may* be observed to be wholly imbedded in the protoplasm of such a cell The phagocytic cells lying in the tissue spaces are commonly more or less loaded with granular débris as well as with larger particles some of which closely resemble the larger forms of the plasmodiophoræ The evidence points strongly to the conclusion that the parasites are constantly being swept up by these cells which are even capable of removing them from the protoplasm of the epithelial elements and that only those that remain within the shelter

safe from attack If this is so it is easy to

of plasmodiophoræ progressively

phase is receded from Notwithstanding that a rapid proliferation continues up to the time of the formation of the gametes the destruction of the parasites by phagocytic action is so great that only comparatively few survive to form spores A very small number of these however are capable of starting another cycle The motile myxamœbæ having penetrated into the nuclei of some of the epithelial

almost unlimited number

rapid proliferation The

that such penetration occurs in the demonstrable fact that the myxamœbæ of the plasmodiophora brassicæ are attracted to the nuclei of the vegetable cells

The cultivation of an organism resembling the plasmodiophora brassicæ from carcinomatous tumours —As already indicated we have succeeded in growing from carcinomatous tumours an organism which accurately represents certain phases in the developmental cycle of a plasmodiophora The technique which we now employ is based upon the results of many experimental attempts to obtain cultures *from such tumour* It consists essentially in placing pieces of the fresh tissue upon the dry surface of an agar medium various important details being attended to Through the courtesy of Mr F M Caird Mr David Wallace and several other surgeons we have been enabled to obtain the tumours immediately upon their removal from the patients We shall describe the procedure as carried out with a mammary carcinoma. The gland with the tumour incorporated in its substance is, immediately on its removal from the patient, received upon a thick layer of sterilised gauze swabs, an abundant supply of which is always obtainable in an operating theatre. The specimen is wrapped up in these and then further covered with a sheet of sterilised protective. It is at once removed to the laboratory at which the tissues arrive unchilled and alive. Tubes of ordinary sloped nutrient agar are in readiness. The preliminary preparation that they require consists in the removal of the water of condensation and liquefaction and re-sterilisation by heat in order that a fresh and yet somewhat dry surface, free from any condensed pellicle, may be provided for the reception of the piece of tumour. Glycerine agar has been successful in one case and we have also obtained growths upon some media of special composition which, however, did not appear to have any advantage.

A large area of the posterior surface of the specimen, which in many cases is the pectoralis major muscle, is cauterised to insure its sterility. With the aid of a pair of forceps and a scalpel, both of which have been sterilised in the flame of a Bunsen burner, the posterior surface of the tumour is exposed by dissection. Small portions are then as quickly as possible cut out with another sterilised knife and placed singly upon the surface of the agar in the prepared tubes. The tissue must on no account be allowed to fall to the bottom of the tube, as contact with even the small amount of water of condensation would almost certainly prevent a successful result being obtained. It should be placed about the middle of the agar surface. The tubes containing the pieces of tissue are transferred to the incubator with as little delay as possible. They must in the first instance be laid in a slightly inclined position, so that whilst the piece of tissue is not displaced the water of condensation does not flow over the surface. The temperature is kept at 37° C. By the second or third day the piece of tissue has become adherent to the agar. The tubes may then be placed in the erect position. To prevent undue evaporation the tubes should now be sealed by pushing the cotton-wool plug in about a quarter of an inch from the margin and filling the receptacle thus formed with melted hard paraffin obtained from the imbedding oven. In our later work with this technique we have been uniformly successful in preventing contamination of the medium. This we attribute to the favourable conditions under which we have been able to obtain the material, the extensive cauterisation of the posterior surface of the specimen, and the circumstance that we have worked in the still air of the laboratory of which we are the sole occupants. We have obtained cultures of an organism which we believe to be a plasmodiophora from four tumours—namely, one malignant adenoma of the intestine (a secondarily infected abdominal gland being used for making the cultivations) and from three mammary carcinomata. The growth does not develop at the surface but invades the subjacent medium. It appears as a faint greyish cloud in from two to seven days and generally continues to increase very slowly for about ten days more. It has as yet been found impossible to obtain a satisfactory view of the organisms in films made from these growths and stained by the ordinary methods employed in bacteriology. They are either stained in conjunction with granular matter in the medium without presenting any characteristic features or they are decolourised. It is therefore easy to understand how previous observers, when dealing with such growths, which certainly must occasionally have been obtained by some of them, have concluded that the faint cloud which formed was the result of the penetration of colouring matter or coagulable substances from the dead tissue. By hardening the medium in 5 per cent. formalin and making preparations by the silver-gold process we have been able to recognise not only that the cloudiness is essentially dependent upon the growth of an organism, but that this organism has characters which prove it to be a plasmodiophora. In the sections from the growths in agar obtained from the secondarily infected abdominal gland we have been able to demonstrate the presence of several successive phases of a plasmodiophora, corresponding exactly in form and reactions to the special method with the bodies we have described as present in sections of carcinomatous tumours. In one of the agar growths from this tumour a slight splitting of the medium had been accidentally produced by the pressure exerted in fixing the tissue on the surface. Upon the walls of the crevice so formed (which extends a considerable way into the medium) there are very numerous small bodies which have the exact characters of the myxamœbæ already described. They measure from 1·2 μ to 1·7 μ. Some are devoid of the pale centre, others present this feature, whilst others again show the black granules appearing in the centre (Fig. 9). Some of these myxamœbæ have penetrated a certain way into the subjacent agar. Masses of granules, exactly corresponding to those that develop from the myxamœbæ in the incubated kohlhernia, are also present, though only a few have been observed. Similar granules, many of them of considerably larger size, are present in abundance throughout the surrounding agar but they cannot be distinguished absolutely from the fine granular deposit which is caused by the circumstance that certain substances in the agar effect the reduction of the silver salt. The large and small post-granular phases are, however, very abundantly represented (Fig. 10). They are probably the chief cause of the faint opacity in the medium. With the aid of the silver-gold method alone we have not been able to trace them with absolute certainty into the nucleated stages, but by staining the silvered sections by a special methyl violet process this structure has been demonstrated in some of the largest forms (Fig. 11). If the presence of the immediately preceding and succeeding stages may be taken as further proof of the existence of the granular stages which intervene, then we have evidence of the presence of eight phases, or four different stages, of a plasmodiophora in this growth. In the growth from two of the mammary carcinomata we have been able to recognise only the post-granular stage but the examination of them was rendered difficult by the circumstance that the agar turned out to be of too soft a consistence for the obtaining of sections that could be manipulated with facility. The examination of the growths from the fourth carcinoma is not yet completed, although we have already satisfied ourselves of the presence of the post-granular stage of the organism. For the purpose of making control observations, we have treated in the same way portions of tissue obtained from two cases of interstitial mastitis, one intra-abdominal testicle removed for torsion of its pedicle, and one simple fibro-adenoma of the breast. In no instance has any change taken place in the medium similar to that observed in the other tubes.

The bearing of the observations made upon the question of the etiology of carcinoma.—The observations that we have made can, we believe, be shown to harmonise with, and to help to explain, many otherwise unintelligible facts already recorded in the literature of the pathology of carcinoma. Our object for the present is, however, simply to record our own observations which, depending upon the results given by a new histological process and breaking fresh ground, are capable of standing by themselves. It is obvious that if, as alleged, plasmodiophoræ are present in carcinomatous tumours many of the intracellular bodies described especially by Russell and San Felice as blastomycetes, and of those interpreted by numerous others as protozoa, are simply various phases of this species of myxomycetes, for it is hardly to be believed that more than one pathogenic organism would commonly be present. The plasmodiophora theory of carcinoma has been advocated by the workers already mentioned for many years, but the evidence that has hitherto been adduced in support of it cannot be said to be conclusive. It has certainly served to convince very few. Can the new evidence that we have obtained be regarded as serving to establish the validity of this hypothesis? In our researches we have traced what appear to be three parallel lines—namely, those of (1) the life-cycle of the plasmodiophora brassicæ, (2) a series of bodies found especially within the cells of carcinomatous tumours, and (3) the stages of an organism which can be grown from such tumours. The last line is incomplete, but through eight successive phases, or four separate stages, the parallelism is exact. With regard to the histological evidence it may be affirmed that all the stages of a plasmodiophora are accurately represented in carcinomatous tumours and that it has been found impossible to construct a similar series from control tissues. At the same time many of the bodies which correspond in form and reaction to certain of the stages of a plasmodiophora are indistinguishable from certain tissue granules. The presence of any number of tissue granules does not of course logically exclude the presence of micro-organisms which are known to have a certain resemblance to them. All that can be demanded from the histological evidence in support of a hypothesis like this is that the presence of bodies morphologically identical with the parasite as it is known in cultures or elsewhere should be demonstrated. If the supposed parasites presented no very distinctive morphological feature the evidence would certainly have very little weight. But in this case there can be demonstrated several such features of a very unusual and striking nature. The two forms of myxamœbæ, already known as they exist in the life-cycle of the plasmodiophora brassicæ, are definite forms that could not easily be simulated by the products of tissue disintegration. These forms have been observed in carcinomata and the presence of black granules in the originally clear centre of the first variety has also been noted. The bodi[illegible] plasmodiophoræ in the [illegible] been observed to be u[illegible] mitosis. The minute wandering cells which we have described cannot be identified as any cellular form known in the human subject but would exactly represent the gamete of a small plasmodiophora. Lastly, a body has been found in a carcinoma which exactly conforms to the peculiar morphological characters of that phase of the plasmodiophora brassicæ which can be shown to follow conjugation.

The evidence derived from the study of the cultures is not subject to the same ambiguity of interpretation. In the sections of the growths in agar tissue cells are absent and an organism is present which has obviously been multiplying rapidly. In one instance, at least, this organism has been found to be present in four distinct forms which harmonise exactly with four successive stages in the developmental cycle of the plasmodiophora brassicæ, as well as with that which has been found in sections of carcinomatous tissue. In cultures from three other cases of carcinoma there has also been observed an organism which is identical with the post-granular stage, as observed in the other case, and this phase is one which, in cultures at least, has a very characteristic appearance. Included in the four stages observed in the cultures from the first case are the specially-characteristic forms of the myxamœbæ and the nucleated pre-conjugation stage. This evidence seems to us to be incompatible with any other conclusion than that in these cultures we are dealing with organisms which are plasmodiophoræ. Taken in conjunction with the histological evidence of the presence of similar bodies in *carcinomatous tissues, it points to the conclusion* that plasmodiophoræ are constantly associated with carcinomatous growths of the kind from which the cultures were made.

We have not yet had an opportunity of examining cultures from a squamous epithelioma. We have, however, examined tissues from three cases by the ammonio-silver process and whilst we recognise the uncertainty attaching to histological evidence in a *question of* this kind we *can say that, as far* as such evidence justifies the expression of an opinion, this form of carcinoma is also associated with the presence of plasmodiophoræ in the cells. We have as yet no observations to record bearing upon the question of the presence of plasmodiophoræ in sarcomatous malignant growths. We strongly dissent from the recent assumption that all malignant growths must necessarily have the same origin. To discuss this question here would, however, be to go beyond the purpose of our paper. If future observations confirm those that we have here briefly recorded and it be thus establis[illegible]t in carcinomatous [illegible] the organism to these [illegible]proof, although this wo[illegible]lation experiments [illegible]ich can [illegible] is the [illegible]e con[illegible]ible to produce antibodies, by the therapeutic use of which the normal protective agencies of the body will be enabled to overcome the parasites in such growths.

In concluding, we have to express our indebtedness to the Fellows of the Royal College of Surgeons of Edinburgh and to the General Board of the Laboratory of the Scottish Asylums for the facilities they have afforded us for the carrying out of the researches recorded in this paper.

APPENDIX.

The technique of the ammonio-silver process and toning methods.—The ammonio-silver process was described in the *Review of Neurology* [illegible]

adding to a 1 per cent. solution of silver nitrate in distilled water a 5 per cent. solution of ammonia in distilled water, drop by drop, until the precipitate which forms is nearly but not entirely dissolved, and then filter. In place of this silver solution a saturated solution of silver carbonate in ½ per cent. ammonia in distilled water may be used with advantage. Two days at least should be allowed for saturation. The fluid should measure at least 50 times the volume of the tissues. Cork the bottle or specimen tube and put it in the dark. The pieces are ready for examination in from three to ten weeks.

3. Place a piece of the impregnated tissue in a bowl of water (500 cubic centimetres) to which about 2 cubic centimetres of 5 per cent. ammonia have been added. Remove the surface deposit as far as possible. This is best done simply with the aid of the fingers whilst the piece of tissue is held under water. Transfer the piece to a second bowl of ammonia and water. *Renew the fluid after about an hour and* leav[illegible]

4. [illegible] ounces or 140 gran[illegible] dissolve by boiling; [illegible]till hot; after it has [illegible]h ammonia has been added in the proportion of ten drops of a 5 per cent. solution to one ounce, immediately before use. Allow the tissue to remain in this for from 12 to 24 hours.

5. Cut thin sections on the freezing microtome. Transfer them from the knife to a bowl of water to which about ten drops of 5 per cent. ammonia have been added. After about five minutes transfer the sections to another bowl of ammonia and water, and after a similar period give them a third wash.

6. Transfer the sections to a bowl of water to which there have been added from five to ten drops of a saturated solution of citric acid in water, and allow them to remain in this for four or five minutes.

7. Place the sections in a bowl of tap water and after a few minutes transfer them to a second bowl of water. They are now ready for toning.

8. [illegible] per cent. solution of gold chloride in [illegible] 1 per cent solution of citric aci[illegible]ly into a flat bottomed white por[illegible]om the water to this toning bath by means of a glass rod or platinum needle. Allow them to *remain spread out for about one hour. About a dozen sections of* [illegible] two or three *minutes*.

10. Transfer to a bowl of tap water.

11. Dehydrate the sections with absolute alcohol, clear in equal parts of turpentine and benzole, remove turpentine with pure benzole; mount in benzole balsam.

The process of toning the sections permits of being varied in an almost endless number of ways, with corresponding variations in the [illegible] must suffice to indicate briefly the details of two special toning processes which [illegible]

Platinum toni[illegible] follows. To one [illegible] potassium chlor[illegible] solution of phos[illegible] Filter this [illegible] it for about half an hour. Wash the [illegible]n clear them in a watch-glassful of [illegible]ichloride ($PtCl_4$) in water *for about ten minutes* wash well in water, dehydrate, clear, and mount in balsam.

The conditions upon which depends the success of the combined palladium and gold toning process have not yet been definitely [illegible] The best results have been obtained with sections of a [illegible]

Edinburgh.

THE RESULTS OF TWO CASES OF INJECTION OF PARAFFIN.

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CASE 1.—A single woman, aged 32 years, was sent to me by Sir Francis Laking on Nov. 2nd, 1904, because of considerable and *increasing difficulty in getting the bowels to* act. The history given was that the present condition had been gradually arrived at and the patient was getting thinner. The difficulty of procuring any action of the bowels was now considerable and was accompanied by slight loss of blood. There were a dull aching pain and feeling of weight in the rectum and some slight difficulty in passing urine. On examination the rectum was not in itself found to be the cause of the trouble but a large tense swelling in Douglas's pouch was felt which was evidently causing the obstruction. Examination of the abdomen revealed a swelling in the right side of the hypogastrium. Above the pubes and to the left there were some hard, rounded lumps to be felt. Dr. R. A. Gibbons saw the patient the same day and elicited the information that because of prolapse of the uterus paraffin wax had been injected into the broad ligaments two years previously. The patient's temperature was normal and up to the time she consulted me she had been carrying out the details of her ordinary daily life.

On examination per vaginam (under an anæsthetic) the vagina was found to be considerably invaded by the swelling felt per rectum, the cervix was high up, and around it various hard round lumps could be felt. The uterus was not fixed. The tumour was obviously one of three things: an ovarian cyst, a parovarian cyst, or some collection of fluid in the broad ligament the result of the paraffin injection. Whichever it was, the necessity for operation was somewhat urgent.

On Nov. 9th I opened the abdomen, Dr. C. H. Roberts assisting me. I found a large tense swelling filling up the pelvis but there was no indication of a cyst in connexion with the uterine appendages and the swelling was adherent everywhere. In such circumstances it was not considered advisable to attempt anything further by the abdomen and the incision was closed by two continuous silk sutures for the peritoneum and fasciæ and interrupted fishing-gut sutures for the skin. With the patient in the lithotomy position the swelling was incised through the posterior wall of the vagina. Nearly 40 ounces of inodorous pus were evacuated mixed with a considerable amount of paraffin which came away in lumps and flakes. The incision was enlarged sufficiently to allow a digital examination of the abscess cavity. Various masses of paraffin could be felt but they were firmly fixed and the wall between them and the peritoneal cavity was so thin that no attempt was made to remove them. The cavity was washed out and a large-sized drainage-tube was introduced and sutured to the vaginal opening. The abscess cavity was irrigated twice daily with sterilised water, after which some peroxide of hydrogen was introduced. The cavity disappeared rapidly and at the end of 12 days a probe could only be passed one and a half inches through the incision in the vaginal wall and this small sinus soon healed. The abdominal incision healed well and the skin sutures were removed on the eighth day.

Everything went well until the twentieth day when there were a rise of temperature and some abdominal tenderness and swelling on the right side; this increased for the next three days. No definite swelling was felt per vaginam and I determined to reopen the abdominal wound, as it seemed possible that there was suppuration under the right rectus muscle. Under the anæsthetic the abdominal walls, which previously were rigid and extremely tender, became relaxed and moved freely. A small incision was made at the side of the former incision. The tissues were found to be quite healthy. The abdomen was opened and a large tense swelling was seen lying immediately under the right rectus. This was considered to be another separate collection of pus situated anteriorly and the abdominal incision was closed. Both Sir Francis Laking and Dr. Gibbons thought it highly desirable to wait until the swelling could definitely be felt in the vagina. This I decided to do.

The day after the second operation the temperature fell to normal and remained so. The abdominal swelling and tenderness rapidly diminished and at the end of a week, when the stitches were removed, the swelling had almost disappeared and there was hardly any tenderness. The patient left the nursing home to go to the seaside six weeks after the first operation, feeling and looking well, but there was still some tenderness under the right rectus on firm pressure.

CASE 2.—A woman, aged 66 years, was admitted into St. Mark's Hospital under my care on April 11th, 1904. She gave the following history. For three or four years previously she had suffered from prolapse of the rectum, the bowel protruding about three inches. Late in January, 1904, she was admitted into a hospital where she underwent operation, apparently by the injection of paraffin wax into both ischio-rectal fossæ; she was in hospital six weeks altogether. A fortnight after leaving the hospital she "felt something burst behind" and noticed that her linen was covered with a white, waxy substance; since that time she had had a constant discharge from a small sinus in the right peri-anal region. The bowel had not prolapsed so much since the operation but she had suffered a good deal of pain in the back which was worse when sitting down.

On examination there was a hard, tender lump in the left buttock close to the anus; the skin over the lump was hot, dusky-red, and tender. On the right side, about half an inch from the anus, was the orifice of a sinus which ran up by the side of the rectum for about two and a half inches. A probe passed into the sinus could be felt beneath the mucous membrane but no definite internal opening could be made out. On squeezing the sinus small portions of wax and a little thin pus could be expelled. The patient was advised to return to the hospital at which she originally attended for further treatment, as this course on the whole seemed to be the most satisfactory. I have to thank my house surgeon, Mr. F. A. Johns, for the notes in this case.

Whether the injection of paraffin into the broad ligament is ever advisable or even justifiable is a question upon which I should like a definite opinion from those who make a special study of the uterus and its appendages. The ultimate results in Case 1 were disastrous enough and there is no assurance that a recrudescence of the trouble may not occur at any time. Supposing that the paraffin is sterile at the time of injection, which is doubtful unless special precautions are taken, this is no guarantee that it will always remain so and, as these cases illustrate, it may possibly act as a culture medium in a part of the body where pyogenic micro-organisms always abound. The result in Case 2 is also unsatisfactory and having regard to the excellent results obtained by other methods in cases of prolapsus ani I do not think that the injection of paraffin wax is to be advocated.

The injection of paraffin wax has been used for cases of incontinence after excision of the rectum, but the result is not a success, there cannot be any *control* obtained by this injection. The paraffin wax forms a number of lumps round the lumen of the bowel, which is partially occluded, but the contents of the bowel escape as readily as before between the lumps. These remarks are not meant in any way to detract from the merits of this treatment in certain cases. The good results obtained are well known. The injection of paraffin wax, however, like many other new treatments, has been taken up and used without discrimination and unless this is checked a treatment which in proper cases produces excellent results may fall into disrepute.

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ON THE RELATION BETWEEN VARIOUS ATMOSPHERIC CONDITIONS AND THE OCCURRENCE OF CEREBRAL HÆMORRHAGE.

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DR. R. Hensleigh Walter has suggested[1] that in certain cases a high barometric pressure is a factor in deciding the onset of an attack of cerebral hæmorrhage, the especially favourable condition being, in his opinion, a sudden rise in the barometer following a more or less continued period of depression. Dr. Walter's letter was followed by others in support of his suggestion, in one of which the writer stated that he fully expects to be called to a case of cerebral hæmorrhage when the barometer has risen high and become anti-cyclonic. Other writers were in favour of a rise or fall in temperature as a probable exciting cause, especially when associated with changes in the atmospheric pressure, and it was evident that a belief in a causal relationship between atmospheric changes and the onset of apoplexy exists in the minds of many practitioners. The question can easily be put to the test and having recently collected for other purposes the cases of cerebral hæmorrhage admitted into the Birmingham General Hospital from the summer of 1885 to the end of 1902 I have the material ready to hand My information as to the atmospheric *conditions existing on the days of onset has been obtained* from the records of the Edgbaston Observatory kept by Mr Alfred Cresswell, but as these have only been published since the beginning of 1891 only the cases occurring since that date have been available

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[1] Brit. Med. Jour., April 9th, 1904.

I have records of 66 fatal cases of cerebral hæmorrhage admitted into the General Hosp [illegible] all of which the diagnosis was [illegible] examination There are furthe [illegible] fatally (excluding those in which the exact date of onset was not determinable) which appear to me to have been *probably due to hæmorrhage In these however, the* diagnosis is somewhat open to question and it is possible that a certain number of cases of thrombosis may have been included and that others due to hæmorrhage may have been omitted The inferences from these cases must therefore be regarded as to some slight extent doubtful and the two series have been throughout kept apart

Barometric pressure —The barometric readings from which my figures are obtained were taken at 9 A M They therefore only approximately represent the pressures obtaining at the actual moment of onset But this source of error is hardly avoidable, especially as the notes often give no clue as to the time of day at which the attack began The standard of comparison adopted is the average pressure for the 12 years involved This I have ascertained, amounts to 29 376 inches The pressures recorded on the days of onset are as follows —

	Fatal	*Non fatal*	*Total*
Above the average	37	34	71
Below the average	29	28	57

A larger number of cases therefore occurred on days on which the barometric pressure was above the average than on those when a pressure below the average was recorded the proportion in the total number of cases being almost exactly as 5 to 4 The relationship to the higher pressures of each month is shown in the next table —

	Fatal	Non fatal	Total
Occurring on the day of the maximum pressure of the month	3	3	6
Occurring on days with the pressure differing from the maximum pressure of the month by not more than 0 1 inch	8	5	13
Occurring on the day after the maximum pressure of the month	4	3	7
	15	11	26

These figures are probably to some extent matters of coincidence but they are considerably in excess of similar figures obtained with regard to the minumum pressure of the month thus —

	Fatal	Non fatal	Total
Occurring on the day of the minimum pressure of the month	1	3	4
Occurring on days with the pressure differing from the minimum pressure of the month by not more than 0 1 inch	4	2	6
Occurring on the day after the minimum pressure of the month	3	2	5
	8	7	15

Some little connexion between the onset of apoplexy and the higher pressures of the month seems thus to be suggested But it is possible that variations in pressure may be of greater importance than the absolute height of the barometer In order to work this out I have investigated the pressures recorded on the three consecutive days on the middle one of which the attack occurred The explanation of the signs used is as follows —

<> = a day of higher occurring between two days of lower pressure

< = three successive days of rising pressure

> = three successive days of falling pressure

>< = a day of lower occurring between two days of higher pressure.

The following are the results —

	<>	<	>	><
Fatal	11	23	16	16
Non fatal	18	19	12	13
	29	42	28	29

A considerable excess of cases therefore occurred in the course of a steadily rising barometer In 19 of these the total rise exceeded 0 4 inch, in nine it exceeded 0 5 inch but *in only* one was it more than one inch

Taking the day of onset alone, 71 cases occurred with a rising barometer compared with 57 noted when the barometer was falling The proportion is again almost exactly as 5 to 4 and the evidence in favour of absolute height and of rise from a lower to a higher level as a factor in the causation of hæmorrhage is identical The inference would probably be in favour of absolute height as the important factor

Temperature —It has been stated that cerebral hæmorrhage occurs more frequently in the colder months of the *year This was the case in the 241 cases admitted into the* General Hospital since the summer of 1885 134 occurring from November to April inclusive, against 107 from May to October

	Fatal	Non fatal	Total		Fatal	Non fatal	Total
January	11	12	23	July	9	10	19
February	13	12	25	August	9	16	25
March	7	16	23	September	5	12	17
April	8	13	21	October	8	5	13
May	*7*	*9*	*17*	*November*	*6*	*15*	*21*
June	*7*	*10*	*17*	*December*	*9*	*12*	*21*

But the part if any, played by temperature is more likely to be demonstrated by examining the daily fluctuations This I have attempted to do by comparing the maximum and minimum temperatures recorded on the day of onset with the respective averages for the month

	Fatal	Non fatal	Total.
Maximum temperature above the average	32	33	65
Minimum ,	32	29	61
Maximum below	34	29	63
Minimum	34	33	67

Temperature in itself is therefore not shown to have any effect in deciding the onset of an attack Not much more can be said for the combined effects of barometric pressure and temperature as shown below —

	Fatal	Non fatal	Total
B + and T +	20	19	39
B + and T −	17	15	32
B − and T +	13	14	27
B − and T −	16	14	30

Where B = barometric pressure T = maximum temperature and *the signs + and − represent excess over the average and the reverse*

Changes in temperature have been examined by taking the records on three consecutive days as before —

	<>	<	>	><
Fatal	11	19	12	24
Non fatal	14	17	17	14
	25	36	29	38

The only possible suggestion that can be drawn from this table is that a rise of temperature on any particular day is slightly *favourable to the occurrence of an attack 74 or* 57 8 per cent of the cases occurring on days on which a rise of temperature was in progress But this excess is only shown in the fatal cases

The effect of combined changes in pressure and temperature on the actual day of onset is shown in the next table in which the fatal and non fatal cases are taken together —

[illegible]	41 cases.
	24 ,
	30
Barometer falling and temperature rising	32

In one case the same temperature was recorded on two successive mornings The suggestion is that a combined rise of pressure and temperature is favourable to the *occurrence of cerebral* hæmorrhage , but in only 11 of the 41 cases of combined rise was the difference between the maximum temperature on the day of onset and that of the following day greater than 5° and with only three exceptions this rise corresponded with a rise of barometric pressure of less than 0 2 inch The evidence in favour of combined rise of pressure and temperature as a causal factor is thus extremely small and on the whole it seems *fair to conclude that temperature apart from season,* exerts little influence in the determination *of an attack of* apoplexy

Wind pressure.—The extreme pressure of the wind for each day is only recorded at the Edgbaston Observatory when it amounts to not less than 0·5 pound per square foot and in order to obtain the average pressure I have estimated it at 0·25 pound on those days on which no record is entered. The average extreme pressure for the 12 years is then 2·2 pounds. The cases are distributed as follows:—

	Fatal.	Non-fatal.	Total.
Above the average	24	12	36
Below the average	42	50	92

Here the figures for the first time give a very definite result. the cases occurring on days of low wind pressure being 2·6 times as numerous as those which occurred when the wind pressure was above the average. This result must be taken for what it is worth. It is hard to believe that variations in wind pressure can play any part in the causation of apoplexy and a larger number of cases might, of course, dispose of the inference, but if statistics are worth anything in such matters the preponderance of cases on days of low wind pressure is almost too marked to be the result of coincidence only.

The final table shows the distribution as regards wind pressure and barometric pressure combined:—

	Fatal.	Non-fatal.	Total.
B. + and W. + ...	7	5	12
B. + and W. –	30	29	59
B. – and W. + ...	17	7	24
B. – and W. –	12	21	33

There is thus a very marked preponderance of cases on those days on which a high atmospheric pressure was combined with a low wind pressure.

Conclusions.—There seems to be a slight tendency towards the occurrence of cerebral hæmorrhage on days of high atmospheric pressure and also on days of rising pressure, the former being probably the important factor. There is a very marked tendency on days of low wind pressure and the combination of a low wind pressure with a high barometric pressure is the condition under which the largest number of cases took place. Apart from season, temperature in itself has not been shown to exert any influence, though a small excess of cases has been noted on days with a rising thermometer and also with a combined rise of atmospheric pressure and temperature.

Birmingham.

THE OVARIAN LIGAMENT AND ITS RELATION TO PREGNANCY OCCURRING AFTER ABLATION OF THE OVARIES.

BY JOHN H. DAUBER, M.B., B.CH. OXON., M.R.C.P. LOND.,
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MORPHOLOGY often throws light upon phenomena which are otherwise obscure and not easy of comprehension. Several cases have been placed on record where pregnancy has taken place notwithstanding the complete removal of both ovaries. Such cases naturally excite considerable interest. They are generally explained by the assumption that both ovaries have not in truth been entirely removed. Every operator knows how difficult, nay, impossible, it is in many instances of cystic and inflammatory conditions of the appendages to assert with absolute confidence that every trace of ovarian tissue has been taken away. Some of the cases recorded, however, seem indubitably to disprove this source of fallacy and it is generally believed either that accessory ovaries or additional patches of ovarian tissue like accessory thyroids in the neck may exist in the broad ligaments or that traces of ovarian tissue are present in the ligament of the ovary and are responsible for the ova which become fecundated under these unusual conditions. It is to be remembered that a single Graafian follicle is enough to accomplish the purpose. A consideration of the morphology of the ovarian ligament makes the presence of Graafian follicles within it easily understandable and as the commonest facts are apt to be forgotten a reference to the subject may perhaps be excusable.

Hertwig, in his "Lehrbuch der Entwicklungsgeschichte," says of the inguinal ligament:—

> The band is divided into three parts—the first from the lower end of the ovary to the uterus; the second part from the uterus to the inguinal region, the ligamentum teres; the third the uppermost, connecting the parovarium with the hilum of the ovary.

McMurrich ("Development of the Human Body") speaks of its origin thus:—

> From each genital ridge a prolongation of mesenchyme extends downward in the mesentery of the ridge, nearly parallel with the Mullerian duct, with which it comes into contact at the part where the two ducts fuse and thence is continued downwards and forward between the folds of the broad ligament to be attached to the ventral wall of the abdomen in the inguinal region. The upper part of this prolongation of the genital ridge represents the ligament of the ovary and its lower part the ligamentum teres of the female, while in the male the entire structure forms what is known as the gubernaculum testis.

Further—

> The change of position [of ovaries and testes] is partly due to the rate of growth of the inguinal ligaments being less than that of the abdominal walls, the reproductive organs being thereby drawn downward towards the inguinal regions where the ligaments are attached. The attachment is to the bottom of a sli [illegible] hich projects a short distance into the substa [illegible] and is known as the canal of Nuck in the [illegible] the vaginal process. In the female a second [illegible] mentioned. The relative shortening of [illegible] alone would draw the ovaries toward [illegible] fusion of the lower ends of the Mullerian [illegible] ments are united with these, produces a [illegible] line so that the organs come to lie finally in the true pelvis.

Heisler ("Text-book of Embryology") says:—

> The inguinal ligament in the female extends from the primitive position of the ovaries in the lumbar region of the abdominal cavity to the groin where it passes through the abdominal wall, traversing the inguinal canal, to terminate in the labium majus. The upper part of the ligament *containing involuntary muscular substance* firmly unites with the ovary. In the third month the ovary descends to the lower part of the abdominal cavity and is now connected by the succeeding portion of the inguinal ligament with the uterus. This connexion may be a factor in the final position of the ovary—that is, its descent into the true pelvis. The part of the inguinal ligament that passes from the ovary to the uterus is the permanent ligament of the ovary, while the remaining portion, which passes from the uterus through the inguinal canal to the labium majus of the vulva, is the round ligament of the uterus. [illegible] perforates the abdominal wall a small [illegible] goes with it. Normally, this peritoneal [illegible] bliterated.

Arthur Keith ("Human Embryology and Morphology") describes these ligaments in the following terms:—

> The round ligament of the uterus is attached to the Mullerian duct on each side. The point of attachment marks the *junction of the* uterine and Fallopian segments of the Mullerian ducts. The round ligament corresponds to the gubernaculum testis in the male and its development is similar. ...... Part of the Wolffian ridge is continued backwards as a peritoneal fold to the groin, this part forming the inguinal fold. Into this peritoneal fold muscle cells grow from the rudiments of the *transversalis* and internal oblique in the abdominal wall and form the round ligament of the uterus. The point from which the ingrowth springs becomes the internal abdominal ring. Others grow out into the labium majus carrying with them a process of peritoneum, the canal of Nuck. The inguinal canal and external abdomi [illegible] art of [illegible] us formed [illegible] uro- [illegible] the diapl [illegible] laris. [illegible] mes the [illegible] ld of peritoneum, the inguinal fold or plica gubernatrix, continues the *common uro-genital mesentery to* the groin. The gubernaculum testis is developed in the plica gubernatrix; in the corresponding fold in the female the round ligament of the uterus appears.
>
> There is no trace of the inguinal canal in the third month; the various layers of the abdominal wall are unbroken. In the fourth month the deep muscular layer of the abdominal wall composed of the internal oblique and transversalis bends inwards and expands the plica gubernatrix with muscular and fibrous tissue. The tissue (in the male) does not stop short at the uro-genital ridge and Mullerian *duct as in the female* but grows up and seizes the *caudal pole of* the testis.

Heisler states, with Bland-Sutton, Strangeways, and others, that involuntary muscular tissue extends to the ovary. Schäfer writes of it as follows:—

> *The reproductive* gland is in both sexes at first attached *directly* to the Wolffian body which itself is attached by a fold of peritoneum to the back of the abdominal cavity, the mesorchium or mesovarium. A band also passes from the Wolffian body upwards to the diaphragm and another containing involuntary muscular fibre—the plica gubernatrix—runs down towards the groin from the lower part of the Wolffian body and the duct.

From the foregoing extracts it will be seen that up to the present great uncertainty exists as to the exact mode of origin of the inguinal ligament and especially of the muscular tissue it contains. Is it laid down *in situ?* Does it grow downwards or upwards or both? Are testicle and ovary dragged down by the muscular fibres of the inguinal ligament or are they to some extent at least retained in place by the ligament while the fœtus grows, or is the process a mixed one? If the ligament of the ovary containing muscular fibres seizes the caudal extremity of the ovary and *exerts traction upon it it is easy to understand how* ovarian tissue may be dragged into its proper substance and be left behind after removal of the ovary and ligation of the ovarian ligament. As the fœtus grows traction may be made both ways upon the ovary as the uro-genital mesentery becomes stretched out. The upper portion of the uro-genital mesentery, the ovario-pelvic ligament, may be con- [illegible] its original attachment to [illegible] nd as the diaphragm recedes [illegible] appear that some traction is made upon it in fœtal life so that it would not be surprising to find Graafian follicles in the ovario-pelvic ligament as well as the ovarian ligament. I have myself seen on two occasions great elongation of the ovaries—in one instance amounting to three and three-quarter inches by measurement immediately after removal, without manipulation—not that the hypertrophy in these cases could be attributed to traction of the ovarian ligaments. To me, however, it is quite conceivable that traction may in some instances account for the presence of Graafian follicles within the ovarian ligaments.

The consideration of ovarian hernia throws little light *upon the problem because the inguinal ligament is attached* to the cornu of the uterus in such cases as in normal conditions, except that it may drag upon the uterine cornu. If the ovary were dragged into the inguinal canal by a true [illegible] us but [illegible] stis, it [illegible] to be [illegible] ccompanies the ovary into the sac—often together with an *enterocele, as Langton has shown. It appears to be a true* hernia or protrusion of the viscus into a patent or potentially patent diverticulum of peritoneum, as in femoral and obturator herniæ. The whole subject of the relation of the ovary and ovarian tissue to the ligaments does not appear to have been worked out very fully. Works on veterinary anatomy and comparative anatomy hardly allude to it. I cannot but think that the matter is worthy of more attention than it has hitherto received.

Charles-street, W.

A CASE OF SEPTATE UTERUS AND VAGINA; *PREGNANCY IN THE RIGHT HALF*; DELIVERY.

BY CLAYTON A. LANE, M.D. LOND.,

CAPTAIN, I.M.S.

A BENGALI female, aged 25 years, was admitted into the Eden Hospital, Calcutta, on March 13th, 1901, for her con*finement, she being in pain at the time.* She stated that she began to menstruate at the age of 12 years, the flow since then having been regular, free, painless, and lasting for seven days. She had last menstruated in August, 1900. On examination the abdomen showed a swelling limited almost entirely to the right half; it reached to the rib margin above and disappeared into the pelvis below; its left margin, running from above downwards and to the left, crossed the middle line at the level of the umbilicus. The swelling was tense and the outlines of the child could only indistinctly be made out. On examining by the vagina there was a thick fleshy septum dividing the vagina into two lateral halves, each of which was as capacious as the other. With a finger in each half of the vagina two distinct external ora could be felt. The two halves of the cervix were firmly united and not moveable upon one another, nor could any anterior or posterior groove be made out in the cylindrical cervical mass. Vaginal examination gave no clue as to which half of the uterus contained the fœtus, but from the lateral deflection of the fundus to the right there remained little doubt that the child lay in that half, and that the left half formed part at least of the mass which lay to the left of the mid-line at the pelvic inlet. She had no discharge of blood and her pains disappeared, so she left hospital five days later. She was readmitted in labour on May 20th, 1901. It may be here stated as illustrating the value of histories given by natives of India that she now said that her menstruation lasted as a rule only two days. She had been in labour for five hours *and on examination of the abdomen the uterine tumour still* lay obliquely, the fundus being entirely to the right of the mid-line, and the left border crossing this two inches above the umbilicus. The lower segment, on the other hand, lay more to the left than to the right of the mid-line. On vaginal examination the septum between the two halves of the vagina was still intact for the lower inch, but above this it was torn through, so that when one finger was introduced into each half of this passage they met beyond the remaining bar. Above this bridge of tissue was felt the intact bag of membranes inclosing the presenting part, which consisted of the breech and both feet lying in the first position. With each pain the child was forced down against, and directly impinged upon, the remains of the vaginal septum, so that this bridge of tissue formed a definite barrier restricting the further progress of the child. It was accordingly cut through and each half clamped to stop some oozing which was taking place from the cut surfaces. The perineum was somewhat rigid and the vulval orifice was narrow. The pains being good, the membranes were ruptured and the case thereafter left to nature until the breech was widely distending the perineum. The forceps clamping the remains of the septum were then removed and the child's legs were brought down without traction being made on the body. Progress then ceased, the pains lessened markedly in frequency, and the legs became blue. The hand was accordingly introduced into the vagina and both arms were brought down; they were not extended and were released without difficulty, but the necessarily rapid introduction of the hand past the breech, which was already distending the perineum, caused rupture of the latter as far as *the anterior edge* of the sphincter ani. By extending the legs of the child over the mother's pubes the face was born and the child was enabled to breathe, although the vertex was retained in the passage for another minute. The [illegible] The placenta was expressed on [illegible] The cut edges of the septum [illegible] atgut sutures, one suture lying on the anterior and one on the posterior wall of the now single vagina. Examination showed the remains of the torn *upper part of the vaginal septum.* The rent had extended up to the cervical portion of the septum, reaching as far as the internal ora, so that there was now a single cervical, just as there was a single vaginal, cavity. When the finger was passed into the cervical cavity it impinged at the level of the junction of the body and cervix of the uterus upon the lower edge of that part of the septum which divided the body into two lateral halves. Into the left half it was just possible to pass the finger to its whole extent, the sur*rounding walls being in contact with it on all sides, while* into the right half the finger entered easily and revealed a capacious cavity. The perineum was then sutured, a continuous catgut suture being used for the mucous membrane and four interrupted silkworm-gut sutures for the more superficial parts. Some oozing from the uterine cavity was checked by the intramuscular injection of 10 minims of ergotin. The patient's subsequent progress was satisfactory. Her temperature rose to 100·6° F. the same evening but fell to 98·4° at midnight; the highest points touched subsequently were, on the second day 99·4°, on the third 99·2°, and on the fourth 100·4°, after which it did not again rise above normal. The discharge followed the usual course and ceased on the eleventh day. On the thirteenth day the perineum had quite healed and was of good depth. The torn septum had nearly disappeared, being only represented by a markedly visible median raphe, palpable as a firm cord, and continued on to the anterior and posterior surfaces of the vaginal cervix as a median red line. Except for this the cervix did not appear unusual. There was a single external os, patulous, about three-quarters of an inch wide, admitting the tip of the finger, which could then just feel the persistent remains of *the septum between the two halves of the cavity of the* uterine body. On bimanual examination the body of the uterus was anteflexed. It appeared to be single, no groove being palpable on either surface or on the fundus. It was wider than normal from side to side but not from before backwards, and it was symmetrical, the two halves appearing to be of the same size. The pelvic cavity, as estimated by the finger in the vagina, did not appear to be wider from side to side than usual. The length of the intercristal diameter was 9·875 inches and that of the interspinous 7·5 inches.

Judging by the number of cases reported a septate uterus and vagina with pregnancy in one-half appears to be a far less common abnormality than is bifid or bicornute uterus, with or without a septate vagina associated with the same condition. So far as could be ascertained with the references at my disposal here there had only been two similar cases described in English literature up to the end of the year 1901, the date at which this note was originally written. One case was published in 1888.[1] The woman was pregnant twice. In the first labour she was seen by Dr. Culpin and Dr. G. E. Herman. At this time the upper part of the vaginal septum was torn, the lower part remaining intact. In the second labour the remains of the vaginal septum were torn but it does not appear that the intercervical septum tore, for it is expressly stated that during labour the head could be pushed aside and the os (presumably the external os) of the unimpregnated side felt. On this occasion she was examined by Mr. W. H. Plaister and Dr. Herman. The second case is one described by Dr. Wallace.[2] The left half of the uterus was the seat of pregnancy; it was hard to the feel, and the right half is described as feeling like a "muscular mass on a muscular cyst." The description of the labour was promised when it occurred but it does not seem to have been published. Recently two more cases have been described. Dr. Pery[3] has reported in the *Revue Mensuelle de Gynécologie, Obstétrique, et Pédiatrique de Bordeaux* a case of a labour at six months in which the right half of a septate uterus contained the fœtus. The condition of the uterus and its relations to the abdominal wall were almost exactly as described in the case now reported when she first came under observation with false labour pains. During labour the lower third of the septum which was present between the two halves of the vagina was torn. There had been no menstrual hæmorrhage from the left half of the uterus during pregnancy, but a decidua seems to have been passed before Dr. Pery was summoned and was thrown away by the midwife. He is of opinion that pregnancy had also occurred in the left half. Lastly, in THE LANCET[4] there is a full report by Dr. J. H. E. Brock of a case which he considers to be one of uterus didelphys because the two halves were moveable on one another and crossed one another diagonally. The patient went through one pregnancy and labour without anything occurring to suggest that there was any abnormality of the parts. She then consulted Dr. Brock for dyspareunia and on examination the septum dividing the vagina into two halves was discovered and removed. Two years later she became pregnant in the left half of the uterus, the abdominal condition at term being almost exactly that described in the case now published except for transposition, while vaginally the two halves of the cervix lay diagonally and the bodies were felt to cross one another. The labour passed off uneventfully.

In the case now reported no rectal examination was made with a view to determine whether the two halves of the uterus could be moved one on the other. This was not perceptible per vaginam, nor were the two halves of the uterus diagonally placed before, during, or after labour; and in addition it is to be noted that the thickness of the intra-uterine portion of the septum, as indicated by the portion left untorn after labour, did not appear to be such as to suggest that it was made up of the loosely attached halves of a double uterus. All the facts appear to point to the conclusion that the case was one of septate uterus and vagina and not uterus didelphys. In conclusion, I am much indebted to Lieutenant-Colonel F. S. Peck, I.M.S., for his kind permission to publish this case.

Calcutta

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[1] Brit. Med. Jour., vol. i., 1888, p. 955.
[2] The London Medical Record and Recorder, 1890, p. 435.
[3] Vide epitome, Brit. Med. Jour., vol. i., 1903, sec. 20.
[4] THE LANCET, Nov. 15th, 1902, p. 1319.

RUSSIAN MEDICAL STUDENTS. — The *Novoe Vremya* says that in view of the war, the liberation of medical students at the Military Medical Academy will be advanced this year as it was last. The final examinations will begin in the first half of March and will close in the middle of May. In any case the number will be very small as they can be selected from only 70 students.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF DEPRESSION OF THE LEFT PARIETAL BONE IN AN INFANT WITH MARKED PRESSURE SYMPTOMS.

BY D. ASHLEY WILSON, M.B., CH.B. GLASG.,
HOUSE SURGEON (OUT-DOOR DEPARTMENT) TO GLASGOW MATERNITY HOSPITAL.

THE patient in the present case was a boy who was born at full term on Dec. 10th, 1904, the mother being a primipara and married. She was well developed and the pelvis showed no abnormality, the following being the measurements: intercristal diameter, ten inches; interspinous diameter, nine and a quarter inches; external conjugate diameter, seven and a half inches; and diagonal conjugate diameter, four and a half inches. After a labour in which the first and second stages lasted 13 hours the child was born somewhat precipitately, resulting in an incomplete tear of the perineum. The child, on inspection, was found to have a marked depression of the left parietal bone, somewhat oval in shape, measuring three inches in length and two and a quarter inches across. It occupied the upper two-thirds of the bone. On Dec. 11th, 30 hours after birth, the child developed marked symptoms of cerebral irritation. The arms became flexed and rigid and there were constant twitchings of both hands and fingers but more especially on the right side. The feet showed twitching movements to a less extent. The head was drawn to the right side and there were present also twitchings of the eyes and mouth but no definite squint or abnormality of the pupillary conditions.

As the pressure symptoms showed no signs of improvement the following operation was performed on the evening of Dec. 12th, 24 hours after the commencement of the symptoms. A flap was reflected and the bone having been incised just below the lower border of the depression a periosteal elevator was introduced between the bone and the dura mater and the depression was raised gradually. The wound was then closed and a dressing was applied in the ordinary way. The symptoms gradually diminished until 35 hours after operation, when the child slept well, and since that time there has been no reappearance of the twitchings. The patient has made an uninterrupted recovery and on Dec. 22nd, when the dressing was removed, the wound was found to have healed by first intention.

I have to thank Dr. J. M. Munro Kerr, under whose care the mother and child were, for the facilities which he has afforded me and also to thank Dr. N. C. Rogers for permission to make extracts from the ward journal.

Glasgow.

A CASE OF SEVERE COUGH AND LOSS OF WEIGHT DUE TO ROUND WORMS IN THE INTESTINE.

BY PROSPER ST. LEGER LISTON, L.R.C.P., L.R.C.S. IREL.

THE following case is, I think, of sufficient interest to be recorded.

The patient was a boy, 13 years of age, who measured 4 feet 11 inches in height and weighed 36 pounds. He was brought to me months ago suffering from an intense earache. His mother told me he had been taken to several medical men who told him that he was "in consumption." He had had cough, expectoration, and night sweats, the expectoration being often blood-stained, and was wasted to an extraordinary degree. His temperature was 104° F. His abdomen was enormously distended and painful, there was great diarrhœa, he had no appetite, and very rarely had more than one hour's rest at night. The family history showed that two sisters had died from some vague stomach trouble. "On examining his throat I found an intestinal worm with its head firmly wedged into the Eustachian opening and I had great difficulty in pulling it away, after which the boy experienced immediate relief.

I prescribed santonin, calomel, and scammony for a fortnight and at the end of that time he voided, either by vomiting or per rectum, 603 round worms, varying in length from four to nine inches. Since this clearance his cough has disappeared, he has gained 14 pounds in weight, and his appetite has returned.

Penryn.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

WESTMINSTER HOSPITAL.

A CASE OF CONJUNCTIVAL ARTHRITIS IN AN ADULT.

(Under the care of Dr. W. MURRELL.)

A MAN, aged 25 years, was taken to Westminster Hospital in an ambulance on Sept. 21st, 1904, suffering from what was supposed to be rheumatic fever. The history was that on the previous day, being then in perfect health, he had an attack of acute double conjunctivitis followed in a few hours by inflammation of the right wrist and the left knee. The patient on admission had a temperature of 101·8° F. and was sweating profusely. On examination it was found that the wrist itself was not involved but that there was considerable effusion into the cellular tissue of the dorsum of the hand, which was dome-shaped and boggy, [illegible] mistaken for chirag[illegible] tender but contai[illegible] inflammation in the [illegible] and the left elbow and the right knee were attacked. The temporo-maxillary, sacro-iliac, and sterno-clavicular articulations were not implicated. The patient was placed on full doses of salicylate of sodium, first of the synthetic and then of the natural salt, but without amelioration of the symptoms, the temperature ranging from 100° to 102° daily for many weeks. There was no cardiac complication and no pericardial rub or effusion could be detected. There was no tonsillitis and there was no history of syphilis, gout, or alcoholism. A gonorrhœal history was suspected but the patient denied any attack past or present and squeezing the urethra gave a negative result. The urine was of specific gravity 1020, acid, and contained no albumin. No flocculi were at any time observed in it. There was a history at the age of 22 years of an attack of acute rheumatism of some weeks' duration. The œdema of the hand continuing the fingers were carefully examined but no abrasion or wound could be detected and the temperature was not of a hectic type. The eyes were treated with boric acid lotion and a simple ointment but without improvement in their condition, and on Oct. 7th, in addition to the conjunctivitis, there was much ciliary congestion. The patient having derived no benefit from the salicylates was given first aspirin and then iodide of potassium in full doses, but again without benefit. On the 10th, there being effusion into the right knee-joint, it was aspirated and the fluid submitted to Dr. R. G. Hebb, who reported that no micro-organisms were found in the films and that there was no growth in any of the media after four days. On the 18th there was a renewed attack of acute purulent conjunctivitis of the left eye, for which Mr. G. Hartridge prescribed a 5 per cent. solution of argyrol, the application of which promptly relieved the inflammation. The conjunctival secretion was examined by Dr. Hebb but no gonococci were found. The patient had several subsequent attacks both of conjunctivitis and arthritis of gradually decreasing severity and he was discharged on Nov. 15th, relieved of all his symptoms.

Remarks by Dr. MURRELL.—This case of multiple arthritis presented many points of interest and much difficulty was experien[illegible] In favour of its being [illegible] of a previous attack, [illegible] hough on that point there was no positive evidence. Against this theory was the absence of an initial tonsillitis, the rebelliousness to the salicylates, the cellulitis of the dorsum of the hand, and the freedom from cardiac complications. The diagnosis of gout was not seriously entertained and, apart from other considerations, the duration of the attack negatives that view. From the first a suspicion was entertained that it was a gonococcic infection and the effusion into the tendon sheaths *strongly supports that view.* The absence of a urethral discharge cannot be held to overweigh the general evidence in favour of that theory. The fact of gonococci not being detected in the fluid from the knee-joint cannot be regarded as conclusive and it is probable that the conjunctival secretion was examined too late in the progress of the case to carry much weight. It will be remembered that gonococci in the ophthalmic secretion were discovered by Darier in 1889 and demonstrated by Deutschmann in the fluid from the inflamed joints in 1890, but it can hardly be expected that they should be found in every case. The probabilities are that this was a true case of conjunctival arthritis, the conjunctivæ being inoculated with an attenuation of gonococcus. How the infection took place it is needless to discuss but the probabilities are obvious. Although the synovitis of gonorrhœa is usually the result of the absorption of morbid products from the urethral mucous membrane, there is no reason why the conjunctival mucous membrane should not afford equal facilities. A gonorrhœa need not of necessity be urethral in origin. Mr. R. Clement Lucas[1] has recorded a series of cases which show that ophthalmic rheumatism may attack infants either as an acute arthritis, accompanied by much pain, swelling, and redness, or as a subacute synovitis with effusion. The original ophthalmia may be due to an inoculation from the vaginal discharge of the mother at the time of birth or it may take place accidentally from infected towels or in some similar manner. It is notable that in this case the interval between the appearance of the conjunctivitis and the subsequent arthritis was only a few hours. In the infantile cases the joint affection develops about the end of the second week after conjunctival infection.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

An Analysis of 99 Cases of Inoperable Carcinoma of the Breast treated by Oophorectomy.

A MEETING of this society was held on Jan. 24th, [illegible] Vice-President, being in the chair [illegible] to be worthy of a further trial in certain cases; for though a cure was not to be hoped for the operation in a considerable number of cases had been followed by a marked improvement in the patient's condition, both general and local. Of 99 cases thus treated there was very marked improvement in 23·2 per cent. and distinct though less marked improvement in 13 other cases—that is, 36·4 per cent. of all cases operated [illegible] the operation. If the patients [illegible] old were omitted, of the re[illegible] cent. showed very marked improvement and nine others showed distinct improvement —that is, 41·3 per cent. were benefited by the operation. In successful cases the benefit had been great and was mainly shown in relief from pain, marked improvement in health, diminution or even disappearance of the growth, healing of ulcers, and prolongation of life. In no case had a "cure" resulted with one possible exception. In 32 of the 36 cases which had been benefited by this treatment the [illegible] to the recrudescence [illegible] rded. In one case the [illegible] ough five years had elapsed since the operation was performed. The duration of the improvement was not very often stated but in 15 cases the improved condition of the patient was maintained for more than 12 months and four other patients had good health for four and a quarter years or more. If a growth which was fixed and inoperable before oöphorectomy became smaller and moveable after the operation it was advisable to excise it as soon as the resulting improvement ceased to be definite. The removal should be very freely carried out, as it was probable that a certain number of cancer cells still remained in the immediate neighbourhood of the obvious growth, in the tissues which, though now apparently free, were at one time definitely involved; for in many of the cases in which the disease had completely disappeared after oöphorectomy it had subsequently reappeared in the same situation. The most favourable age of operation was from 45 to 50 years; in relatively young patients it should be given a further trial, but after 50 it was rarely worth doing. The fact that the patient had passed the menopause did not contra-indicate the operation. Secondary growths in the viscera contra-indicated the operation; rapidity of growth or an early recurrence after the primary operation made the prognosis unfavourable. The mortality in this series of cases was high, a little over 6 per cent. It should be noted, however, that the actual cause of death in several of these cases might be regarded as accidental; in two the fatal issue was due to pulmonary embolism and in one to acute mania. The changes which had followed oöphorectomy in the successful cases were still unexplained but it was possible that a morbid variation of the ovarian secretion might be one of the predisposing causes of cancer of the breast and that when the malignant changes had once begun their further development might be favoured by this secretion, and in these cases removal of the ovaries might meet with success if the disease had not already advanced too far. Carcinoma not infrequently developed in a breast which was already the site of chronic mastitis and it might be that there was a connexion between the secretion of the ovary, one or more of the varieties of chronic mastitis, and mammary carcinoma.

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[1] Transactions of the Royal Medical and Chirurgical Society vol. lxxxii., 1899.

Mr. W. BRUCE CLARKE showed a case of a woman five years after oöphorectomy for inoperable cancer. In 1895 the patient had some bloody discharge from the nipple but no evidence of growth. In 1897 a small nodule was detected and removed and three months later the whole breast was removed and the axilla was cleared out. The growth on section proved to be a duct cancer. In 1898 the posterior triangle became involved and the growth was removed from this situation. In 1899 a further recurrence took place in this situation and the growth was again removed. In November, 1899, the growth had again recurred and involved the right side of the chest. Oöphorectomy was now performed. The pain, which had been a marked feature, rapidly diminished; the growth shrivelled in six weeks and had remained in about the same condition till the present time, some five years after the operation. This was the most successful case that had come under his own observation but in all the cases upon which he had operated some improvement had followed the operation. He never used this method except in inoperable cases.

Mr. J. STANLEY BOYD said that the conclusions which he had drawn from a smaller number of cases coincided with those of Mr. Lett. He was of opinion that the chronic cases were those which gave the best results. In one of his own cases the cancer of the breast had existed four and a half years before the oöphorectomy was performed and the patient had now lived 12 years since the operation. In Dr. Herman's case the cancer had existed for six and a half years before the operation of oöphorectomy and the patient lived 12 years. The cases reported by Watson Cheyne, Beatson, and Edmunds all showed the same chronicity in the primary growth or the greater resistance of the patient to the growth. He did not think oöphorectomy as a primary operation was advisable but he had in two or three instances used the combination of methods—viz., removing the breast and the ovaries—with results which he did not think could have been obtained by the removal of the breast alone.

Mr. JONATHAN HUTCHINSON pointed out how difficult it was to obtain evidence with regard to the duration of carcinoma of the breast. He referred to the case of a most intelligent woman who had a large cancer of the breast in which the growth was stated only to have been present for a week. He then referred to cases in which carcinomatous growths had spontaneously disappeared. He thought that no time-limit could be fixed with regard to the recurrence of carcinoma of the breast and mentioned the case of a woman from whom he had removed the breast and the growth only returned ten years after the removal. The patient died 11 years after the operation.

Dr. G. E. HERMAN said that the paper showed two very important points—viz., that those cases did best when operation was performed about the menopause and that the treatment with thyroid gave beneficial results.

Mr. W. MCADAM ECCLES said that there were three points to which he would allude. First, he attached considerable importance to the nature of the carcinoma, for the variation in the rapidity of growth was considerable; secondly, he thought that much might be learned from the microscopical examination of the ovaries removed; and, thirdly, the examination of the shrunken growth was important and so far as he knew only one such case had been examined. He mentioned a case in which oöphorectomy had been performed for extensive cancer in which all the nodules atrophied except for one or two small points. The patient lived for 26 months after the oöphorectomy and 35 months after the primary growth had been removed. This patient had been the subject of a most violent "nerve storm" after the oöphorectomy but recovered completely in about ten days.

Mr. PEARCE GOULD pointed out the fallacy of the statistical method of collected cases for only the more successful ones were published. His experience of the results of this operation had not been so favourable as that of Mr. Bruce Clarke and he had seen but one case with a striking result. In this instance rapid diminution of the growth took place but the patient unfortunately died from intestinal obstruction. Sections of the atrophied growth showed considerable fibrosis and atrophy of the cell elements. He never felt able to press the operation on a patient whilst the knowledge of the nature of cancer was so uncertain. He had not infrequently seen arrest of the disease without any operation. It was clear that there were physiological means by which the disease could be arrested and he looked forward to the time when these physiological means would be known and rightly applied.

Mr. LETT replied.

MEDICAL SOCIETY OF LONDON.

Discussion on Hæmaturia.

A MEETING of this society was held on Jan. 23rd, Mr. JOHN LANGTON, the President, being in the chair.

Dr. A. E. GARROD, in opening the discussion, said that although the presence of blood in the urine was often a symptom of great diagnostic value the interest and importance which attached to it were almost entirely clinical. It raised no abstruse pathological problems as did the presence in the urine of products of deranged metabolism, with regard to which the kidneys merely played the part of excretory organs, whereas they had their origin in morbid processes behind the renal barrier. In this respect the two very similar conditions hæmaturia and hæmoglobinuria stood in conspicuous contrast to each other. He next dealt with the diagnosis of hæmaturia and said that, as a rule, this gave rise to but little difficulty; occasionally the differentiation of hæmaturia from hæmatoporphyrinuria presented some difficulty if the urine rich in hæmatoporphyrin happened to contain albumin. The microscope would usually serve to remove any doubt. Spectroscopic examination did not supply so delicate a test as was sometimes supposed. If the blood pigment in the urine were always present in the form of oxyhæmoglobin it would be a different matter, but the band in red of methæmoglobin was not nearly so distinct as that of the latter pigment when dilute solutions were examined. The port-wine coloured urine rich in hæmatoporphyrin often showed a pair of absorption bands which closely resembled those of oxyhæmoglobin. Dr. Garrod then dealt with the chemical tests for blood pigment and stated that with the exception of Teichmann's hæmin-crystal test the tests were not so satisfactory as might be wished but they served very well in practice. The ozonic ether and guaiacum test was one of extreme delicacy and the failure to obtain the blue rings, at any rate, afforded most satisfactory evidence of the absence of blood. The microscopical characters of the urine from cases of hæmaturia were then considered and perhaps one of the most definitely diagnostic objects which could be found was the ovum of bilharzia hæmatobia. The presence of tube casts, of renal epithelium, or of fragments of tumours was of the greatest diagnostic importance. He then alluded to a definite group of cases of hæmaturia occurring as an isolated symptom in infants in which the cause was the presence in the urinary passages of crystals of uric acid. A still more important cause of hæmaturia in the early months of life was infantile scurvy and he stated that blood was present in the urine at some period of the disease in the majority of such cases. The hæmaturia in these cases was in no way proportionate to the severity of the disease. In some cases it was an isolated symptom. Passing over such causes as nephritis and renal and vesical calculus Dr. Garrod next dealt with cases of hæmophilia in which hæmaturia had occurred. In other cases hæmaturia was caused by eating rhubarb and this occurred in some cases after a large amount had been consumed, in others when only a small quantity had been taken. He quoted several instances of this form of hæmaturia. Among the rarer forms of hæmaturia the origin of which was quite obscure might be mentioned the cases of idiopathic or congenital hereditary and family hæmaturia, no less than 12 members of one family being affected. The hæmaturia persisted for many years but in some cases it would cease but would recur or increase in a paroxysmal manner. Some obscure cases of hæmaturia had been described in which when an operation was performed no conspicuous lesion was found. In one case reported by Mr. Hurry Fenwick a localised interstitial change was present. Among conditions in which hæmaturia was the sole symptom reference was made to that due to bilharzia hæmatobia which was not very rarely met with in the young men who had returned from South Africa. He then referred to the hæmaturia in cases of parenchymal nephritis and that which occurred in granular kidney, moveable kidney, and lastly to that which occurred in association with prostatic diseases. In conclusion, he referred to the term "renal epistaxis" which suggested that the bleeding might occur from the kidney, as it did from the nasal mucous membrane, without any gross lesion.

Dr. H. E. **BRUCE PORTER** mentioned the case of a man, aged 50 years, who had two attacks of hæmaturia which were definitely connected with the taking of a large quantity of asparagus. In this case no oxalates were present.

Mr. T. H. **KELLOCK** said that he had seen hæmaturia follow a papillomatous growth in the kidney. He mentioned the case of a young man with a tumour in the left kidney. This was removed and it was found that the whole pelvis was filled with a papillomatous growth. Papilloma of the bladder gave rise to more severe hæmaturia than almost any other condition. He did not believe that hæmaturia was a common symptom of renal sarcoma. He was of opinion that a calculus in the cortex of the kidney more often gave rise to hæmaturia than a large calculus situated in the pelvis.

Dr. J. H. **BRYANT** referred [illegible] the cystoscope. In one case [illegible] profuse hæmaturia and enlar [illegible] was found on examination t [illegible] rounded the orifice of the right ureter and so far gave rise to obstruction and hydronephrosis. The patient made a complete recovery after the removal of the growth from the bladder. In a second case blood could be seen oozing from the left ureter. Bacteriological examination was also of value in such cases.

Mr. R. H. J. **SWAN** referred to the value of the cystoscope and the separator. Even in cases of profuse hæmaturia it was often possible to make a diagnosis in a fluid medium in the bladder which was not quite clear. A rapid examination often sufficed to make the diagnosis obvious. He said that in tuberculous cystitis hæmaturia might be the only symptom. He related the case of a small boy whose bladder had been opened under the supposition that a papilloma was present. Nothing was found but by subsequent examination with the cystoscope a tuberculous condition was seen. He thought that hæmaturia as the only symptom in cases of enlarged prostate was very rare.

Dr. F. J. **POYNTON** referred to hæmaturia occurring in infants suffering from scurvy without any other symptoms Hæmorrhage from the kidney occurred in cases of malignant endocarditis, partly due to infarcts but also due to a toxic nephritis. In one instance in which he had injected a cat with a virulent growth of streptococci the animal had developed a nephritis from which it completely recovered and when killed subsequently the kidneys were found to be perfectly normal.

The **PRESIDENT** referred to the rough clinical tests for the diagnosis of the source of hæmorrhage—viz., that when intimately mixed with the urine the blood probably came from the kidney or ureter when following the passage of clear urine from the bladder, and when at the commencement of micturition as coming from the urethra. He referred to the case of a man with all the symptoms of stone in the kidney. He explored the kidney but was unable to find any calculus. The man made a complete recovery and was perfectly well 18 years later. He thought that hæmaturia was more commonly the result of small calculi than of large ones.

Dr. **GARROD** replied.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Instruments.—Bony Deposits following Injury. — Cerebellar Abscess. — Acute Labyrinthitis. — Typhoid Fever.

A MEETING of this society was held on Jan. 19th, Dr. **JAMES BARR**, the President, being in the chair.

Dr. W. **BLAIR BELL** exhibited and demonstrated the use of the following instruments: (1) Combined Peritoneum Forceps and Wound Retractor; and (2) Complete Infusion Apparatus, with improved Venous Cannula.

Mr. **ROBERT JONES** and Dr. **DAVID MORGAN** presented an Analysis and Radiographic Illustrations of 16 cases of Bony Deposits following Dislocation of the Elbow-joint under their observation. These deposits had followed simple dislocation, unaccompanied by fracture, and were not associated [illegible] ffered from [illegible] occurrence [illegible] vith callus. [illegible] n of these bony deposits. A series of radiographic lantern slides depicted their growth, from slight shadows to dense bony formation. The diagnosis and the prognosis were discussed and microscopic slides were shown to demonstrate their true bony nature as distinct from calcareous changes.

Mr. W. T. **CLEGG** read notes of a case of Cerebellar Abscess which occurred as the result of acute ear trouble. The clinical history of the case was given and the differential diagnosis between temporo-sphenoidal and cerebellar abscess was discussed. An operation had been performed but without relief to the patient. At the necropsy a large abscess was found in the right lateral lobe of the cerebellum, the infection having travelled from the ear along the sheath of the auditory nerve. There was no meningitis.

Mr. **CLEGG** also related a case of Acute Labyrinthitis in a child, two years and eight months of age, in which the symptoms closely resembled those of meningitis. After recovery deafness persisted. There had been no discharge from the ear.

Dr. **NATHAN RAW** read a paper on Some Points in the Diagnosis and Treatment of Typhoid Fever based on an observation of 362 cases treated in hospital during the last 16 years. He referred in detail to the great difficulties in diagnosis which many cases presented in the early stages of the disease and discussed the value of Widal's reaction as an aid to the practitioner Hæmorrhage and perforation were the two most formidable complications and a careful *résumé* of the symptoms of perforation of the intestine was given as it was highly important to be able to diagnose its immediate onset so that prompt operative measures might be adopted. In his opinion the treatment of the future would be directed towards reducing the virulence of the bacilli and the onset of toxæmia on the lines suggested by Dr. A. E. Wright or by the introduction of a serum. The cold or continuous bath treatment undoubtedly in other countries gave better results than any other, but he believed it would be some considerable time before it was generally adopted in this country in the treatment of typhoid fever.—Dr. W. **CARTER** considered Brieger's suggestion of feeding patients suffering from typhoid fever with pure peptones good and he had carried it into practice for many years. Commenting upon Widal's reaction, he mentioned two cases in which it proved misleading. —Dr. W. B. **WARRINGTON** considered that even when much care was taken the serum reaction was not devoid of ambiguity and the observer was from time to time left in doubt as to the positive or negative nature of the reaction.—Dr. N. E **ROBERTS** was of opinion that the mortality of enteric fever in Liverpool, when treated in hospital under modern conditions, would average about 12 per cent. He based this [illegible] ase of close upon 2500 cases treated at the city [illegible] of this disease was greatly [illegible] under treatment, and as [illegible] aid that he had never lost a nurse or any member of the hospital staff from enteric fever at the Grafton-street or Parkhill Hospitals since he joined those institutions in 1892.—The PRESIDENT, Dr. J. HILL ABRAM, Dr. T. R. BRADSHAW, Dr. A. G. GULLAN, Dr. C. J. MACALISTER, Dr. R. S. ARCHER, and Dr. R. J. M. BUCHANAN also took part in the discussion.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Exhibition of Specimens.

A MEETING of this section was held on Jan. 6th, Dr. H. C. EARL, the President, being in the chair.

Professor O'SULLIVAN (for Dr. ROY S. DOBBIN) showed specimens from a case of Extensive Anæmic Infarction of the Liver. The case was one of puerperal eclampsia, with jaundice. A large gall-stone was impacted in the upper end of the gall-bladder. The smaller branches of the hepatic artery showed an extensive degeneration of the walls, commencing in the muscle cells of the middle coat, and accompanied by a similar change in the walls of groups of capillaries in the neighbourhood of the branches of the artery. The degenerated material took on Weigert's fibrin stain deeply and gave none of the amyloid reactions. Hyaline thrombi were present in some of the arteries. The walls of the hepatic and portal veins were healthy. Some of the portal veins inside the infected areas were thrombosed.

The PRESIDENT and Mr. R. C. B. MAUNSELL showed an Endothelioma of the Uterus.—Professor O'SULLIVAN expressed the opinion that the diagnosis was not justified in the present state of knowledge in regard to endotheliomata unless the transition from the ordinary endothelium of the lymph space to the tumour endothelium could be established.—The PRESIDENT agreed with Professor O'Sullivan's remarks and admitted that there were many parts of the tumour from which nobody could possibly establish a diagnosis.

The PRESIDENT showed a large Myoma of the Rectum which was removed by Dr. F. M. Golding, of Headford, from a woman during parturition. The tumour measured three and a half inches in its longest diameter by two and a quarter inches in its shortest. It presented some patches of calcification near its surface. It was attached to the wall of the rectum by a thin membrane.—Dr. R. TRAVERS SMITH asked if there was any possibility of it being a uterine tumour which had found its way out per rectum.—The PRESIDENT said that he did not think it was a uterine myoma because he believed that if a patient had had a myoma like that ulcerating into her bowel she would have complained about it. Dr. Golding had also given a distinct history of its having a membranous attachment which would not have been present if the tumour had ulcerated its way into the rectum.

MEDICO-LEGAL SOCIETY.—A meeting of this society was held on Jan. 17th, Sir William J. Collins, the President, being in the chair.—Dr. J. G. Garson read the notes of a case of a Double Fracture of the Right Clavicle which resulted in a civil action for damages.—The President recalled Sir Robert Peel's fatal injury which was too painful for examination.—Dr. J. Howell Evans insisted on the importance of the two fulcra upon which the clavicle rested.—Dr. Garson also gave a Demonstration on the Development of Invisible Finger-prints. He suggested that vital evidence was often lost by disturbing the environment of a crime before it had been skilfully investigated.—Mr. A. Douglas Cowburn opened a discussion on the Law relating to the Criminal Responsibility of the Insane. The question was primarily one for the jury. It was frequently impossible to apply the knowledge-test of right and wrong, as required by the answers of the judges in 1843. Again, men undoubtedly insane had been convicted as criminals and although substantial justice was obtained by the intervention of the Home Office such methods of trial were undesirable. The laxity of medical definitions and hypotheses led lawyers to be firm in adhering to their rules. "Moral insanity" rarely existed without intellectual derangement and many crimes alleged to be the result of sudden impulse had been, in fact, carefully planned out. Medical evidence must be more definite and precise than was the usual case. Any change of rule must have wide moral support and must not make it easier for criminals to escape unpunished. It was better to leave "insanity" undefined and to agree that no act done by a person in a state of insanity should be punished. The vast majority of cases presented little diagnostic difficulty to the expert alienist and to him the decision must be left. The law must apportion its standard of responsibility to each individual case. Criminals—i.e., those convicted of one of the 82 indictable offences—might thus be classified into five relative groups: (1) the professional criminal; (2) the habitual criminal with a bad police record; (3) the occasional criminal, the victim of temptation; (4) the insane criminal, who should be exempt from punishment; and (5) the weak-minded criminal, who should receive medical treatment rather than punishment. The foregoing principle actually obtained in the convict cell but not in the courts.—Dr. James Scott regarded the recommendation of the jury "to mercy" as to some extent a recognition of the class of the "feeble-minded."—Dr. Ernest W. White recognised a slope and not an angle in the gradation of sanity to insanity; further, one fixed delusion proved general mental disease. Both he and Dr. T. Outterson Wood maintained that each case must be considered individually as it arose.—Mr. John Troutbeck expounded Jeremy Bentham's "Theory of Rewards and Punishments."—The President, in concluding the discussion, insisted that the test of guilt was not within the sphere of cognition but that of volition. Wundt had, at the close of his theory of psycho-physical parallelism, allowed that conduct was determined by personality; motives arose externally, causes internally. There was, and must be, some mental calculus in considering these problems involving responsibility. The questions at the back of our minds were, he submitted, Had the prisoner the power of choice? Could he act upon it? Were his choice and act in accordance with the general moral sanction of the time and place in which he lived and with the legal sanction prescribed by the legislature?

CHELSEA CLINICAL SOCIETY.—A meeting of this society was held on Jan. 17th, Dr. T. Vincent Dickinson, the President, being in the chair.—Dr. J. D. E. Mortimer read a paper on the Anæsthetisation of Children. After referring to various practical details he pointed out that the prone or latero-prone positions were apt to embarrass the breathing, especially in rickety children, and that in cases of empyema the child should never be turned on the unaffected side. In giving chloroform the induction of anæsthesia should be gradual but not too prolonged and there ought to be a free admixture of air. The lint, if such be used, should never be applied closely to the face; by so doing it was certainly possible to anæsthetise or rather narcotise a patient, using a very small amount of chloroform, but the method was both inconvenient and dangerous. Coroners and juries appeared to be under the impression that the amount of chloroform used was a measure of the amount inhaled and that the production of anæsthesia with a small quantity indicated a skilful administration, whereas the reverse was often the case. —Mr. A. F. Penny read a paper on two cases of a Hitherto Unrecorded Complication of Pregnancy. The first case was seen by him in consultation with Mr. C. A. Morris and subsequently, on the removal of the patient to the Grosvenor Hospital, by the other members of the staff there. The second case was seen by Mr. Morris and also by Dr. Seymour Taylor. Both patients recovered, although they presented very alarming features and both miscarried, one at six and a half months and the other within a fortnight of full term. The prematurely born child survived for three hours; the other child had to be delivered by forceps and was born dead with the cuticle peeling. The two cases simulated typhoid fever very closely. In the first of the two the blood was examined twice for Widal's reaction but with a negative result. In this case the illness began with a rigor on June 25th and the woman's temperature was found to be 103° F. There was constipation for the first week but afterwards the bowels were relaxed and the stools were distinctly typhoid in character. Two days before she miscarried the temperature rose to 104·8° and on July 7th, just before labour pains began, it was 103·6°. Immediately labour started it dropped to 97° and remained subnormal afterwards for two or three days. There was no further pyrexia. In the second case there was constipation throughout. When first seen by Mr. Penny on July 2nd the woman complained of very severe pain in the upper part of the right lumbar region. The abdomen was very distended and tender and on the right side the colon was enormously distended and overlapped the enlarged uterus. Her temperature varied between 100° and 102° until July 8th, when it rose to 103·6°. On July 10th, an hour or two before labour pains began, it dropped to 101·2°. Immediately the pains commenced the temperature was found to be 97°. It remained subnormal for three days, when it reached the normal standard and there was no further pyrexia. Mr. Penny could offer no explanation of the phenomena.—Dr. J. Anderson read a paper on the Treatment of Various Diseases by Light and gave details of several cases in which he claimed that a successful result had been obtained by this means. The patients suffered from gout, rheumatism, various neuralgias, insomnia, and anæmia.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—The annual meeting of this society was held in Manchester on Jan. 20th, Sir William J. Sinclair, the President, being in the chair.—The following officers were elected:—President: Dr. D. Lloyd Roberts. Vice-Presidents: Sir William Sinclair, Dr. W. Walter, Mr. Owen Bowen, Dr. Arthur J. Wallace, Dr. J. B. Hellier, Dr. A. C. F. Rabagliati, Dr. John W. Martin, and Mr. Percival E. Barber. Honorary treasurer: Dr. E. Octavius Croft. Honorary general secretary: Dr. W. E. Fothergill.—Mr. G. A. Hawkins-Ambler showed two specimens of Apoplexy of the Ovary. The first was from a patient, aged 41 years, who had violent abdominal pain during influenza two weeks after a profuse menstrual period. The enlarged uterus emitted a sanious discharge. The left ovary was turned into [illegible] size of a hen's [illegible] a chocolate-[illegible] was cystic and adherent. The second specimen was from a patient, aged 35 years, who during the previous year had had various attacks of pelvic peritonitis. An ovoid cyst of the size of an orange was found adherent to the uterus on the left, to the rectum, and to the colon. It was filled with blood clot and fibrin and represented the left ovary.—Dr. Hellier described two cases illustrating the production of Uterine Souffle. One was an instance of uterine myoma of the size of a three months' pregnancy which caused a loud bruit together with a palpable thrill. After removal of the uterus injection showed the presence of a large artery and a large venous sinus on its right side. The other case was one of retroperitoneal sarcoma which pushed the uterus up so as to form a visible prominence on the abdomen extending three and a half inches above the pubes. Over this there was a soft souffle which disappeared after the enucleation of the tumour.—The President (Dr. Lloyd Roberts) showed a Liver Enlarged by Metastatic Deposits, the primary lesion being cancer of the pancreas. A lobe of the liver, divided from the main mass by a deep sulcus, extended into the right side of the pelvis. This caused a difficulty in diagnosis, as during life the condition suggested the presence of a separate tumour of pelvic origin co-existent with enlargement of the liver.

LARYNGOLOGICAL SOCIETY OF LONDON.—At the annual meeting of this society held on Jan. 13th the following officers were elected for the year 1905:—President: Mr. Charters J. Symonds. Vice-Presidents: Dr. W. Milligan, Dr. F. Willcocks, Dr. J. B. Ball, and Dr. G. William Hill. Council: Dr. L. H. Pegler, Dr. J. Walker Downie, Dr. P. McBride, Mr. W. R. H. Stewart, Sir Felix Semon, and Dr. E. Furniss Potter. Honorary treasurer: Mr. H. B. Robinson. Honorary librarian: Dr. StClair Thomson. Honorary secretaries: Mr. P. R. W. de Santi and Dr. H. J. Davis.—At the ordinary meeting the following cases and specimens were shown:—Dr. StClair Thomson exhibited a case of Epithelioma in a man, aged 50 years, in whom laryngo-fissure was performed and there was no recurrence after six months. He also showed a boy, aged 14 years, in whom Tracheotomy was performed for Extreme Stenosis, the larynx being extensively ulcerated and the cords fixed in the middle line. There was marked improvement after the operation and the diagnosis rested between tubercle, lupus, and congenital syphilis.—Mr. de Santi showed for diagnosis a case of Swelling of the Left Arytenoid Region in a woman, aged 35 years. The diagnosis was considered to be either tubercle or malignant growth.—Dr. H. Tilley showed a case of Tracheal Obstruction.—Sir Felix Semon showed two cases: (1) Pharyngeal and Laryngeal Nystagmus in a case of probable tumour of the pons; and (2) a case of Inflammatory Œdema of Obscure Origin, affecting the posterior part of the larynx, in a man, aged 45 years.—Dr. H. W. Fitzgerald Powell showed a case of Epithelioma of the Palate, Tonsil, Tongue, and Cheek and suggestions were invited as to the effect of the x rays in such a case. The opinion generally expressed was that the x rays would not be of much value in such cases.—Mr. F. H. Westmacott showed a case of Ulceration of the Soft Palate which had been operated upon frequently yet was perpetually recurring. It was not influenced by iodide of potassium.—Mr. O. A. Parker showed a case of Symmetrical Enlargement of the Thyroid.—Dr. Smurthwaite exhibited a beautiful series of Paintings in Oil indicating Diseases of the Throat and Larynx.—Dr. D. R. Paterson showed a Pair of Laryngeal Forceps for use by the direct method.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Jan. 20th, Dr. J. S. Risien Russell, the President, being in the chair.—Dr. Lewis A. Smith opened a discussion on the Management of a case of Glycosuria. He advised that a patient seeking advice who was passing sugar in the urine should not be told that the condition was diabetes. Though advances had been made in the knowledge of the parallel conditions of glycosuria yet they were in the dark now as formerly as to the cause of the condition. Various pathological conditions of various organs seemed causal of glycosuria; it probably was the case that some loss of balance of function of the body as a whole resulting from disease of the brain, the pancreas, the liver, or the kidney could, and did, so alter the metabolism that the sugar was unburned and passed from the body as sugar. Where exactly this sugar was transformed was unknown. He said that the only sure and true test for sugar was fermentation. Stress was laid on the fallacies common in chemical testing and he illustrated those remarks by the anxiety caused sometimes when on adding the perchloride of iron solution to a urine containing sugar a red reaction resulted. Yet that reaction was due to salicylates taken by the patient and not to the presence of diacetic acid. The presence of even a large quantity of sugar in the urine was not of itself warrant for a grave prognosis, for eight years ago he saw a man who had dry gangrene of two toes with much sugar in the urine who recovered, grew fat, and worked hard. The presence of diacetic acid, a resultant of autoproteid metabolism, was the best guide as to the severity of a case and indicated the near approach of coma. For this sodium bicarbonas should be given in doses of about two ounces daily. In the beginning of attending a glycosuric patient care should be taken not to change the previous diet suddenly, for deaths had been recorded apparently as a consequence. Drugs should be avoided until the full reduction of the sugar had been attained by diet alone, then drugs might be given.—A discussion followed, to which Dr. Lewis Smith replied.

ROYAL MEDICAL SOCIETY, EDINBURGH.—A meeting of this society was held on Jan. 13th at which Dr. John Thomson delivered an address on Congenital Pyloric Spasm. He began by going into the history of the subject, stating that before 1896 very few cases had been described but that after that year the number of cases had steadily grown. He then discussed the pathology of the condition and its causation. In this connexion he gave two theories—the first, that it was due to a simple primary hyperplasia and the second, to which he himself leaned, that it was due to a secondary overgrowth following overwork. He next treated the question of the symptoms and diagnosis, mentioning the explosive vomiting, the absence of the signs of dyspepsia, the smallness of the motions, the general emaciation, and the prominence of the stomach and pyloric thickening. After describing the course of the disease, he went fully into its treatment, both medical and surgical, mentioning such operations as pylorectomy, stretching, and gastro-enterostomy. In the course of his address Dr. Thomson exhibited slides of numerous cases.—Dr. A. C. Geddes moved, and Dr. L. S Milne seconded, a vote of thanks.—Dr. H. D. Shepherd then read a dissertation on the Evolution of the Limbs. He prefaced his paper by giving an account of the line of the development of the vertebrates, saying that the first appearance of a well-marked limb occurred in the suaropsida. He then selected the newt, the frog, and a mammal as representing three great stages in the development of the limbs. Next he compared the hind limbs in these three groups, taking the newt first and pointing out the absence of torsion in the femur. Of the frog he said that here a bending of the head of the femur, a sloping of its condyles, a rotation of the ankle, and other advantageous changes could be detected. He concluded by going fully into various interesting points of mammalian comparative anatomy.—Mr. D. M. Barcroft proposed, and Mr. T. B. Johnston seconded, a vote of thanks.—Dr. J. M. Graham then read notes of three cases of Hysteroparalysis.

BURNLEY AND DISTRICT MEDICO-ETHICAL ASSOCIATION.—A clinical meeting of this society was held on Jan. 5th, Dr. A. M. Sinclair being in the chair.—Dr. A. Donald read a paper on Puerperal Septic Infections. He laid especial stress upon injuries to the perineum and to the vagina as causes of sepsis. He had found the power for repair of these injuries to be defective and in many instances the wounded part was covered with a thin grey slough. He strongly advocated surgical precautions in all midwifery cases; not that such precautions would entirely obviate septic dangers but that they would materially lessen them. For treatment he deprecated curetting and hysterectomy—in the former case the danger of pushing vaginal septic material into a possibly otherwise healthy uterine cavity seemed to be great and in the latter to remove a probably unoffending organ seemed a crime. —A discussion followed in which Dr. J. Mackenzie referred to his earlier and his later experiences and remarked that many of the younger practitioners had no knowledge of puerperal sepsis.—Dr. R C. Holt called attention to the remarkable statistics of some of the older practitioners who could show lists of cases attended where the death-rate was not 1 in 1000 and remarked upon their practice as he had seen it He thought that the too free use of the forceps and the practice of Credé's method of expelling the placenta were responsible for many evils.—Dr. J. Gardner drew attention to the differences between women in towns and women in the country, more especially with regard to vaginal secretions.—Dr. G. S. Pullon, Dr. J. S. Wilson, Dr. W. Bird, and Mr. J. Hodgson also related their experiences.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held at the Medical Institute, Birmingham, on Jan. 18th, Dr. E. W. Wood White, the President, being in the chair.—Mr. H. G. Barling showed (1) a patient from whom he had successfully removed a Tumour of the Cerebrum; (2) a man who had been the subject of Migraine of many years' standing and who was successfully treated by the fixation of a moveable kidney; and (3) a specimen of Advanced Hydronephrosis in a Moveable Kidney removed from a woman, aged 50 years, who had suffered pain more or less for 20 years but more severely during the last 12 months. The other kidney was also freely displaced downwards but was not hydronephrotic.—Mr. L. P. Gamgee showed (1) a woman, aged 51 years, who for seven years had suffered constantly from very severe headaches which had resisted all ordinary forms of treatment (fixation of a right moveable kidney had resulted in complete disappearance of the headaches); and (2) a large Hydronephrosis removed from a woman, aged 40 years. The patient had suffered from a moveable kidney for 20 years and the hydronephrosis was apparently a direct result of the mobility. —Mr. Barling read a paper on Renal Mobility and its Treatment.

BRISTOL DISPENSARY.—The annual meeting of the subscribers to the Bristol Dispensary was held on Jan. 13th. The report stated that during 1904 the patients numbered 10,556, being a slight decrease compared with the previous year. The financial statement was satisfactory and showed a favourable balance of £10.

PHYSICAL VOICE-TRAINING SOCIETY.—A meeting of this society will be held on Wednesday, Feb. 1st, at 5.30 P.M., at the Medical Society's rooms, 11, Chandos-street, Cavendish-square, London, W. The Lord Bishop of Bristol will take the chair and the speakers will include Canon Barker, the Principal of King's College, and Dr. V. H. Wyatt Wingrave. The honorary secretary is Miss C. D'Orsey. Those who attended the breakfast given by that lady at Oxford on July 29th, 1904, and the subsequent meeting and others who are interested in the subject may be reminded that further particulars of the objects of the society will be found in THE LANCET of August 13th p. 502.

Reviews and Notices of Books.

An Atlas of Human Anatomy. By CARL TOLDT, M.D., assisted by Professor A. DALLA ROSA, M.D. Translated from the third German edition by M. EDEN PAUL, M.D. Brux. Sixth section: G, Neurology; H, the Organs of the Senses (Figs. 1124 to 1505 and Index. London and New York: Rebman. 1904. Pp. 746-956 and Appendix (pp. 30). Price 16*s.* 6*d.* net.

THIS handsome volume completes the translation of Professor Toldt's Atlas of Human Anatomy adapted to English and American international terminology. Five plates are devoted to diagrams of the structure of nerve fibres, cells, and terminal sensory organs. Figures 752 to 808 are devoted to the central nervous system, gross anatomy, development, and excellent schemata showing the connexions of the parts of the central nervous system one with another and with adjacent sense organs largely make up this part of the work. All the sketches are bold, clearly drawn, and every part is duly labeled, so that any student glancing over these pages can readily refresh his memory. The transverse, horizontal, and other sections of the brain are admirably drawn, while the diagrammatic representations of the continuation of the several tracts of the cord into the brain are particularly good, for after all it is a knowledge of the connexions between the several parts of the nervous system which is useful to the physiologist and the physician. We may refer particularly to Figs. 1225 and 1226 showing the course of the continuation of the posterior column of the cord, and Figs. 1227 and 1228 depicting the connexions of the eyeball and its muscles with the brain and medulla.

To the peripheral nervous system (Figs. 1240-1325), nearly 100 figures are given, many of them occupying a whole page. The sketches of the distribution of nerves to the viscera are particularly good and so are the delineations of the nerves to the hand, in fact, the plates in this part strike us as amongst the best in the whole Atlas. The sympathetic nervous system is dealt with in Figs. 1326 to 1333 and most excellent plates they are. The rest of the work is devoted to the organs of sense, the major part to the eye (Figs. 1334-1403), including its anatomy, structure, and development; the ear (Figs. 1404-1468); the nose (Figs. 1469-1481); while Figs. 1482 to 1505 are devoted to the skin.

In the notes by the translator in the Appendix a concise but lucid sketch is given of the newer views on the structure of the central nervous system. Numerous annotations occur, showing the differences between German and English nomenclature—e.g., cardiac plexus. English anatomists make a distinction between a superficial and a deep cardiac plexus which is ignored by Professor Toldt. The references regarding different terminology are chiefly to Quain and MacAlister.

Altogether the work is excellently translated, the printing is good, and the plates and figures are clear and distinct and well chosen. We think that this part will prove fully as useful as any of its predecessors. We congratulate both authors and publisher on the success of their endeavour.

The Chief Operations of Ophthalmic Surgery: A Practical Guide for Students. By HAROLD B. GRIMSDALE, M.B., B.C. Cantab., F.R.C.S. Eng., Assistant Ophthalmic Surgeon to St. George's Hospital; Surgeon to the Royal Westminster Ophthalmic Hospital. London: *The Medical Times.* 1904. Pp. 144. Price 5*s.*

THE operations given in detail in this little work include those for strabismus, ptosis, entropion, ectropion, tarsorrhaphy, lacrymal obstructions, enucleation, evisceration, cataract, glaucoma, iridectomy, peritomy, and corneal cornea. The author has had considerable experience in the wards and operating theatres of St. George's and the Royal Westminster Ophthalmic Hospitals and therefore writes with authority. The account given of each operation is sufficiently accurate, though in giving three or four methods it would have been more serviceable to the student if the author had indicated the particular conditions rendering one plan superior to another. It is convenient to the student to have in compact and portable compass the various proceedings that have been suggested for the relief of certain diseases, defects, and deformities but we demur to the statement made in the introductory chapter that "most text-books on ophthalmology give up a very small part of their space to the somewhat important branch of operative surgery." We have looked at several of the recently published treatises, such as those of Juler, Berry, Norris and Oliver, Fuchs, Swanzy, Ball, and others, and find that many pages in each of these works are devoted to operative proceedings, though the accounts are distributed under different headings and are not collected together as in Mr. Grimsdale's treatise. In the account of Mules's operation it is stated that in "something like 20 per cent. of all cases the central stitch gives way and the globe emerges." Surely this estimate must include those cases in which the operation has been performed by unskilful hands. The failure is almost certain if too large a glass or silver globe is inserted, whilst if all traction is avoided it is generally successful. A small globe gives a very good *point d'appui* for a well-made artificial eye. The description of Maxwell's operation for shallow socket is very well given. Kronlein's operation for the removal of the outer wall of the orbit might have been introduced. The woodcuts, though intelligible, are very coarse; the text deserves to be illustrated better.

An Account of the Tapeworms of the Genus Hymenolepis
Parasitic in M
of the Dwarf
By BRAYTON
No. 18. Sep
Printing Office. 1904. Pp. 131.

THIS publication contains a full account, from both the zoological and medical aspects, of the three representatives of the tapeworms of the genus hymenolepis, parasitic in man. The hymenolepis nana, the dwarf tapeworm of man and rats, is of small size and has no doubt been frequently overlooked owing to the diagnosis of its presence being dependent on the discovery of its eggs microscopically. About 100 cases have been reported in man. It was first described in 1845 by Dujardin in rats; then in man by Bilharz at Cairo in 1851. The Italian investigations showed that when the eggs are swallowed by white rats, the embryos hatch, bore into the intestinal villi, become transformed into an intermediate stage of cercocysts, and finally fall into the lumen of the intestine to become adults. A similar development is presumed to occur in man, although it is possible that some portion of the process of development both in man and rats may occur in some intermediate host such as an insect; this, however, is not yet determined.

The large majority of cases occur in male children between the ages of five and ten years. More cases develop in cities than in the country. Bad hygienic surroundings are especially liable to cause infection. The largest number of cases has been reported from Italy; and next to Italy from Columbia. The ileum is the part infected and in number the worms may vary from one to several thousand. Other parasites again may be present at the same time, whilst the infection may last from two months to two and a half years, perhaps even to five years or even longer. Clinically the symptoms are usually slight and may be absent altogether, although severe ones, such as persistent diarrhœa and epileptiform attacks, occasionally occur. The most frequent symptoms are abdominal pain with or without diarrhœa, convulsions of various sorts (frequently epileptiform), headache, and strabismus. Nasal and anal pruritus common in cases of other tapeworms are rare. Nervous symptoms seem to occur more especially in those patients predisposed to nervous disease. The local pathological changes are slight. The diagnosis rests on the discovery of the eggs.

In making the necessary research a very small particle of the fæces to be examined has simply to be rubbed up with a drop of distilled water on a glass slide, covered with a cover glass, and examined with a moderately high power. The eggs are very transparent so that they are likely to be overlooked unless care is taken. The characteristic appearance of these eggs is the presence of two distinct membranes, an inner one closely investing the embryo with filaments attached to its poles and an outer separated from the inner by a considerable intervening space. The treatment is by male fern which may have to be repeated several times. Prophylaxis consists in the avoidance of everything favouring the entrance of eggs into the mouth, the destruction of rats and mice, and the protection of food from contamination by their excreta, whilst children must be carefully prevented from putting into their oral cavities all the various objects which, soiled by these excreta, may carry the eggs.

The second worm, the hymenolepis diminuta, or flavopunctate tapeworm of man and rats, occurs by means of an intermediate host, the common meal moth being the most frequent. It gives rise to practically no symptoms and is diagnosed by the discovery of its eggs in the fæces. Here the outer membrane of the eggs has a radial striation, distinguishing it from the last, whilst the intermediate substance between the two membranes is more prominent, and there are no filaments at the poles of the inner membrane. In the treatment a simple cathartic is all that is necessary and the avoidance of all the various insects acting as intermediate hosts. The hymenolepis lanceolatus of geese and ducks has been recorded but once from man.

LIBRARY TABLE.

Électricité Médicale. By Dr. H. GUILLEMINOT. Paris: G. Steinheil. 1905. Pp. xii. + 656. Price 10 francs.—We think that an English translation of this book would well repay any trouble that it entailed. It is essentially practical and many interested in medical electricity would be only too glad to have a book such as this, which gives all the latest ideas of our French colleagues on the subject, without the trouble of translating it for themselves. The work is divided into three parts, the first of which is devoted to electro-physics. Apparently the time has not yet come when the preliminary training of medical men in electricity is such that this section can be dispensed with in works on medical electricity. The second part relates to the physiological effects of the various forms of electrical energy on living tissues. It includes the action of the different light rays which have taken such an important place in physical therapeutics. The action of the static machine current and currents of high frequency are dealt with very fully, as would naturally be expected in a book coming from a country where these agents are much more extensively used than they are here. The third section extends over half the volume and deals with the practical applications of electricity in diagnosis and therapeutics. This, of course, is the part of most interest to medical men. A novel feature of this section is the author's method of describing the treatment of each organ of the body under a separate heading. The part relating to diseases of the skin is worthy of special mention and will well [illegible] time [illegible] en to its study. The book can be thoroughly commended. The publishers' work has been very satisfactorily done, the volume being of a convenient size and the printing and illustrations particularly clear.

The Transactions of the Hunterian Society, 1903–1904. Eighty-fifth Session. London: Headley Brothers. 1904. Pp. 85.—In addition to the usual lists and report about the society, which latter shows a satisfactory financial position, these Transactions contain Dr. J. F. Woods's oration on the Psychic Side of Therapeutics; Dr. W. Hale White's lecture on Some Clinical Considerations concerning Certain of the Rarer Forms of Enlargement of the Heart; the second Hunterian lecture on Pain: its Importance in Diagnosis and Tendency to Mislead, by Mr. A. A. Bowlby; and Dr. Paul C. Franze's paper on the Physiological Action of the Nauheim Bathing Wells and the Indications for their Use, chiefly in Circulatory Disorders. The reports of the cases and specimens shown on the clinical and pathological evenings are very interesting.

The Food of the Future: a Summary of Arguments in Favour of a Non-flesh Diet. By CHARLES W. FORWARD. With a Preface by ERNEST BELL. London: George Bell and Sons. 1904. Pp. 128.—In this little book arguments in favour of a non-flesh diet are set forth. In the preface Mr. Bell remarks that "in reality force of custom, appetite, and the desire for sensual indulgence is the only 'reason' for the inhuman habit [of flesh eating], if one may use the word where no reason enters at all." The book is stated to be for those "who are ready and waiting to climb off the purely physical sensuous plane, who long for some higher ideal than seems to satisfy the average man. It is to these the book may be helpful in showing that in following their better natures they have reason, and humanity also, on their side."

Home Nursing and Hygiene Handbook. By J. WALLACE ANDERSON, M.D. Glasg., F.F.P.S. Glasg., and GEORGE H. EDINGTON, M.D. Glasg., F.F.P.S. Glasg. Glasgow: St. Andrews Ambulance Association. 1904. Pp. 156. Price 1*s.* net.—This work is the official text-book of the St. Andrews Ambulance Association which is the Scottish organisation corresponding to the English St. John Ambulance Association. It gives plain and simple directions for home nurses, together with the elements of hygiene and various surgical information for which Dr. Edington is responsible. The book should be found of great use to those for whom it is intended and we are glad to see a note describing how to make coffee by simple infusion in the same manner as tea is made. There is one slip which should be corrected in a future edition, and that is on p. 85 where atmospheric air is spoken of as "not one of the elements ...... but a compound body." The word "compound" placed in antithesis to the word "element" gives the uninstructed person the idea that air is a chemical compound. The substitution of the term "mixture" would be advantageous.

The Public Schools Year-book, 1905. London: Swan Sonnenschein and Co. Pp. 622. Price 2*s.* 6*d.*—This book of reference gives particulars of all public schools—i.e., it is limited, "with a few carefully weighed exceptions, to such public schools as were connected with the headmasters' conference." A "Girl's School Year-book" is promised to appear during the year. In the book now before us will be found particulars of the various schools, together with information concerning the services, the medical profession, and the musical profession. Appendix X. deals with agriculture, horticulture, and with colonial openings for public school boys. Lists of preparatory schools are given but these are "not official or in any way exhaustive," and besides the matters which we have mentioned there is a variety of other information which must be of great use to all parents or guardians.

The Schoolmaster's Year-book and Directory, 1905. London: Swan Sonnenschein and Co. Pp. 1058. Price 5*s.* net.—The above-mentioned work covers wider ground than the preceding book, for its sub-title is "A Reference Book of Secondary Education in England and Wales." It contains a vast amount of information upon the subjects which are included under the comprehensive term "education" and its editor deserves every credit for the pains which he has evidently taken to compile a full, careful, and up-to-date account of educational matters and establishments and of subjects connected therewith.

Diaries.—Messrs. W. H. and L. Collingridge of the *City Press* have sent to us "The City Diary" (price 1*s.*). It is a useful desk companion, is of a handy size, gives three days to a page, is interleaved with blotting-paper of good quality, and lastly, contains a miniature City encyclopædia. The information afforded in the prefatory section appeals to, and will be found of practical utility by, every citizen who takes any interest at all in the affairs of the one square mile. The "Diary" gives, for instance, a complete list of members of the corporation, ranged alphabetically, and also according to their wards; of the City churches, with the names of the rectors, curates, organists, and other officials; of the City companies, with the names of the clerks and the situation of the halls; and of the various municipal, social, and parochial institutions that have their headquarters in, or are in any way associated with, the City. In a word, therefore, the annual is a work of reference as well as a diary pure and simple.—Messrs. Rudall, Carte, and Co. have sent us their useful Professional Pocket Book or Daily and Hourly Engagement Diary for 1905. The diary, which is contained in a neat leather case, is divided into three sections of four months each. Although primarily intended for the use of musicians any professional man or woman will find it very handy. Besides the diary there are a calendar containing the usual information and a set of blank pages for memoranda.

JOURNALS AND MAGAZINES.

The Field Naturalist's Quarterly. London: Simpkin, Marshall, and Co. Edinburgh: G. A. Morton.—The December number of this quarterly, which is only just to hand, completes the third volume of a magazine which, though it appeals specially to field naturalists, contains articles of much interest to the general reader. The editor, Dr. Gerald R. Leighton, commences a series of articles entitled, Modern Studies in Heredity, and Mr. F. G. Aflalo writes in his well-known pleasant style on the Psychology of the Angler's Fish. This last article deals for the most part with artificial baits and the author suggests that, just as a kitten will dash at any moving object at the end of a string, so a fish will seize any small object moving rapidly before its eyes. Support is lent to this view by reason of the fact that artificial bait, except when in motion, is practically useless as an attraction for fish. Other articles are the Protective Colouration of Plumage and Eggs, by Mr. Thomas Hepburn; British Bats: How to Tell Them, by Mr. H. E. Forrest; and the Feeding of Snakes in Captivity, by Mr. B. Ingram, L.R.C.P. & S. Edin. The articles on British Field Geology and Zoology are continued. It is much to be regretted that this excellent magazine does not appear more often than once a quarter.

NEWTON ABBOT HOSPITAL.—The annual meeting of the subscribers to the Newton Abbot (Devon) Hospital was held on Jan. 19th. The medical report stated that during the past year the in-patients numbered 270, the out-patients being 774, both figures being in excess of those for 1903. The financial statement showed that the income amounted to £1210, while the expenditure was £1088. Dr. E. Haydon, Dr. J. Culross, Dr. W. G. Scott, Dr. A. T. Nisbet, Mr. R. H. Grimbly, Mr. E. Hunt, and Mr. J. J. S. Scrase were re-elected members of the honorary medical staff.

THE LANCET.

LONDON: SATURDAY, JANUARY 28, 1905.

Apparent Death and Death Certification.

A REMARKABLE account of a case of apparent death was reported last week. From the facts stated in the daily papers it appears that a married woman named HOLDEN, aged 28 years, and living at Hapton, near Accrington, was believed to be dead. Her body, clad only in a nightdress and covered by a sheet, was laid out in an icy-cold room in the usual manner. Some six hours subsequently the undertaker whilst measuring the supposed corpse for a coffin observed a twitching movement of the eyelids. He had the presence of mind to resort to artificial respiration, with the result that "slowly and with trembling uncertainty an arm was raised, glassy eyes quivered in ghostly fashion, and a hand still deathly cold clutched at his own." The further history of the case is that vitality became more and more established until the woman could converse in feeble accents. There seems to be no shadow of doubt that Mrs. HOLDEN was believed to be dead, for funeral coaches were ordered, an insurance company was informed of the death, and the doctor's certificate was obtained. The medical man who had seen his patient on the previous day was not surprised to hear of her death. There are certain facts in the history of Mrs. HOLDEN'S life which tend strongly to explain her state of suspended animation. In the first place, she had been ill for a long time with general weakness and for several weeks she had been confined to bed. She had obviously assimilated but little food and had been subjected to the depressing influence of cold—conditions such as are found in hibernating animals during their winter sleep. There appears also to have been a predisposition to the cataleptic state, for twice previously, once as an infant and again as a girl of 15 years, she is said to have lain as if dead. Moreover, it was disclosed that she had been subject to "fits," a definite cause of exhaustion.

BROUARDEL in his work "Death and Sudden Death" gives many illustrations of simulated death, such as the trance-like condition of the Indian fakirs, the state of children apparently stillborn and that of people the subjects of hysteria with long-continued fasting, syncope or inhibition, hæmorrhage *ad deliquium*, submersion, exposure to extreme cold, drunkenness to the extent of being *dead drunk*, cerebral concussion, anæsthesial collapse, and acute diseases such as cholera. It is obvious that to the ordinary observer this condition of apparent death may on rare occasions be mistaken for the reality. It is even possible that the skilled practitioner may have difficulty in establishing the moment at which life has departed in cases where the transition has been extremely gradual. It is beyond the bounds of reasonable probability, however, that a medical man would fail to determine by careful, complete, and repeated observation whether a body were alive or dead. It has been said that the only infallible sign of death is decomposition and taken singly this is true. If all the collective indications of death prior to disintegration of the tissues are obtained we do not hesitate to affirm that the fear of a person being buried alive is practically groundless. We know of no thoroughly authenticated case in which a body after it has been pronounced dead by competent and honest examiners has "returned to life." Thus there is ample consolation for those who fear being buried alive and for those who possess the same feeling as regards friends and relatives. BROUARDEL remarks: "If a mistake has been made it is a popular blunder, not a medical one", and, again, "one fact is found to be almost constantly present—viz., in the immense majority of cases the persons died without having been seen during their illness by a physician, and were buried without a physician having had the opportunity of verifying their death." The real danger, then, lies not in the difficulty of establishing the fact of death but in the state of the law in this country and many parts of France which allows death certification, registration, and burial without demanding the verification of death by a qualified medical man. So long as the certifier is allowed to use the equivocal phrase "as I am informed" embodied in the official death certificates, so long will there remain the possibility of the simulacrum being mistaken for the reality. In the interests of science, humanity, and common honesty it is high time that the legislature should exact indisputable direct medical testimony that the person certified as dead no longer lives.

The Guildhall Conference on Feeding School Children.

SOME 250 delegates representing labour and other organisations, with a total membership of about 2,000,000, have met at the Guildhall and adopted a proposition in favour of the free maintenance of school children by the State. Only 13 delegates ventured to vote against the proclamation of the principle that this is a State and not a parochial question. It would seem that the full description given in these columns of the feeding of all the children attending the primary schools of Paris influenced many of the speakers.[1] Constant reference was made to the *cantines scolaires* and to the Paris schools. In such great questions every advantage should be taken of any practical experience that has been acquired abroad but it is not safe to venture upon too close an analogy between foreign and home institutions. Dr. MACNAMARA, M.P., made a good point when he said that as a municipal annual subvention of £45,000 sufficed to secure the feeding of all the children who attended school in Paris he thought that the same could be done in London, even if three times that amount were required, by adding only a halfpenny to the rates. But it does not follow, therefore, that the cost in England, and still less in London, should be thrown on the rates. Dr. MACNAMARA appears to forget that there are no rates in France and that in Paris there is no district or parochial taxation. Not only in regard to this new proposal for the feeding of school children but in most other efforts at sanitary improvement and poor relief the fear of increasing local rates is one of the main obstacles which arises in this country. It was at once pointed out that while the cost to the poverty-stricken ratepayers of West Ham or of Whitechapel would be enormous the "undesirable aliens" inhabiting Park Lane would have little or nothing to pay. This is not the case in Paris, for though, like London, the French capital is subdivided into boroughs—namely, the 20 arrondissements—taxation is, for the most part, uniform throughout, being in the main derived from the octroi or town dues. Such local taxes as are levied on the individual are devised especially to relieve the poor. Thus no tax is levied on any house or tenement if the rent does not exceed £20 per annum. Then the tax is progressive according to the value of the dwelling. Moreover, the revenue for the relief of the poor is to a considerable extent derived from a tax imposed on every occupied seat of the theatres and on every bet made at a racecourse. In such circumstances the throwing of the cost of a sanitary improvement or of some measure of poor relief on the municipal revenues in France has a very different practical bearing to that of charging the same upon the rates in England. It is an old-standing grievance that in London the poor rate is lowest in the wealthiest quarters and the meeting at the Guildhall strongly resented any proposal to accentuate the inequalities which were so obviously to the advantage of the wealthy.

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[1] THE LANCET, Sept. 17th, 1904, p. 860.

On the fundamental point at issue the entire conference was unanimous: Sir JOHN GORST, M.P., who presided; Dr. MACNAMARA, who headed the minority of 13; Mr. JONATHAN HUTCHINSON, F.R.C.S.; and all the trade unionists, the Socialists, the Fabians, the philanthropists, and the educationists, one and all, were absolutely and most emphatically of opinion that somehow or other every child must be fed and no child allowed to study without first having sufficient food. It was pointed out that, on an average, the school rate amounted to 1*s.* 2*d.* in the £ and that a great deal of this money was wasted because the children were not physically fit to profit by the education offered to them. Mr. HUTCHINSON said that he did not believe that there was any general physical degeneration. The essentials of life were cheaper now than they have ever been and the wages were higher. The consumption per head of beef, rice, beer, and other such articles was much greater than formerly. This optimistic view, in our opinion, however, only applies to the epoch of modern industrialism and would not hold if compared with the condition of the workers in the Middle Ages. But Mr. HUTCHINSON might have added that the death-rate was lower than it had ever been before, including even the Middle Ages. These are all very strong arguments against the supposed general degeneration of the population. Nevertheless, such degeneration is only too obvious among certain classes of the community and in certain localities. Mr. HUTCHINSON urged that if there have been improvements there is still crying need for further progress. Therefore, and as a medical man, he pressed upon the conference that meals should be provided at schools for all children and this without any sort of distinction or inquiry so far as the children themselves were concerned. Perhaps there had been some exaggeration as to the number of children said to be starving but there could be no doubt that an enormous proportion of them were inappropriately fed. For instance, milk is obviously very essential for young children, yet a large section of the community cannot afford to buy milk. He thought that every child should be offered a bowl of hot milk and bread on arriving at school. Then he urged that the boys should be taught how to wait at table, the girls how to cook, and playmasters should be appointed to organise suitable games during the hours of recreation. All this could be managed better and cheaper on wholesale lines at school than at home. The entire community would profit when this was done for the children. The State had a duty to perform in this respect. Finally, Mr. HUTCHINSON said that parents bore an unequal share of public burdens and when the State helped it would be a means of enabling those who had no children to contribute to the raising of future citizens. This, by the way, is the principle on which workmen's benefit clubs are organised in South Wales.[2] As a practical means of bearing each other's burdens bachelors are made to subscribe as much for themselves alone as married men for their whole families.

Thus the delegates at the conference all agreed that the children must be fed and, so that the burden might be more evenly divided throughout the whole community, most of them were in favour of State instead of local maintenance. But this word maintenance means a good deal more than mere feeding. In Paris it means boots and pinafores and other articles of clothing for the very needy. It also means, and this is more important from the medical point of view, that at least the sickly children shall spend their holidays at the seaside or in the country. From the Montmartre district four batches of 186 children are sent annually for a few weeks to the magnificent historical mansion and park of Luzancy. From the neighbouring seventeenth arrondissement 137 children were, according to the last figures given, sent to the seaside at Fécamp and 381 to the country at Montlhéry, and altogether they spent 8500 days in the pure air. To facilitate such outings the municipality gives £8080 to the twenty Paris districts. So also at the Guildhall meeting it was felt that feeding did not cover all the requirements of the case, hence the word maintenance. But while everyone agreed that it would be indeed most admirable to supply these and many other things to the children of the nation opinions very promptly began to divide when the question of payment was raised. Nevertheless, even on this point everyone seemed to think that the cost, however large, would prove an economy in the long run. Not only would a more healthy and intelligent race produce more wealth but there would be fewer people to keep at the public expense in prisons, workhouses, and hospitals. Then also the question of thriftless drunken parents was raised. This was met by the argument that the only way to rid the community of its most worthless members was to remove their children and so to educate them that they should not grow up like their parents. This, again, would be an economy in the long run. It is scarcely within our province to discuss in detail what are the best methods of taxation for such a purpose or to consider the proportion of the cost that should, or could, be recovered from the parents. In Paris, in the poorer quarters, 70 per cent. of the children are fed gratuitously and the remainder pay only 1½*d.* for a meal of three courses. But we can at least insist on the obvious fact that the children are not responsible for the shortcomings of their parents; that if they are to grow into healthy and useful citizens they must be well fed, well clothed, and well housed. How these necessities are to be rendered available for all is a problem which will need more than one Guildhall conference to solve. But it is something to find that there is an awakening of the public conscience on the matter and that a strong desire is manifested on all sides that every child should have wholesome and sufficient food.

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[2] Organisation of the Profession, THE LANCET, Feb. 14th, 1903, p. 479.

The Influence of Climate on the Incidence of Disease.

WE have recently published an interesting communication by Dr. WILLIAM GORDON on the influence which rainy winds exert on the prevalence of pulmonary tuberculosis.[1] With the discovery of the tubercle bacillus there was a natural tendency to ascribe to that organism a paramount rôle in the causation of the disease and to consider heredity and other supposed causal factors as of but secondary consequence. Subsequent research has demonstrated that this conclusion is a mistaken one, not only from the point of view of etiology but also of therapeutics. It is now generally recognised that although tuberculosis cannot arise without the presence of the pathogenic bacillus other agents must be present which are of equal importance. The exact nature of these agents is still in dispute. They are generally included under the convenient though rather vague term of "deficient resistance." Any cause which lowers the natural physiological perfection of an organ renders that organ more prone to the attacks of micro-organisms—and of such causes there are many. Dr. GORDON refers to some of the conditions which tend to influence the prevalence of pulmonary tuberculosis and he sets himself the task of proving three propositions: (1) that in many countries exposure to prevalent strong rainy winds is accompanied by increased mortality from pulmonary tuberculosis; (2) that in those health resorts which have been shown to be most favourable for the treatment of the disease prevalent strong rainy winds do not exist; and (3) that with the exception of the predisposition of certain races to pulmonary tuberculosis and of the effect of certain injurious occupations the influence of these winds on the prevalence of the malady is more powerful than that of any other factor.

Dr. GORDON has taken great pains to collect reports as to the prevailing winds in different parts of the world. He further states whether they are rainy or dry and then compares the distribution of pulmonary tuberculosis (as shown by the death-rate from the disease) with the occurrence of these winds. For the details of this investigation we must refer our readers to the original article. The information thus derived will be found interesting from many points of view. He certainly shows that the prevalence of strong rainy winds is remarkably associated with increased prevalence of pulmonary tuberculosis. For instance, in England the prevailing rainy winds are south-westerly, westerly, and north-westerly, whilst the region of maximum occurrence of the disease in the years 1871–80 stretched along the western side of the country from Cumberland to Cornwall. The western counties are thus the most exposed and have the highest death-rate from tuberculosis. On the other hand, Rutland, Worcester, Hereford, Stafford, and Shropshire, which are all sheltered, have the lowest death-rates. To take another instance, in Spain the heaviest rainfall is on the northern and north-western coasts, where the Atlantic gales are fully felt. The least rainfall and least wind are on its south-eastern coast at Malaga and Valentia. The death-rates from pulmonary tuberculosis in these two regions are as strikingly different as their wind and rain are. Dr. GORDON'S contention is in some measure supported by the experience gained at the sanatoriums where the "open-air" treatment is carried out. The patients seem to suffer but little from rain alone but when wind is added the greatest inconvenience is experienced and the customary exercise can only be undertaken behind "wind screens" or in walks naturally sheltered from the wind, for as SHAKESPEARE long ago pointed out, "Many there be *can brook the* weather that love not the wind." Dr. GORDON'S remarks in reference to the occurrence of wind and rain in the "most successful phthisis health resorts" are not so convincing. He admits that at present it would be scarcely justifiable to impugn the resorts which are subject to rainy winds but he proceeds to inquire as to whether "any admittedly very successful health resorts" are exposed to them. This phraseology is not altogether fortunate, for expert opinion is by no means uniform as to what may be considered the essential qualifications of a spot suitable for the treatment of tuberculous disease. Experience shows that many regions in this country are well adapted for the erection of sanatoriums, whilst some authorities maintain that a perfectly dry atmosphere is necessary. It is generally recognised, however, that shelter from strong and wet winds is necessary and Dr. GORDON maintains that freedom from such winds characterises the resorts to which he refers as being "very successful."

In the third part of his paper Dr. GORDON proceeds to consider the relative strength of other influences known, or supposed, to affect the occurrence of pulmonary tuberculosis. Amongst these he enumerates soil, altitude, temperature, rainfall, density of population, insanitation, occupation, race, and several others. The question of "heredity" is entirely omitted. This is certainly a large subject in itself but the observations would have been more complete had some allusion been made to it. The conclusions at which Dr. GORDON arrives are interesting. He considers that soil has a definite influence but not a marked one; that altitude has little effect, as has the rainfall. He sums up his opinion in the following words: "The influence of exposure to rainy wind therefore appears to have a greater effect in increasing the phthisis death-rate than any other influences except those of differences of race and of occupation—and difference of race must be extreme—and injurious occupation must be almost universal in a community to produce as great an effect as exposure to rainy wind." The result of Dr. GORDON'S inquiry is certainly interesting. The evidence which he has accumulated lends force to his contentions and he has marshalled his facts in a manner which goes far to establish conviction. If it cannot be said that he has entirely elucidated that mysterious factor "deficient resistance" he has certainly brought into strong relief climatic conditions which have great influence on the occurrence of pulmonary tuberculosis.

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[1] THE LANCET, Jan. 7th (p. 10) and 14th (p. 77), 1905.

Our readers' attention may also be directed to an article by Dr. JAMES W. RUSSELL which appears in our present issue "On the Relation between Various Atmospheric Conditions and the Occurrence of Cerebral Hæmorrhage." He brings forward statistics to show that a high barometric pressure is a factor in deciding the onset of an attack of cerebral hæmorrhage. He maintains that there seems to be a slight tendency towards the occurrence of such attacks on days of high atmospheric pressure and also on days of rising pressure, the former probably exerting the greater influence. There seems also to be a marked tendency to the occurrence of hæmorrhage on days of low wind pressure and the combination of a low wind pressure with high barometric pressure is the condition under which the number of cases is highest. The question is an interesting one and merits further investigation.

The influence of climate on the incidence of disease is a complicated one and has received close attention from many observers, more particularly in relation to tropical disease. The two papers to which we have referred open up the subject in fresh directions and are of particular interest in dealing with diseases which are unfortunately of frequent occurrence in this country.

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Major Seaman's Address before the International Congress of Military and Naval Surgeons at St. Louis.

THE address of Major LOUIS L. SEAMAN, M.D., of the United States army, delivered before the International Congress of Military and Naval Surgeons at St. Louis in October last—a report of which is now before us—deals more especially with a subject—namely, the Japanese Military Medical Service—which possesses an unusual degree of interest at the present time. In order rightly to understand the address it is necessary to advert very briefly to the circumstances which gave rise to it.

Major SEAMAN, accompanied by his assistant Dr. TRAUTMAN of New York, arrived at Tokio in June, 1904, armed with all the necessary official credentials for acting as a medical attaché in the Russo-Japanese war. After some inevitable delay the much-coveted pass that was to take them to the front was obtained from the Japanese authorities. Just before leaving Manchuria Major SEAMAN was asked to contribute a paper at the meeting of the International Congress on the medical features of the war. The address in question is the result of that request. In complying with it MAJOR SEAMAN warns his audience that his paper is not to be regarded as a scientific digest of what had occurred but merely as a narrative of some of his personal experiences, together with a few conclusions drawn largely from observation in this and in other wars. Quite apart, however, from some points of scientific and surgical interest, to which we need not now more particularly allude, the chief value of the address consists in the fact that its author deals with his subject in such a graphic, bold, and vigorous way as to leave no room for doubt about the impressions which he derived from all that he saw and heard at the seat of war. The effect produced by his personal experience and observations in Japan and Manchuria led Major SEAMAN to form the very definite and optimistic views in regard to the excellence and efficiency of the Japanese medical and sanitary systems which find forcible expression in the published report of his address. And it is mainly to this aspect of the subject that we now briefly refer. As regards the organisation and practical working of the Russian hospital system in this war the information at our command is relatively scanty and as regards the number of Russian sick and wounded with the results attained under it our information is not only incomplete but conflicting and untrustworthy. In the case of Japan, although it is too early to obtain statistical proof of the assumption that a relatively large reduction in the percentage of mortality from wounds and disease has taken place, nevertheless careful observation and the records of Japanese hospitals seem to point strongly in this direction. Major SEAMAN in any case confidently predicts that this will prove to be the case and gives several incidents as grounds for his faith in this respect. We may quote, for example, the following: "Up to August 1st 9862 cases had been received at the reserve hospital at Hiroshima, of whom 6636 were wounded. Of the entire number up to that time only 34 had died." Again, "To July 20th the hospital ship *Hakuai Maru* alone brought 2406 casualties from the front without losing a single case in transit. Up to July 1st 1105 wounded—a large proportion of whom were stretcher cases—were received at the hospitals at Tokio; none died and all but one presented favourable prognosis." Contributing factors to this happy result have been the application of the principle of non-interference with wounds and thorough antiseptic methods of treatment. But it is in the case of the sacrifice of lives to preventable disease that the Japanese success has been most marked. The loss from this class of disease in the first six months of the campaign will, Major SEAMAN confidently believes, prove to be but a fraction of 1 per cent. "History," he remarks, "will never again furnish a more convincing demonstration of the benefit of a medical, sanitary, and commissary department, thoroughly organised, equipped, and *empowered* to overcome the silent foe." A large portion of the address is taken up with a comparison between these remarkable results and those of other wars; our own campaign in South Africa, the Spanish-American war, and the French losses in Madagascar may be given as examples. It has nevertheless to be borne in mind that as regards some of their sanitary methods and procedures the Japanese have still something to learn, if we may judge from what a special correspondent has to say on the subject in his "Medical Notes from the Far East," published in another column of our present number.

We have only touched the fringe of Major SEAMAN'S address but we have said enough, we think, to show that the Japanese have exhibited a preparedness, a capacity for organisation, and a mastery and adjustment of details to the practical purposes of war in their sanitary and hospital arrangements which account for the results which Major SEAMAN records with so much appreciation. Like all stories worth the telling the moral lies on the surface and the war in the Far East should be regarded as an object lesson for all those who have to deal with the sanitary and medical aspects and requirements of modern warfare.

Annotations.

"Ne quid nimis."

THE LATE SIR JOHN SIMON'S SURGICAL WRITINGS.

AMONG the MSS. of the late Sir John Simon recently purchased for the library of the Royal College of Surgeons of England are some notes dictated by, or in the handwriting of, the great sanitary reformer which deserve attention as showing the attitude of Simon towards his own publications. Taken together they form a kind of medical and surgical last will and testament, having been written, to judge by internal evidence, in the middle "nineties" of the last century at a time when Sir John Simon was already a very old man. Inserted in the MS. of a proposed reprint of his well-known paper on the Comparative Anatomy of the Thyroid Gland, published in the "Philosophical Transactions" so long ago as 1844, is a note in which Sir John Simon confesses that at the time of publication he was unacquainted with Johannes Muller's work on the myxinoids (1834–39). "The writer [Simon], though now at a distance of 50 years from the times referred to, still regrets that in respect of part of his inquiry he was unacquainted with Professor Müller's classical work, but on consideration he has not deemed this a reason for suppressing the present paper. He, of course, assumes that it will not now be read without the check (where applicable) of Professor Müller's treatise; but he further believes that his own essential point, which is to suggest the connexion of the thyroid gland with the brain, had not before this publication been argued and is still deserving of skilled attention." In a note prefixed to a projected reprint of his paper on Sub-acute Inflammation of the Kidney, originally printed in the Transactions of the Royal Medical and Chirurgical Society in 1847, Simon, *circa* 1895, candidly admits "his present belief that the opinions he expressed in it [the paper] with regard to cyst-formation in the kidney were probably erroneous; that probably the early forms which he believed he saw of cyst-formation were in truth but the washed-out remnants of tubules. In other respects he believes the paper to be sound and that some of the doctrines expressed in it may perhaps even still be serviceable." Referring to his now classical article on Inflammation in Holmes's "System of Surgery" Simon pens the following semi-biographical note which is interesting as being the composition of a great thinker at a time of life when most old authors have long ceased to write anything. "At the time when the writer began his official engagement under the Privy Council he had a fair margin of leisure for collateral work in his profession and during the nine months from October, 1859, he used this opportunity to contribute the opening article *Inflammation* to Mr. Timothy Holmes's 'System of Surgery,' then in first edition; but some nine years later when a second edition of the work was to be issued, and this at a moment when Professor Cohnheim's recent contribution to the subject demanded careful consideration, he did not feel himself able to undertake more than a portion of the duty; and in such editions as have been issued since that time he has reluctantly been quite unable to participate. Whether his original article may perhaps still deserve to be read as a whole by the advanced student who can put aside its superseded portions is a matter on which the writer will not pretend to judge; merely observing that the article in its main argument seems to him to be still valid." As further appears from the same note Simon proposed to reprint those parts of the article in Holmes's "System" which refer to "*the production of heat in inflamed parts*" and "contagia in the inflammatory process." The articles on the thyroid and the kidney he proposed to reprint *in extenso*. These short notes by Simon afford a curious commentary on the current opinion that works on medicine and surgery become superannuated and valueless in a decade at the most.

THE OBSTETRIC DUTIES OF THE ARMY SURGEON IN AMERICA.

THE soft answer that turneth away wrath is, as a rule, by no means characteristic of controversy, especially in the scientific branches thereof. The fields of theological and of biological argument are especially prone to bring forth a crop of personal recriminations which is unworthy both of the dignity of the subjects discussed and of the intellects of the protagonists. A specimen of courteous argument now lies before us which comes from that great country of our kinsmen, the United States of America. Dr. Joseph Jeffrey wrote a letter to the editor of *American Medicine* which appeared in the issue of Feb. 8th, 1902, containing the innuendo that the opinions of Major Charles E. Woodruff, "an army surgeon of several campaigns," on obstetrics and such allied topics as maternal impressions were about as valuable as his (Dr. Jeffrey's) opinions on camp sanitation. To this Major Woodruff, who has answered in no undignified haste, replies in a long letter appearing on Dec. 24th, 1904, and written in a vein of Gilbertian pleasantry. Army surgeons are really obstetricians, he says; "they are supposed to be official experts in the specialty of military medicine, including all the branches of camp and barrack sanitation, relations to health of clothing, climate and food, modifications of civil surgery found necessary in the same classes of cases far from modern operating rooms, whether found on the battlefield, lines of communication, or in temporary sheds in dirty surroundings, where a modern surgeon would not dream of operating, diseases peculiar to troops, anthropology as related to the selection of recruits, and a host of other sub-branches about which a civil physician never bothers. But *legally army surgeons are specialists in only one thing*—obstetrics." By a Bill passed in Congress it is the duty of officers of the medical department to give gratuitous professional services to the families of officers and soldiers where practicable and it is the "right and duty" of the post commander to inquire "why it was the surgeon spent so much time with Lieutenant and Mrs. X instead of being at the hospital; and the surgeon will have to explain the details of the obstetric case if required." Formerly the relations between practitioner and patient were privileged as in civil life. Now it seems "army ladies are the only ones entitled to have the details of their obstetric trials recorded in the national archives." Again, the Secretary of War can place medical officers on any duty as he thinks best but no duty is explicitly stated by law except obstetrics. Whatever duty the officer may be doing he can be wired for by Mrs. X for obstetrics, if he wants vacation leave he must put it off for obstetrics, his first duty in all cases is obstetrics. "Is it any wonder, then," Major Woodruff asks, "that after watching for 15 years the official *début* of military babies our minds, in accordance with the law, should run to maternal impressions?" (The subject of the controversy.) Unless he learns all about this matter the writer points out that he is not competent to fulfil the law, however well he may be able to perform the duties connected with his chosen calling. The letter, which would occupy about three columns of THE LANCET, effectively answers the purpose for which it was written in a spirit of perfect good humour. If all unkind innuendoes made in the heat of controversy were replied to in a similar manner we should hope for the dawn of the millennium in the very near future. But we fear that the time is not yet—at any rate not in this country, however it may be across the Atlantic.

THE DEFINITION OF WHISKY IN OLDEN TIMES.

WITH reference to the recent discussions on the purity of malt whisky and of the adulteration of whisky with patent-still spirit it is of interest to learn the precautions which were taken by the Scottish Parliaments centuries ago to protect the purity of Scotch whisky. A correspondent who has been investigating the subject in the British Museum sends us the following excerpts taken from old documents on the subject. In seeking for a definition of whisky or brandy due regard, it seems to us, is bound to be paid to the original meaning of these words.

"Accounts of the Lord High Treasurer of Scotland," edited by Thomas Dickson, 1877.—Vol. I., p. c. c. XIII.

Whisky or Aqua Vitæ, date 1494-5.

The Exchequer Rolls show a delivery to Friar John Cor of eight bolls of malt to make aqua vitæ. That it was not largely manufactured nor in general use at the time is shown from the comparative rareness of its occurrence, as well as from the manner in which, on the occasion referred to, it was furnished to the King. It was probably reckoned rather among drugs, than among articles of ordinary consumption.

There is a footnote to the above as follows :—

Fratri Johanni Cor, per preceptum compotorum Rotularis, ut asserit de mandato Domini regis ad faciendum aquæ (*sic*) vite VIII. boll brassij.

The next notice of the use of aqua vitæ is to be found in the index to the Acts of Parliament of Scotland in the British Museum, where we note that in 1579 the following law was passed :—

No one to make or sell aqua vitæ from 1st Dec. to 1st Oct. next except earls, lords, barons, and gentlemen for their own use.—C. 56, III. 174.

Later the value of the trade seems to have been realised, for in 1655 we see that :—

The importation of aqua vitæ or strong waters was prohibited.—VI. II. 828a.

In 1655 the town council of Glasgow issued regulations for persons who should "brew, sell and tap aqua vitæ," and further in the same year : —

An excise of 2*d*. per gallon English, or quart Scots, imposed on aqua vitæ or strong waters distilled in Scotland; of 4*d*. per gallon English or quart Scots on spirits *made of wine imported; of* 1*s*. per gallon English or quart Scots on spirits sold instead of aqua vitæ or strong waters.—VI. II. 828a, 828b.

Already the Scotch had seen the danger of whisky being adulterated and at once took steps in the shape of a heavy duty to guard against such adulteration. In 1663 they went further still, for they then passed a law to the effect :—

Importation of foreign aqua vitæ prohibited.—C. 13, VII. 458.

In 1672 we find :—

Ratification to Edinburgh of an import on foreign aqua vitæ, strong waters and other foreign spirits distilled.

These laws show that the Scotch, more than 200 years ago, were alive to the danger of the adulteration of whisky with foreign spirit and took care by their laws to protect their pure malt product. And that whisky was a pure malt product is shown by the next two enactments, as well as by the first paragraph of this article, in which it is stated that eight bolls of malt were supplied to Friar John Cor. We find then in 1695 :—

An excise imposed of 3*s*. per pint on aqua vitæ and strong waters, not made of *malt* brewed and sold within the kingdom; of 6*s*. per pint on aqua vitæ, brandy, and strong waters (probably foreign); and 13*s*. per barrel on foreign beer.—IX. 451a.

Again in 1705 :—

A tack of the excise on aqua vitae made of *malt*, set in 1698 for five years to Sir William Menzies for £40,000 per annum to be paid quarterly.—C. 2. X. 31.

A "tack" in Scotland is a lease. So it seems clear from these old laws that whisky was originally a pure all malt spirit and that adulteration by means of foreign spirits was either entirely prohibited or had to be paid for at a prohibitive rate. It is a pity that the Government of the present day cannot do for us what an enlightened Scotch Government did for its people more than 200 years ago.

MEDICAL ARTICLES IN LAY JOURNALS: THE PREVALENCE OF HOOKWORM DISEASE IN PORTO RICO.

A CORRESPONDENT writes :—

Several of the principal lay papers of the United States have recently come to an appreciation of the fact that their readers take great interest in medical affairs and particularly in matters concerning public health. In order to supply news of this character in an accurate manner some of the journals have initiated the system of procuring as members of their staff competent medical men whose duty it is to supply authentic and reliable medical literature and to supervise papers which come within their especial sphere. With this object in view the *New York Herald* has recently sent to Cuba and Porto Rico the following three well-known physicians: Dr. Wolfred Nelson, F.R.G.S., a graduate of McGill University; Dr. P. Jenkins, formerly health officer and health commissioner of New York City; and Major Louis L. Seaman, U.S.A. Drs. Nelson and Jenkins were despatched to Cuba in order to investigate the reported outbreak of yellow fever there, while Major Seaman went to Porto Rico. Letters have been received and published in the *Herald* from all three of these doctors, that from Major Seaman being especially interesting. Dr. Seaman has found that the hookworm disease prevails to a remarkable extent among the inhabitants of Porto Rico, rendering the majority of them unfit for active work. The investigator states that the unsanitary conditions of the island, contributing largely to the production of the disease, are the result not of intentional neglect, but of environment and of inherited habit, for which the living generation cannot be held altogether responsible. The writer gives it as his opinion that the uncinariæ gain entrance into the system through the naked feet of the farm labourers whence they work their way into the intestines, become encysted, and develop into full-fledged blood-suckers [illegible] ine the vitality of their unconscious host. [illegible] are means to rid the soil of the nematode [illegible] generally of effective sanitary arrangements, and the education of the people as to the need of thorough personal hygiene. Major Seaman, moreover, makes the suggestion that free clogs should be provided for the labourers in agricultural districts of Porto Rico in order to protect their feet. The example set by the *Herald* in sending out a commission to Cuba and Porto Rico in the interests of public health is one wholly in keeping with the progressive character of that journal, and the trend of many of the principal newspapers here of supplying their readers with authentic medical news and with articles bearing on medical subjects properly written is a distinct advance in modern journalism.

The *New York Herald* has evidently gone to work in the right way to obtain accurate information on certain medical questions of national (or rather international) importance and by publishing in its columns suitable articles on such topics it can, and no doubt will, render the community a great service. It will be observed that the subjects dealt with are essentially matters of public hygiene, the remedial treatment of which can hardly be effective except under two conditions—namely, when constituted authorities take the initiative and when the general public loyally support the efforts of the administration. Public opinion, however, requires to be formed and guided—an educational process which in America naturally comes within the province of the journalist. So long as the medical articles in the ordinary newspapers are confined to general questions of sanitation and the prevention of disease much good may be done, but in the absence of proper editorial supervision the practice is not unlikely to lead to a variety of abuses. Newspapers of the standing of the *New York Herald* are under no temptation to increase their circulation by meretricious aids but there are countless journals of a lower rank which would find discussions on the prevention of disease insufficiently attractive and would seek to draw attention to themselves by dissertations on any medical topic which might be exciting the public imagination at the time, whether the pathology of cancer, or the surgery of the brain, or "bloodless surgery," or hypnotism, or hydrophobia, or the treatment of special diseased conditions, and so on, *ad infinitum*.

COLLAPSE DURING EXAMINATION OF A POST-PHARYNGEAL ABSCESS: RE-ESTABLISHMENT AND MAINTENANCE OF THE CIRCULATION FOR FOUR HOURS BY MEANS OF MASSAGE OF THE HEART.

IN the *Boston Medical and Surgical Journal* of Jan. 5th Dr. David Cheever has recorded the following remarkable case in which the circulation was re-established and maintained for four hours by means of massage of the heart. A girl, aged three years, was taken to hospital complaining of sore throat and dysphagia. There was a history of a fortnight's illness, with feverishness and anorexia. The child became progressively worse and unable to eat or to talk. During the last few days respiration became laboured. On examination she was pale and ill nourished, with a pulse of 140, respirations 46, and slight cyanosis of the finger tips and the lips. The respiration was shallow and a few moist râles were heard at the bases of the lungs. There was a diffuse fulness on the right side of the neck which was not tender. A swelling obstructed the oro-pharynx but the struggles of the child made complete examination impossible. An operation was undertaken. As it was impossible to reason with, or to gain the confidence of, the child the necessary manipulations were carried out by force but as gently as possible. The arms were confined by a blanket and she was held in the nurse's lap. No anæsthetic was given and she struggled ceaselessly. The introduction of the gag caused such choking and cyanosis that it had to be withdrawn—with immediate relief. At a favourable moment it was again placed in position and the finger and knife were introduced but a point of fluctuation could not be felt. Breathing suddenly ceased and the child was laid on the table and artificial respiration was begun. The pulse could not be felt nor could the heart sounds be heard with the stethoscope. The face and the mucous membranes were moderately cyanotic, the pupils were dilated and immobile, and the cornea was insensitive. The time was 6.20 P.M. With the child in the Rose-Trendelenburg position the abscess was opened and evacuated. As auscultation showed that a satisfactory amount of air was not entering the lungs a rubber catheter was introduced through the mouth into the trachea and the expansion of the chest by manipulation was supplemented by insufflation. No improvement ensued and the cyanosis was followed by extreme pallor and there were no signs of action of the heart. Cardiac massage was begun by rhythmical pressure at the rate of 60 to the minute over the third, fourth, and fifth left costal cartilages. This process with the artificial respiration was continued for four and a half hours until further efforts were evidently useless. As rapidly as possible brandy and strychnine were injected directly into the heart, the legs were bandaged firmly from the toes to the groins, the abdomen was manually compressed, and heat and blankets were applied. Directly following the pressure over the heart the colour returned to the lips and the face and the capillary circulation could be demonstrated by the blanching and the return of colour after pressure on the cheeks, the tongue, the lips, and the nails. No heart sounds were heard with the stethoscope at any time but feeble pulsations were detected in the radial and the femoral arteries, always immediately after the pressure on the heart; they were never felt when the pressure was interrupted for a moment. The pupils remained dilated and immobile. Oxygen under considerable pressure was forced into the lungs through the catheter but the colour of the mucous membranes at once became worse, therefore insufflation was again begun. At 8.30 a pint of saline solution was infused into the median cephalic vein with transitory improvement of the colour and the pulse. There were sluggish oozing from the subcutaneous tissue and marked hæmorrhage from the vein. The blood was slightly darker than normal. Ten minims of solution of adrenalin were injected into the pectoral muscle and repeated without noticeable effect. At nine o'clock the tube was accidentally withdrawn from the trachea. Its re-insertion was difficult in consequence of beginning rigidity of the jaw. Tracheotomy was therefore performed and insufflation was continued. The wound bled less than the previous one. The colour failed steadily and the skin became mottled, although the capillary circulation could still be demonstrated in the lips. Finally it was determined to inject stimulants into the spinal canal but in turning the body over it was found that rigor mortis was well established in the legs. Further attempts at resuscitation were therefore abandoned four and a half hours after they were begun. Death evidently was due to cardiac collapse from the shock of the manipulations performed in attempting to operate on an extremely exhausted patient. In endeavouring to maintain the circulation artificially Crile and others have shown that not only must the heart be kept beating but the blood pressure must be insured by increasing the peripheral resistance. Crile does this by injecting adrenalin which causes the vessels to contract and by the use of his inflated rubber suit which offers a resistance that can be regulated. In the above case resistance was produced by bandaging the limbs firmly and compressing the abdomen. Keen has recently collected 27 cases in which massage of the heart was used for resuscitation, of which three were successful, and Cohen has reported a successful case. In some cases the pericardium has been opened and the heart rhythmically compressed but the circulation has never been more than temporarily restored. In a case described at the Society of Anæsthetists by Dr. E. A. Starling[1] the pulse and the respiration stopped together during the operation for removal of the vermiform appendix. The surgeon, Mr. W. Arbuthnot Lane, introduced his hand through the abdominal incision, felt the motionless heart through the diaphragm, gave it a squeeze or two and felt it commence to beat. After artificial respiration the patient recovered and the operation was completed without more anæsthetic. Good convalescence followed. In an annotation published soon afterwards[2] we discussed the whole subject of resuscitation by compression of the heart. Dr. Cheever calls attention to the fact that his case differs from most of the others recorded in that automatic cardiac pulsation was not re-established. He thinks that the blood was pumped through the vascular system by the mechanical pressure on the heart, which seems to us very doubtful.

THE SALE OF PATENT MEDICINES IN NEW ZEALAND

A RECENT issue of the *New Zealand Gazette* contained regulations issued under section 101 of the Public Health Act, 1900, with effect from June 30th, 1905, notifying that: "All patent medicines imported or sold or offered for sale in the colony shall be required to have the contents with their exact proportions legibly set out in English upon a label affixed on the bottle, box, or container. In addition to such information, where such medicines contain one or more of the poisons scheduled under 'the Sale of Poisons Act, 1871,' and its amendments, the words 'This contains poison' must be marked in a clear medium-sized block type upon the label." The regulations provide that any person who commits a breach of, or fails to comply with, any of the foregoing regulations shall be liable, on conviction, to a penalty not exceeding £50. For the purposes of the regulations the term "patent medicines" is declared to include, *inter alia*, certain articles which are specified by their usual titles. Among them we observe a certain number of food preparations sold under distinctive names by well-known firms of high reputation, together with the "special extra strong female pills," "diabetes cures," "witches' oils," and other nostrums of the quack. From this it is clear that the administrators of the Public Health Act of New Zealand use the term "patent medicine" in a general and popular sense and not in its strict meaning of a medicinal compound protected by letters patent. They will, if they vigorously carry out their regulations, protect the public in an efficient manner without causing inconvenience or injury to honest traders who are perfectly satisfied that the nature of what they sell should be known and who have no misgivings lest their goods should fail to contain the constituents of which they should be compounded. The vendors of much advertised "remedies," on the other hand, will have to make public the fact that their bottles and pill-boxes have nothing in them that can possibly account for the "cures" which they profess to have effected, and to these the legal provisions quoted should prove a serious stumbling-block. We note a good many familiar quack names among the titles scheduled as well as some which are new to us. If a similar measure were to be put into force in England the list would be a longer one and a large proportion of the advertisers in our newspapers and popular magazines would find themselves compelled to make statements which, if true, would condemn them as impostors and if untrue would render them liable to be fined.

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[1] THE LANCET, Nov. 22nd, 1902, p. 1397.

[2] THE LANCET, Nov. 29th, 1902, p. 1476.

THE ADULTERATION OF BRANDY.

IN two cases heard at Portsmouth police court on Jan. 17th, in which the defendants were alleged to have sold adulterated brandy, the bench failed to convict because in his evidence the public analyst admitted very properly that it was not possible to detect the difference between highly rectified grain spirit and highly rectified grape spirit by analysis. The words of the analyst's certificate were that the brandy contained 37 per cent. of spirit not derived from the grape. The fact is that "a spirit distilled or derived from the grape," though a principal definition and description, is not complete and this was well brought out in the judgment given by Mr. Fordham in the Islington case, the certificate of analysis in which contained precisely the same words as those used by the public analyst of Portsmouth. "I do not think," said this magistrate, "that after a spirit obtained by the distillation of wine has been so highly rectified as to have lost the properties peculiar to spirit so obtained, it is still spirit obtained by the distillation of wine so as to fulfil the definition of brandy." That is the crux of the whole matter. Silent or neutral spirit having its origin in the grape has no more of the qualities of brandy than has a spirit distilled from any other material. Otherwise the significance of the terms whisky, brandy, and rum is lost and they may as well be given up as meaningless. It would be well if public analysts could adopt the phraseology of the Government analysts when dealing with the results of the analysis of spirits which, at least in one instance, we know to be as follows: "From a consideration of the results of our analysis we are of opinion that it [brandy] consists of a mixture of pot-still grape spirit and neutral or patent still spirit. We estimate the proportion of the neutral spirit present at not less than 75 per cent." As we hold that brandy is only correctly defined as a pot-still grape spirit there would then be no escape on such a technical point as was raised in the case alluded to. We commend these facts to the Portsmouth bench.

THE DIRECTOR-GENERAL OF THE INDIAN MEDICAL SERVICE.

THE appointment of Lieutenant-Colonel G. Bomford, I.M.S., C.I.E., to the post of Director-General of the Indian Medical Service has been announced. He is M.D. Lond., was educated at King's College Hospital, London, and in addition to being a man of high professional attainments has shown considerable administrative capacity in the various important posts which he has filled; consequently he should prove a very fitting and acceptable head of the distinguished medical service to which he belongs. He is principal of the Medical College, Calcutta, and *ex-officio* first physician to the Medical College Hospital. For his services with the Perak Expedition in 1875-76 he was awarded the medal for that expedition with clasp.

THE MANAGEMENT OF THE DELIRIOUS PATIENT.

THE correct management of a patient whose illness culminates in acute mental delirium occasionally causes great anxiety to the medical adviser, more especially when the necessity arises in a public institution. Ten years ago Dr. Danford Thomas held an inquest upon a man who, having developed delirium (during septicæmia) in the London Temperance Hospital, had been summarily removed therefrom to the insane ward of the local parochial infirmary. The hospital authorities considered it inexpedient that he should remain in a general hospital to the annoyance of the other patients. The justice who visited him was unable to certify that his delirium was lunacy; he died ten days later. Last week the same coroner held an inquest at the Paddington Green court upon a case which illustrated a converse difficulty. A man suffering from acute bronchitis was admitted to St. Mary's Hospital; after four days' treatment he discharged himself while still very ill, obstinately refusing to give any reason for his conduct. Three hours later he entered a police-station and made ridiculous charges and complaints as to his alleged maltreatment in the hospital. The police, perceiving his delusions, conducted him to the Paddington Infirmary as an indigent person of unsound mind and there he remained without protest until his death from pneumonia and exhaustion. A magistrate who visited him the day after his reception not only was unable to certify insanity but forcibly commented on the action of the hospital authorities in allowing him to leave in the way and the manner described. These cases may be taken as types: in the former instance the resident medical officers considered their patient too delirious to be retained; in the latter they did not consider their patient sufficiently *non compos mentis* to be restrained, in fact, they feared that any duress on their part, medically justifiable perhaps, might result in actions at law for assault and for false imprisonment against themselves. The law does not recognise delirium as coming within the provisions of the Lunacy Acts, it matters not whether the mental derangement is part of an attack of acute alcoholism, acute apical pneumonia, enteric fever, or septicæmia, indeed it would be impolitic in medical practice to stigmatise as insane those who exhibit what is euphemistically called "brain fever" as a concomitant incident of their physical disease. The certification of these patients as having been even temporarily insane would lead to lasting resentment against the medical man who rashly advised it—a piece of worldly wisdom which it is well to remember in cases of puerperal delirium. Dr. Danford Thomas pointed out that if such cases were regarded as insane they might be treated legally as pauper lunatics and this would allow their speedy removal to the parochial infirmary. In private practice the difficulty of management is not so great, for the near relatives of the patient will at once agree to any precautionary measures which can be confidently recommended. In a public hospital, however, considerable circumspection may be needed when patients become obstreperous. Thus if a patient suffering from pneumonia attempts in his delirium to discharge himself through the window he would, of course, be restrained, but what if at an incipient stage of his madness, he insists on discharging himself through the door? In both cases the consequences may be equally, if not as quickly, fatal. When a man suffering from an acute disease submits to skilled professional treatment, is he not presumed to recognise the appointed medical authorities as placed over him *in loco parentis* and does he not tacitly submit to any reasonable line of treatment that they may adopt for his benefit? If this is the true relation it would justify the coercive duress necessary to prevent a patient from running headlong to wilful death, that is, unless and until a responsible person arrives who is able to appreciate the critical situation. No general hospital should be without an isolation room ready for the reception of noisy patients, and further, where a patient threatens to work harm upon himself the responsibility for his safety should be at once shared by demanding the presence of the police who will then be officially associated in the solution of a practical medico-legal problem.

THE WORKMEN'S COMPENSATION ACT AND SURGICAL OPERATIONS.

AT the Southwark county court an application made under the Workmen's Compensation Act to discontinue weekly payments made to an injured workman led recently to the discussion of a point which arises from time to time in these cases and will continue justly to form a subject for comment, although the law on the subject appears to be settled. The employers contended that the man had recovered from his injury and in the presence of conflicting medical testimony a medical referee appointed under the Act was called upon to report. This he did to the effect that the man was unable to perform his accustomed work owing to the presence of conditions which had been caused by the injury but which might be removed by surgical operation. The judge pointed out that he was unable to order a surgical operation, although the employers might persuade the workman to submit to one, and in the circumstances the application to discontinue the award was dismissed with costs. This decision although in accordance with previous ones does not prevent such occurrences from inflicting in some instances a considerable amount of injustice upon the employer or upon the company in which he insures his risks. Surgical science is capable of determining beforehand the varying probability of success of a large number of the operations called for when workmen are hurt in the course of their employment. No one would wish the injured person to be compelled to submit to surgical interference the result of which was clearly doubtful and the failure of which would, or might, leave him in a worse plight than before. At the same time no one can consider it just that a man should receive a pension and live in idleness when a reasonable man, independent of any pecuniary reward for his incapacity would certainly submit himself to a surgeon and by his aid regain the capacity for earning a living. In cases where jurors have to award damages according to their opinion of the extent of the injuries sustained the difficulty does not arise to the same extent, for the case can be presented to the jury so that they can estimate the degree in which the defendants should be held responsible. The damages under the Workmen's Compensation Act are simply measured by the duration and the degree of the incapacity to do work and other cases besides that alluded to have proved that the workman is fully aware of the advantages which the law has afforded him.

MULTIPLE GESTATION.

Dr. A. Pinard has contributed an article on gestation to the first part of the seventh volume of Charles Richet's fine "Dictionnaire de Physiologie," published in January this year. The last section of this article is devoted to multiple gestation and contains some interesting facts collected from a vast number of observations. In the first place, in regard to the circumstances that favour multiple pregnancies they include race, heredity, multiparity, age, and development of the ovaries. The influence of race is undoubted. It was demonstrated by Bertillon in an article which appeared in the "Dictionnaire Encyclopédique," and Tchouriloff in supporting the researches of Bertillon has pointed out that amongst racial characters height is of great importance and has expressed this in the aphorism, "height and gemellity decrease together." Heredity has a powerful influence on multiple gestation and there is strong evidence derived from careful observations that paternal influence is exerted, though no explanation of the fact has been advanced. In regard to age, the statistics of Lebel show that the largest number of multiple gestations occurs between the ages of 21 and 28 years; those of Dr. Pinard are in accordance with this but those of Puech give the ages between 25 and 35 years as most favourable for twin pregnancies. The observations of the last-named writer seem to show that one circumstance is not to be overlooked, the superior development of the ovaries which manifests itself in the production of two or more perfect ova capable of being simultaneously impregnated. Dr. Pinard has collected a considerable number of cases of superfecundation or, as he properly terms it, successive fecundation, such, for example, as the following recorded by Caillier, a veterinary surgeon at Mouhon. A mare was covered by a stallion and an ass in the space of half an hour. This mare gave birth in due time to a foal and within an hour afterwards to a mule. Cases of multiple gestation have been recorded in the human female. Thus Dr. Brittain communicated to the Edinburgh Obstetrical Society the case of a woman who at the age of 47 years had given birth to 25 infants in 14 accouchements. William Wood attended a woman in October, 1857, who gave birth to one boy and two girls and in the following October, 11 months and 22 days later, had twins. The wife of a Parisian shopkeeper named Brunet had, according to Sue, 21 infants in seven consecutive years. This man seduced a young servant who at the end of nine months presented him with triplets. These numbers are, however, far exceeded by the historical case of a peasant named Kinlow who in 1753 was presented to the Empress Catherine. He had been twice married. He had 57 children by his first wife—four times four infants, seven times three, and ten times two at a birth. By his second wife he had triplets once and twins six times. The French authorities have drawn their conclusions in regard to the frequency of multiple births in women from large numbers of recorded cases. Thus Dubois in 484,350 accouchements in Germany, England, and France found 6248 cases of twins, 78 of triplets, and four of four at a birth, or putting it in another form there was one case of twins in 78 deliveries, one case of triplets in every 6209 deliveries, and one case of four at a birth in 121,082 deliveries. Veit, basing his statement on the immense number of 3,360,557 deliveries, found that twins occurred in 149,934 cases, triplets in 1689 cases, and quadruplets in 36 cases, giving the proportion of one twin delivery to 89 single births, one triplet in 7910 births, and one quadruplet in 371,126 births. Dr. Pinard observes that the frequency of multiple pregnancies varies greatly in different countries. In France twins are delivered in the proportion of 1 to 92 single births, in Germany 1 to 84 cases, and in Great Britain 1 to 63 cases of single births. Bertillon expresses the proportion in which twin births occur in a different way. He finds that in 1000 confinements twins occurred 9·9 times in France, in Belgium 9·7, in Italy 11·4, in Austria 11·9, in Norway 12·5, in Prussia 12·5, in Holland 13·1, in Denmark 14·20, and in Sweden 14·50. Dr. Pinard observes that Bertillon's statistics in regard to Belgium are not in accord with Constant Leroy's experience who found 650 cases of twins in 39,508 single births. Finally, Dr. Pinard adduces the observations of Bertillon showing that in certain departments of France women bring forth twins more frequently than in others. Thus in Gironde, Haute-Garonne, Corrèze, Charente, Ain, Ardèche, Lozère, Gers, Cantal, Puy-de-Dôme, and Dordogne the proportion of twins in 1000 cases of pregnancy varied from 6·77 to 7·95, whilst in Finistère, Jura, Morbihan, Nord, Mayenne, Cher, Vaucluse, Vosges, Vendée, Moselle, Savoie, and Haute Savoie it varied from 11·36 to 12·90.

TYPES OF ALCOHOLIC INSANITY.

AN important discussion on the above subject was held at the Boston Society of Psychiatry and Neurology, an account of which is published in the *Journal of Nervous and Mental Disease* for December, 1904. Dr. H. W. Mitchell of Boston introduced the discussion in a paper based on the study of 148 patients (excluding cases of true dipsomania which exhibited no insane symptoms) at the Danvers Hospital for the Insane, or 13 per cent. of the male patients admitted. The cases were grouped as follows: delirium tremens, acute and subacute alcoholic hallucination, delusional alcoholic insanity, and alcoholic dementia. Two were cases of Korsakoff's psychosis polyneuritica of alcoholic origin. He found that among cases of delirium tremens "nearly all recovered without development of the graver forms of alcoholic insanity." The prognosis in cases of acute alcoholic hallucination was good for the attack but relapses due to renewal of drinking habits were common. These cases were characterised by vivid auditory and visual hallucinations, the former predominating, with little disturbance of consciousness and with transitory delusions probably based upon the hallucinations. In the case of subacute alcoholism there were auditory, visual, olfactory, and tactile hallucinations, with more prolonged persistence of delusions. Periodic relapses were seen in these cases during their stay in hospital, the intervals between the attacks being periods of practically normal mental condition. Permanent mental deterioration and dementia were the ultimate goal of this class of cases. Alcoholic delusional insanity was the term used for cases showing a development of delusions somewhat resembling paranoia. In many cases the delusions are elaborated from hallucinations. "Ideas of marital infidelity, poisoning, and persecution were most common in this class of cases." A tendency to incurable chronicity was observed in many and only a small proportion of cases recovered. Alcoholic dementia comprised cases in which marked mental deterioration and decay of intelligence and morality were the predominant symptoms and this occurred as the result of many years of more or less continuous use of strong spirits. Permanent mental deterioration was observed in all the cases studied. Among the various alcoholic psychoses were seen many cases resembling general paralysis, the exact diagnosis being possible only after prolonged observation—weeks or months. 10 per cent. of the total cases suffered occasionally from epileptiform convulsions, while suicidal attempts and acts of violence were common in all classes of cases—points of medico-legal interest. An alcoholic or an insane parentage was common and made the prognosis bad. Somatic and grandiose delusions with alteration of the sense of personal identity were unfavourable symptoms in delusional cases. In continuing the discussion Dr. Woodbury said that 90 per cent. of cases recovered from first attacks of delirium tremens. Dr. Philip C. Knapp said that in the wards and clinics of the Boston City Hospital cases of delirium tremens, hallucination, and alcoholic dementia were fairly common, while paranoid forms were quite rare. Dr. Mitchell, in reply, said that alcoholic pseudo-paresis resembling general paralysis was fairly common. Such patients had sluggish pupils which, however, reacted to light. Inequality of the pupils and failure of the reflex to light were found practically only in cases which had had syphilis. The delusional or paranoid cases in his series amounted to nearly one-fifth of the total. Parental intemperance was a common etiological factor. The milder forms of alcoholic psychosis occurred in early life frequently in association with habits of drinking. Alcoholic dementia showed itself in middle age or later and was the result of heavy and continuous drinking for many years.

SEÑOR MANUEL GARCIA'S CENTENARY.

IT has now been definitely arranged that on the date of the centenary, Friday, March 17th, a celebration will take place at noon in the rooms of the Royal Medical and Chirurgical Society, 20, Hanover-square, London, W., in the course of which His Excellency the Spanish Ambassador will convey to Señor Manuel Garcia the congratulations of the Spanish Government. This will be followed by the presentation of an address on the part of the Royal Society, before which Señor Garcia almost exactly 50 years ago read his paper entitled "Physiological Observations on the Human Voice," in which the invention and the method of application of the laryngoscope were described. Other addresses on the part of musical bodies, old pupils of Señor Garcia, and various laryngological societies will follow. So far as is known at present, the Berlin, South German, French, Dutch, and Belgian laryngological societies will be represented by special deputies. In conclusion of this part of the celebration Señor Garcia's portrait, painted by Mr. John Sargent, R A., and presented by admirers from all parts of the world, will be handed to him, together with an album containing the names of the subscribers. In the afternoon the London Laryngological Society will hold a special meeting at which the foreign delegates will be present and in the evening a banquet will take place, probably at the Hotel Cecil, in which all those who wish to do honour to the distinguished guest on the occasion of the hundredth anniversary of his birth will join. The banquet will be attended by ladies. Further particulars will be given when the time approaches.

THE ETIOLOGY OF CARCINOMA.

WE publish in another column an article by Dr. W. Ford Robertson and Mr. Henry Wade on the protozoon plasmodiophora as a cause of cancer in man, in which a further account is given of investigations already reported on at the meeting of the British Medical Association at Oxford on July 28th, 1904.[1] The writers claim for their work that it has yielded confirmatory results along three parellel lines: (1) in a series of figures presented by stages in the life-cycle of the plasmodiophora brassicæ in turnips; (2) in a series of figures of intracellular and intranuclear inclusions found in carcinomata in man; and (3) in the stages in the life-cycle of an organism which they claim to have cultivated from such tumours. The account of the investigations themselves leaves nothing to be desired in the pains which have been taken to conduct them in accordance with the demands of scientific accuracy. Hence it is all the more regrettable that the writers have omitted to establish the justice of their *a priori* position that cancer is a parasitic disease and the tenability of their working hypothesis that carcinoma is dependent upon the growth of a parasite of the same class as that which causes "finger-and-toe" disease in turnips. If the analogy between the processes of cancer and of "finger-and-toe" disease in plants be admitted, their observations on the similarity in the intracellular inclusions in the two diseases are entitled to rank as an important contribution to human knowledge. No attempt is, however, made to draw any parallel between the two diseases. In "finger-and-toe" disease an intracellular parasite lives in the turnip cell till it has no longer need for its host and finally devours it. The efforts of the turnip to make good the ravages are not demonstrated to be analogous to the ceaseless proliferation of carcinoma cells which are not produced to replace any known defect. In the absence of any proof of the correctness of the primary conjectures, the very careful observations to which they have led lose much of their significance. Previously to the writers' first contribution the claims of protozoon parasites of this class had already been subjected to searching examination. As a botanist who can speak with authority, von Tubeuf had protested against any analogy being drawn between diseases of plants of this nature and the carcinomata of man. As a pathologist Lubarsch, after experimental inquiry, had likewise declared no analogy to exist. Dr. Robertson and Mr. Wade have not attempted to meet the objections which have already been raised to the etiological significance which they attribute to the plasmodiophora, nor have they attempted to show that the processes of growth in "finger-and-toe" disease in turnips present a parallel to those of carcinoma. Until these deficiencies are removed and the results are amplified by experiments, a discussion of the similar appearances described in three parallel series of observations is out of place and the general importance of these careful investigations cannot be properly estimated.

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[1] THE LANCET, August 13th, 1904, p. 469

PUBLIC HEALTH OF THE ROYAL BOROUGH OF KENSINGTON.

IN his recently published summary of vital and mortal statistics for Kensington during the year 1904 Dr. T. Orme Dudfield, the medical officer of health, supplies a variety of interesting information relative to the public health of the borough. The estimated population of the borough at the middle of the year was 178,500. The births registered were 3448, being 117 fewer than in the year 1903. The birth-rate, which of late years has always been considerably below that of London as a whole (27·8 per 1000 in 1904) has been declining since 1868, in which year it was 33·1 per 1000. In 1904 it was 19·3 per 1000, which was 1·5 below the decennial average and was the lowest recorded. In North Kensington—i.e., the part of the borough north of Holland Park-avenue and High-street, Notting Hill—the birth-rate was 27·1 per 1000; while in South Kensington—i.e., the part of the borough south of the streets named—it was 11·0 per 1000. The "crude" death-rate was 14·2 per 1000, which was 2·4 below the rate in the metropolis as a whole. The death-rates in North Kensington and South Kensington were 17·7 and 10·5 per 1000 respectively. In some other features, such as the infantile mortality and the mortality from zymotic diseases, the relative unhealthiness of North Kensington also appears. Inquests were held in 203 cases. There were no uncertified deaths. It is satisfactory to find that there is an increasing use of the public mortuary: 332 bodies were deposited in it as compared with 295, 279, and 304 in the three preceding years. The chapel of rest for the dead, situated at Avondale Park, was informally opened on June 23rd when the first body was admitted to the mortuary chamber. The number of bodies received to the end of the year was 26. It is to be expected that as the people become better acquainted with the accommodation provided for the reverent care of their dead the building will be used more extensively.

THE INFLUENCE OF HÆMORRHAGE ON THE COMPOSITION OF THE BLOOD PLASMA.

IN a paper read before the Philadelphia County Medical Society on Nov. 9th, 1904, and published in the proceedings, Dr. Thomas Stotlesbury Githens records the results of experiments the object of which was to determine which of the proteids of the blood plasma is nearest to the form in which proteid is absorbed and how the proteids are influenced by varying conditions. The method adopted was to draw blood from the femoral artery of dogs directly into a solution of sodium oxalate in salt solution, centrifugalising, and then separating the proteids by the method of "salting out." A quantity of blood was withdrawn on four or five occasions at intervals of several days and was examined as described above. The results obtained were that the fibrinogen steadily decreased in the successive samples, the serum albumin increasing proportionately. From his experiments Dr. Githens concludes that of the proteids of blood plasma albumin stands nearest to the form in which proteid is absorbed and that it is therefore quickly replaced from the food proteids, while fibrinogen, being a more complex and specialised form of proteid, is more difficult to replace. Similar results have been obtained by other observers in dogs and snakes. An observation of some interest in this connexion has been made by Moll who found that blood plasma, after being made slightly more alkaline and kept at a temperature of 56° C. for half an hour, exhibited an increase in the percentage of globulin, from which it might be inferred that the change from the simpler to the more complex proteid can occur in the blood itself. The results are of interest in that they are what might have been expected from the composition and chemical properties of the blood proteids, and they constitute a noteworthy addition to our knowledge of the chemistry of the blood under varying conditions.

ON Dec. 19th, 1904, that day being the eightieth anniversary of the birth of Sir Peter Eade, M.D. Lond., his colleagues on the staff of the Norfolk and Norwich Hospital presented him with an address, accompanied by a birthday gift, in recognition of the high esteem in which he is held by them and of his valuable services to the institution during 47 years as one of its physicians.

THE Russian Institute of Experimental Medicine, says the *Sviet*, has announced a prize in the name of K. Th. Kasimir of the value of £100 to be awarded to the best treatise on the application of radium in the treatment of skin diseases and particularly external cancer. The prize will be awarded on Jan. 1st, 1908—i.e., Jan. 14th New Style.

THE distinction of Chevalier de la Légion d'Honneur has been conferred upon Dr. George Ogilvie, senior physician to the French Hospital.

AT the recent annual meeting of the Manchester Edinburgh University Club Professor A. H. Young, Victoria University, was elected President for the ensuing year. It is anticipated that at the next annual dinner Sir William Turner, K.C.B., F.R.S., Principal of the University of Edinburgh, will be the guest of the club.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Jan. 27, 1827.

Now every person knows that the stomach does secrete mucus and a peculiar liquor, but I do not see the sources of this; we see distinct sources in the intestines, but we do not in the stomach; at least I can't.

With respect to the *physiology* of the stomach, to the best of my knowledge and belief, Mr. Hunter was the first man who broached those opinions which are generally accredited, or have not till of very late been disputed, which is, that digestion depends upon the sufficient quantity of the liquid which the stomach secretes—of the gastric fluid, and that this liquor has the properties of rendering any nutritive matter solid, so that it should not pass through the *pylorus*, until it had undergone this peculiar solution by the gastric fluid. Well, if the white of an egg is given to a hungry dog, in a few minutes it will be as *hard* as if it had been boiled for hours. The juice of the stomach instantly curdles milk. Take the gastric fluid out of the stomach of a calf just born, and it has most curious properties; the little of that fluid that is in the stomach they dry in it, then dissolve it, and then curdle gallons of milk with it, as you all know. Then, as the fluid of the stomach has the power of dissolving that which is nutritive, the question is, why don't it dissolve itself, it is flesh? John Hunter would never boggle at an answer for that, and he says, that the life of the stomach preserves it. There is no chemical agent will act on it. Worms live in the stomach, and yet there is no doubt but that a meal of dead worms would form a very nutritive repast to a dog. But does the fluid ever dissolve the stomach? Yes, it does. The proof of this is, that if a man eats a large meal, and is suddenly afterwards killed by a blow on the head, as has often occurred, you will see that the gastric fluid is acting, not on the food, but on the stomach, that it makes a hole in the stomach, and that the food gets through that hole into the belly. Various stomachs have been examined having these appearances. But Sir Astley Cooper told me of a case where a person was met with after death under these circumstances: the body was laid in what they would call *a very ungain attitude;* it laid with the thorax lower than the abdomen, and upon opening the body, the stomach was found to be dissolved at its *lesser* arch; it is usually at the *larger* arch where it is dissolved; in that case the diaphragm was dissolved, and the stomach was in the lower part of the thorax.

Some people say there is no gastric juice; why? Because we cannot get it. And why can't we get it? Because it is not secreted but at certain times; it is only secreted when it's wanted. There are many who think even now, that it's the *vital powers* of the stomach, and *not* the *liquid* that causes the digestion. Well, they may entertain that notion if they please, but all I am bound to do is, to tell you what appears to me to be the most reasonable physiology.[1]

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[1] Excerpt from Mr. Abernethy's Physiological, Patholgical, and Surgical Observations, delivered in the Anatomical Course of Lectures at St. Bartholomew's Hospital.

West Cornwall Infirmary, Penzance.—The thirty-second annual meeting of the subscribers to this institution was held on Jan. 18th, under the presidency of the Mayor. The medical report stated that during 1904 the out-patients numbered 1698, and the in-patients were 111, both figures being slightly less than those for 1903. 60 patients were sent to the Bolitho Convalescent Home. The financial statement showed that the total expenditure was £912, while the total income amounted to £869. The committee in its report states that good progress is being made with the erection of the new infirmary. The committee, at the suggestion of Mr. F. Bolitho, decided that on the completion of the new building the members of the medical profession practising in Penzance should take their respective share of hospital work.

ARMY MEDICAL ORGANISATION IN BAVARIA.

By F. Howard, M.D. St. And.,
COLONEL, ARMY MEDICAL STAFF (RETIRED).

There are 30 military hospitals in Bavaria for the treatment of those patients who cannot be attended to in barracks. These hospitals serve to complete the education of the sanitary staff and are also used for the administration of stores and sanitary appliances. They are usually under the direction of the most senior military medical officer of the garrison, who has the chief command of the establishment; the patients are treated by the medical officers under him and by their assistants. These medical officers are all taken from the garrison. A medical officer does duty at a hospital for one year. Half of the orderlies belonging to the garrison troops and the orderlies belonging to the hospital are on the medical (sanitary) staff. The number of medical officers at a military hospital depends on its size, as does the staff of orderlies on the number of patients. One non-commissioned officer and one orderly are usually allowed for 20 patients.

The field hospitals are, as in other armies, set apart for the reception of wounded from the battle-field or from first-aid stations. The staff and *matériel* of these hospitals can be used for direct service on the field of action. If circumstances demand it the field hospitals can be utilised for other patients than wounded men. Each field hospital can treat 200 men without extra aid and can be divided into two sections each capable of acting independently. The chief surgeon commands the field hospital. There are 12 field hospitals for each army corps, distributed to divisions according to needs. Every reserve division has four field hospitals.

The ambulance service is undertaken by the sanitary companies, called sanitary detachments, which establish places for first aid, search for the wounded on the field of action, and carry them to the field hospitals. To a division of infantry there may be one or two sanitary companies, while a reserve division has one. There are no special detachments of bearers.

To each battalion of infantry, chasseurs, pioneers, and artillery on foot, for every cavalry regiment, and for every detachment of field artillery there are two medical officers. One sanitary non-commissioned officer and four bearers attend every company, battery, or squadron. On the lines of communication there are field hospitals within the sphere of the "Etape" inspection, "Etape" field hospitals and war hospitals, the staffs being regulated by their size and the special work to be done, the staff being furnished by the staff of the field hospitals, and the *matériel* by the reserve depôts of the field hospitals. Reserve hospitals are established within the sphere of the occupying army in addition to already existing garrison hospitals.

The following table gives the numbers, ranks, pay, and allowances of officers[1]:—

Staff.	Number.	Pay (marks).	House allowance (marks).	Lodging allowance (marks).	Horse allowance and forage for horses
Surgeon - General of the Army (Generalstabsarzt)	1	9000 to 1900 charge allowance	1500	1620	Horse allowance and forage for 3 horses
Surgeon - Generals (Generalaerzte)	3	1 with 7800 2 with 7200	540 to 1200	594 to 1314	Horse allowance and forage for 2 horses
Colonels (Generaloberaerzte) ...	6	6000	420 to 900	432 to 972	Forage for 1 horse
Lieutenant-colonels (Oberstabsaerzte)	58	29 with 5850 29 ,, 5400	420 to 900	432 to 972	Forage for 2 horses for mounted corps.
Staff surgeons (Stabsaerzte)	66	33 ,, 3900 33 ,, 2700	420 to 900	432 to 972	Ditto.
Surgeons (Oberaerzte)	51	1500	216 to 420	288 to 540.	Ditto
Assistant surgeons (Assistenzaerzte)	74	900	216 to 420	238 to 540	Ditto

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[1] See La Medecina Militar Española, April 10th, 1904.

The numbers given are over and above the medical men who, on account of compulsory service, do duty as one year men in subordinate medical establishments.

The proposals for the Army Medical Department in Bavaria were agreed to without discussion for the financial year 1903-04. The proposed cost for the department, including cost of medicines, pay of pharmaceutical assistants, and so on, would reach the sum of 1,408,415 marks. Notwithstanding certain economies, nothing has been withdrawn which could interfere with the desire to attract the best men to the corps and to maintain a high scientific standard. For study allowances for junior medical officers fit for promotion some 25,500 marks are voted and for the military medical academies of the reserve classes some 10,250 marks. Some 12,000 marks go to allowances for professors and travelling expenses of those who study at the academies. While actually employed all officers of the medical department study for a fixed period before each grade promotion. The practical examination takes places during the manœuvres. Some 15,092 marks are allotted to anatomical museums, models of sanitary *matériel*, &c., and as in Germany no academy or institute is unprovided with a library 5600 marks are for the military medical libraries which, not like the Spanish, contain new instead of old books, very few classics, and a large number of reviews and monographs in various languages.

There is a supplementary vote of 2,271,740 marks for the construction and repair of pavilions in the military hospitals and 65,000 marks for field sanitary *matériel* which is to be of the most up-to-date type. Every year, or almost every year, supplementary votes up to 490,000 marks go to this object. The Germans always recognise that the army in *time of peace is a preparation for war and that the Army* Medical Department is very much more than a corps of mere hospital assistants.

TWELFTH ANNUAL REPORT (FOR 1903) OF THE MEDICAL OFFICER OF HEALTH OF THE ADMINISTRATIVE COUNTY OF LONDON.

IN a leading article in THE LANCET of Jan. 21st on the annual report of the county medical officer of health we discussed certain administrative changes that had recently been *effected in the public health department* at Spring-gardens, changes which we believe to have been absolutely necessary in order that the purely sanitary work of the Council might be coördinated with the new educational functions which have devolved upon that body in consequence of the dissolution of the London School Board.

We now proceed to consider that section of the county medical officer's report which treats of the prevalence of epidemic and infectious disease in London during the period to which it relates. It will be remembered that in each of his successive annual reports since 1889, in which year powers were acquired for the compulsory notification of infectious disease, Sir Shirley F. Murphy has published uniform statistics concerning the age and sex-incidence of attack *and death by the notifiable diseases, together with* appropriate remarks on the measures necessary for their control. In his present report he has summarised the information collected during the last 14 years, and in a useful chart has shown the mean distribution of six of the most important of these diseases in each week and month of the year. This chart usef[illegible] and [illegible] 189[illegible] prese[illegible] to the death-rates but to the rates of attack by the several diseases. Moreover, Sir Shirley Murphy's chart deals with a more recent period—in fact, with the entire period that has elapsed since the publication of Dr. Ogle's diagrams, and on both these accounts it will be the more interesting [illegible] pidemiology. [illegible] to reproduce this chart [illegible] the following table whic[illegible] gives the principal information graphically illustrated in th[illegible] chart—namely, the mean relative incidence of attack by the several diseases in successive months of the year:—

Month.	Small-pox.	Scarlet fever.	Diphtheria.	Enteric fever.	Erysipelas	Puerperal fever.
January	8·3	6·6	7·6	7·5	8·3	9·9
February ..	13·0	6·0	7·6	6·0	7·3	9·2
March .. .	13·9	5·8	7·0	5·0	6·6	6·9
April .	13·4	6·1	6·5	4·4	6·8	7·2
May .	12·6	7·2	7·6	4·8	7·2	7·7
June . ..	9·8	8·1	7·8	5·8	7·2	7·2
July.	6·4	9·6	9·0	6·5	7·8	7·1
August	5·4	8·6	7·8	8·0	7·9	7·3
September ...	3·7	10·8	9·3	12·3	9·3	7·8
October . .	2·7	12·7	10·9	14·6	11·1	9·9
November ..	5·2	10·7	10·1	14·5	11·2	10·3
December	5·6	7·8	8·8	10·6	9·3	9·5
Total .	100	100	100	100	100	100

Being based on the aggregate notifications of 14 years in a population approaching five millions, the London practitioner of medicine may rely with some confidence on the figures here given as representing the probable future incidence on season of the several [illegible]

As in former reports, we notice [illegible] the excess or diminution in th[illegible] important diseases causing death in the administrative county *as compared with the corrected annual average in the* previous ten years From this table we see that with two exceptions the mortality from every one of the 20 diseases included therein has declined, in most cases considerably. Following upon two years of epidemic prevalence the inci[illegible] sligh[illegible] the c[illegible] to or[illegible] effec[illegible] larg[illegible] did r[illegible] was [illegible] provincial towns, more than 4000 cases being notified in one or other of them during the quarter, whilst only 74 cases occurred in London. It is, therefore, not surprising that infection was *repeatedly* imported into London from the provinces, but in addition to this we learn that it was from time to time introduced from abroad.

Although the mortality from measles in 1903 was below the decennial average, London nevertheless suffered more severely from that disease than did the great provincial towns, with four exceptions. In the course of the year 1903 the order of the London County Council came into force, extending to measles certain legal provisions for the prevention of infectious disease, except the requirement of notification. Whether or not the new order leads to the giving of more prompt information concerning absentees from school on account of measles is a question as to which there exists much difference of opinion. To what extent it is possible under existing conditions to limit the spread of measles cannot yet be stated generally but it is as well *to note* that many metropolitan medical officers of health regard the new powers with satisfaction. They recognise the value of these powers as an educational influence in [illegible] of measles upon parents [illegible] from the common practice [illegible] that disease to come into contact with their [illegible] ough during the holidays the chief source of information, that of the school, is wanting, Sir Shirley Murphy provisionally approves of the Council's new order, the effects of which are being carefully watched by certain of his medical colleagues.

In proportion to population the cases of scarlet fever notified in 1903 were fewer than in any previous year since 1891; the case mortality among the reported cases was also considerably below the average. If the mortality of scarlet fever [illegible] not in terms of cases notified but as a [illegible] ould appear [illegible] 1903 than [illegible] owns except West Ham, Hull, [illegible] on the low fatality (2·9 per-cent. of the attacks) and on the low case-rate of scarlet fever in 1903, Sir Shirley Murphy recognises the mildness of the disease in London. With diseases of this nature the difficulty of finding explanation for the occurrence of recognised cases is very great, inasmuch as mild unrecognised cases must often give rise to cases in which the symptoms are sufficiently pronounced for recognition, the source of infection being thus obscured. In a population such as that of London the chances of exposure to infection by unidentified cases are much greater than in sparsely inhabited districts; it is therefore satisfactory to record that Dr. G. Newman was able to trace infection to an antecedent case in 90 out of 283 cases occurring in Finsbury, whilst Dr. F. G. McCleary succeeded similarly in 96 out of 448 cases reported in Battersea. As in past years school influence was again powerful during 1903 in determining the spread of infection among children of school age. The effect of school closure during the holidays in interrupting the autumnal rise of scarlet fever in London is conspicuously shown in a diagram which may well be compared with the corresponding diagram for enteric fever, also included in the report; this diagram does not show any similar interruption. The table given above, which is based on experience in London during a long series of years, indicates the seasonal prevalence of scarlet fever; the months of September, October, and November are there shown to be the period of greatest prevalence and the month of March the period of least prevalence of this disease.

Diphtheria is another disease the prevalence, if not the fatality, of which is closely connected with attendance at school. Both the attack-rate and the case-mortality of diphtheria were lower in 1903 than in any year since 1891. The table shows a striking similarity in the seasonal incidences of scarlet fever and diphtheria, for which the only discernible cause is the common one of school infection. Sir Shirley Murphy gives the now familiar table showing the percentage increase or decrease of attacks of diphtheria in the four weeks of "holiday influence" (i.e., the thirty-first to the thirty-fourth week) in contrast with that in the four weeks respectively preceding and following the period of holiday influence; and with respect thereto he remarks that "the interruption of the autumnal rise during the period of the summer holiday previously referred to in the case of scarlet fever, is equally conspicuous in the case of diphtheria." In the year 1903 London experienced a lower mortality from diphtheria than did any of the great provincial towns, Leeds, Sheffield, and Leicester alone excepted. We learn that in the course of 1903 only a few localised outbreaks of this disease were observed, all of which were traceable to school attendance. In Paddington ten cases occurred among children attending a certain school, which was closed in consequence, with the result that no further cases occurred. In Chelsea seven cases occurred in a school, and in Finsbury seven cases in one school and ten in another, a relationship between which occurrences was established by Dr. Newman. Sir Shirley Murphy goes on to suggest that the appreciation of the part played in the dissemination of diphtheria by "carrier cases" must inevitably lead to a fuller examination of "contacts." Fortunately, as regards diphtheria, bacteriological methods are available for this purpose, and it is clear that the more completely the examination of "contacts" is carried out the more thorough will be the control over the extension of diphtheria. In a community like that of London the difficulties in the way of complete success are doubtless great. They need not, however, prevent steps being taken for the prevention of school attendance by children who although highly infective nevertheless present no clinical symptoms of the disease.

In proportion to population the reported cases of enteric fever in London were fewer in 1903 than in any previous year since the establishment of compulsory notification and the deaths were fewer than in any year since 1869, in which year deaths from enteric fever were first separately classified. The seasonal distribution of attacks was strikingly similar to the average, as shown in the table before referred to.

Among the articles of food mentioned as possible causes of infection by enteric fever are shell-fish, watercress, ice-creams, water, and milk. The extent to which contaminated shell-fish is productive of this disease in London cannot be determined. In some cases there is evidence of the ingestion of shell-fish being followed by enteric fever at an interval which corresponds with the incubation period of that disease; in other cases there is the additional evidence that the shell-fish had been obtained from polluted sources; whilst in others, again, the evidence does not amount to more than this, that a particular person suffered from an attack of enteric fever after eating shell-fish at some time within the limits of the incubation period.

In several instances it appears that persons who were notified as suffering from this disease had, within the incubation period, eaten either ice-creams or watercress. In Hackney two localised outbreaks were attributed by Dr. J. K. Warry to the eating of watercress. In one of these outbreaks 48 cases of enteric fever were reported and in the other 62. Inquiry as to the food-supply of the people in these affected areas led to the exclusion of all articles of food except watercress, and an inquiry as to the source from which several samples of the watercress were derived led to the discovery of serious contamination of the water in which it had been grown. The only instances in which attacks of enteric fever were attributed to milk occurred at Eltham; these, however, were few in number and were probably due to the admixture of polluted water with the milk.

(To be continued.)

THE CENTRAL MIDWIVES BOARD.

THE members of the Central Midwives Board met on Jan. 19th, at 6, Suffolk-street, Strand, Dr. F. H. CHAMPNEYS being in the chair.

The Board proceeded to consider under the provisions of the rules of procedure the proposed removal of the name of Miss Edith Gregory, a certified midwife, from the Midwives Roll, the charges alleged against her being that of signing false certificates in connexion with the training of candidates for the examinations of the Obstetrical Society of London.

Mr. G. W. DUNCAN, the secretary of the Central Midwives Board, stated the facts of the case. He pointed out that the matter came under the notice of the Board in consequence of a communication from the Obstetrical Society of London informing the Board that after consideration of the case of a certified midwife, Miss Edith Gregory, the council of the Obstetrical Society of London had resolved that her L.O.S. certificate should be forfeited. In the opinion of Mr. Duncan the charges against Miss Gregory rested on the reply which she had sent to the Obstetrical Society of London admitting that she had signed certificates required by nurses before admission to the examinations to the Obstetrical Society of London indicating that the nurses had attended not fewer than 20 labours, whereas, in point of fact, that number of cases had not been actually attended at the time Miss Gregory signed the certificates. Miss Gregory, however, pointed out that she understood that it was quite right to sign certificates so long as the nurses would have completed the number of cases before the examination took place.

In the course of the evidence that was offered in support of the charges against Miss Gregory it appeared that several years ago the Obstetrical Society of London was aware of the practice that certificates were signed for nurses *entering* the examinations of the society without these nurses having attended the required number of cases of labour, it being understood that the requisite number of cases would be made up to the proper total before the day of the examination.

Mr. C. E. GODWIN of the firm of Messrs. Godwin and Co., solicitors, Winchester, addressed the Board on behalf of Miss Gregory. In the course of his remarks Mr. Godwin stated that Miss Gregory had attended and supervised some 500 confinements and that throughout the whole course of these cases not a single septic case had occurred nor had a death taken place. That record, Mr. Godwin continued, was one which few could put before the Central Midwives Board. Miss Gregory was therefore a well-qualified midwife and if as the result of that day's proceedings her name was taken off the Roll the Board would be defeating the main object of the Midwives Act which the Board was called upon to administer. In regard to the number of cases attended by the nurses whose certificate Miss Gregory had *signed*, he *observed* that these nurses had attended a sufficient number of cases to be within a measureable distance of the number required and during the month ites and the examinations have been attended. It that Miss Gregory had deliberately signed these certificates with any improper intention. At the most it could be said that she was lax. Mr. Godwin concluded by declaring that there was no intention on the part of Miss Gregory to do anything wrong and he asked the Board to dismiss the charges against her. Of course the Board might consider it its duty to pronounce a warning in regard to the signing of certificates but he could not imagine that it would remove the name of Miss Gregory from the Roll of Midwives.

The Board then went into *camerâ* to consider its judgment and strangers were requested to withdraw.

Strangers having been re-admitted, Dr. CHAMPNEYS, addressing Miss Gregory, said that the Board had found her guilty of misconduct and had recommended that she should be cautioned as to her future conduct in signing certificates. The Board had decided, however, not to go to the extent of striking the name of Miss Gregory off the Roll of Midwives.

THE RUSSIAN CRISIS: ACTION OF THE ST. PETERSBURG MEDICAL PRACTITIONERS.

THOUGH we have every right to express the conviction that freedom is necessary to the progress of science, still it is not within the function and scope of this journal to deal with the political aspect of the terrible struggle now taking place in Russia. On the other hand, and without discussing the political issues raised, we may record that our medical colleagues in Russia have done what they conceived to be *their duty as citizens and this in spite of the great danger* which such action entailed. On Dec. 31st last, this being the anniversary of the foundation of the Academy of Medicine and Surgery, a banquet was held at St. Petersburg 300 medical men were present and many more desired to attend but there was not room enough to admit them. Dr. S. Elpatieoski was chosen as president of the banquet and made an appropriate speech. Dr. Mikhailovitch, Dr. Kokoujkine, Dr. Morgouliev, and others having also spoken, the medical men present had the courage to face the terrors of Siberia by adopting the following motions:—

[illegible]

Those present at the banquet then voted that the following telegram should be dispatched:—

To Professor Erisman (driven out of Russia in consequence of his liberal opinions and now professor in Switzerland).—The medical practitioners of Petersburg, to the number of 300, assembled at a [illegible]

A second telegram was sent to the Mayor of Moscow, Prince Galitzine, as follows:—

Deeming that the era of respectful silence is now and for ever [illegible] 's decisive and historic [illegible] and loudly express his [illegible]

The same telegram was sent to M. Moukhanov, President of the zemstvo of the Government of Tchernigov. Finally, a telegram of protestation and sympathy was sent to Dr. Zabonsov.

That the medical practitioners in associating themselves with the present upheaval, and this in so pronounced a manner, incurred serious risk has been proved by subsequent events. For instance, on the Saturday night previous to the massacre an influential deputation of literary men waited on M. Witte, Prince Mirsky, and M. Rydzeffsky for no other purpose than to implore that measures should be taken to avoid [illegible]

as a scholar enjoys a European reputation, is among these prisoners, and their offence, judged from the standpoint of Russian autocracy, is not in any way as serious as that committed by the 300 medical practitioners when they voted in favour of the above motions and telegrams.

THE PREVIOUS EXAMINATION AT THE UNIVERSITY OF CAMBRIDGE.

WE have received the following communication from a correspondent which we insert without necessarily endorsing *en bloc* the views therein contained.

"The changes in the Previous Examination proposed at Cambridge by the Studies and Examinations Syndicate, of which the President of the General Medical Council is a member, are exciting keen controversy within and without the University. They are intended to effect an improvement in the general scope of the examination which has to be taken by all candidates for medical and surgical degrees and also to open an alternative course for students from schools in which the ancient classics do not form the sole basis of instruction. It is known that to a large number of men who intend to follow the scientific and medical curriculum the present requirement of a modicum of 'compulsory Greek' is a serious hindrance. The 'Greek' is got up by a combination of 'crib' and 'cram' a month or two before [illegible]
tional or literary valu [illegible]
examination is passed. [illegible]
Greek and Latin shal [illegible]
German being allowed [illegible]
(2) that the test in English and English composition shall be improved, (3) that Paley's 'Evidences' shall cease to be a subject of examination; and (4) that two of the four school subjects—English history, experimental physics, elementary chemistry, and Scripture knowledge—shall be taken by all candidates. The mathe- [illegible] their recently altered form. [illegible] standard to be reached in [illegible] in German shall be raised above that which is now practicable. Set books are omitted and unseen translation with composition or translation from English are to be required. This will insure that the successful candidate has a real working knowledge of the languages of his choice, and remove the objection that an 'easy option' is offered to the non-classical. On the issue of the present controversy between reformers and anti-reformers depends the educational future, not only of the University, but of many secondary schools throughout the country. It will probably be decided by the vote of non-resident members of the Senate at a Congregation to be held next month. Medical graduates who are members and who sympathise in general with the proposed reforms are expected to visit the University in considerable numbers. A committee has been formed in support of the syndicate and is prepared to send to all inquirers detailed information bearing on the question. Applications should be addressed to Mr. A. C. Seward, F.R.S., who is tutor for natural science and medicine at Emmanuel College, and is acting as secretary to the Cambridge committee. He will be glad to receive the names of medical members of the Senate who intend to vote *placet*."

ASYLUM REPORTS.

London County Asylum, Colney Hatch (Report for the Year ending March 31st, 1904).—The average number of patients resident during the year was 2176, comprising 901 males and 1275 females. The admissions during the year amounted to 522—viz., 247 males and 275 females. Of these 418 were first admissions. Dr. W. J. Seward, the medical superintendent, states in his report that the admissions were 45 in excess of the number for the previous year. They included 41 cases of epilepsy and 33 of general paralysis, 29 of the latter being males. 57 patients were transfers received from other asylums and two were criminal lunatics brought from prison. With regard to the causes of insanity in the admissions hereditary influence was present in 27 per cent., 24 per cent. had suffered from previous attacks, 18 per cent. were due to alcoholic intemperance, and syphilis was ascertained to exist in a considerable number of cases. There were 29 patients whose age on admission was over 70 years. "Among the admissions there were 113 Jewish patients ......, and the present number of Jewish patients in the asylum is 304, being an increase of 35 since last year." The number of patients discharged as recovered during the year amounted to 197, comprising 76 males and 121 females, or 9·1 per cent. of the average number resident. The deaths during the year amounted to 258, or 12 per cent. as calculated on the same basis. Of the deaths nine each were due to cancer and epilepsy, 10 to organic disease of the brain, 13 to colitis, 14 to pneumonia, 19 to senile decay, 20 to cardiac disease, 32 to general paralysis of the insane, 41 to pulmonary and other forms of tuberculosis, and the rest to other causes. "The asylum has been very free from infectious disease. In May last (1903) two nurses contracted enteric fever and recovered, but no case of the disease has occurred during the last ten months." Colitis or dysentery was prevalent on the female side of the asylum till September, 1903, but since then "there has been a great diminution in the number of cases and there seems reason to hope that the epidemic, which commenced five years ago, is now practically at an end, but sporadic cases will probably continue to occur." Much important structural and sanitary work has been carried out, including improved ventilation of the staircases and the establishment of a new and complete system of electric fire alarms. The Commissioners in Lunacy state in their report that the general condition and management of the asylum were deserving of very favourable mention, that the day rooms were in very good order, clean, bright and comfortable, that the dormitories were wholesome and the bedding in good order, that all the exit doors of the wards were now made to open outwards with a view to facilitate escape in case of fire, that the condition of the patients was tidy, and that the medical case-books were intelligently and well kept. The committee of management states that it has under consideration the question of erecting permanent buildings to replace the annexe which was destroyed by fire. All the structures will be of ground-floor height and the cost of building is estimated at £70,000 exclusive of equipment.

London County Asylum, The Manor, Epsom (Report for the Year ending March 31st, 1904).—The average number of patients resident during the year consisted of 691 females. The admissions during the year amounted to 147 females. Of these 138 were first admissions. Dr. W. Ireland Donaldson, the medical superintendent, states in his report that the admissions were 48 less than in the previous year. The chief causes of insanity in the patients admitted were alcoholic intemperance and heredity, the former occurring in 32 cases and the latter in 41. The latter number is probably less than the actual cases of hereditary taint. In 25 cases the cause of the attack could not be determined, no history being obtainable. "The past year," says Dr. Donaldson, "has been a particularly free one from special disease, with the exception of dysentery, which, I am glad to say, seems to be on the decline, nine cases only having occurred, as against 18 in the previous year. I cannot but believe that with the opening up of the corridors—which took place last year to minimise the risks from fire—a great improvement in the health of the asylum, both among the patients and staff, will ensue, and although the past year is supposed to have been a very healthy one, I think that the small death-rate ...... was due in some measure to the very efficient system of ventilation which prevails in the asylum. ..... The health of the staff has been very satisfactory during the year, few cases of illness having occurred, and none at all attributable to the partly open corridors." The number of patients discharged as recovered during the year amounted to 50, or 7·3 per cent. of the average number resident. The deaths during the year amounted to 33, or 4·9 per cent. as calculated on the same basis. Of the deaths two each were due to diabetes and colitis, three to general paralysis of the insane, five to pulmonary tuberculosis, seven each to cardiac disease and pneumonia, and the rest to other causes. Fire drills for members of the staff continue to take place daily in the wards, and two men continue on night fire duty, one patrolling the corridors inside while the other walks outside. The villa for male patients has been completed and 47 patients were admitted in April, 1904. The Commissioners in Lunacy state in their report that the asylum appeared to be maintained throughout in excellent order, that the precautions against fire were ample, that the day rooms and dormitories were clean and well ventilated, that the behaviour of the patients was quiet and their personal condition comfortable, and that the medical case-books were well and regularly kept. The committee of management states in its report that the male villa will eventually accommodate 60 patients and that its cost and equipment have not exceeded £10,750. The erection of two more blocks to accommodate 60 female patients in each is under consideration. Alterations to corridors and the provision of additional doors at ward entrances to facilitate exit and to minimise the danger of fire have been completed at a cost of £3065.

Stirling District Asylum (Report for the Year ending May 14th, 1904).—From this report it appears that 255 patients were admitted into the Stirling District Asylum during the year under notice, but by the discharge of 74 patients "unrecovered" and of 89 "recovered" and the deaths of 92 the year closed with the same number on the books as at the commencement (684). This is a small resident population with an admission-rate of over 200, which rate is increasing This satisfactory state of things is to be placed to the credit of the boarding-out system. Dr. G. M. Robertson, the medical superintendent, states that during the last three years 203 patients who were unrecovered but who had become harmless and manageable have been removed from the asylum and the greater number provided for in the homes of their natural guardians. Amongst these, we gather, are the 74 referred to above. The advantage of this plan to the ratepayers is twofold, for the patients are maintained at diminished cost and there is no need to build or to extend institutions for their detention. Dr. Robertson analyses the admissions of alcoholic insanity for a period of years. It is stated that "the broad facts are substantiated that alcohol is the most important single factor in the production of insanity amongst men in this country" and that lately there has been "an enormous increase in the amount of alcoholic insanity." Dr Robertson agrees with the explanation which has been put forward as at any rate partly accounting for the recent increase in alcoholic insanity (now passing off), to the effect that the late war absorbed large numbers of able-bodied young men, who left the country and gave the lowest class of labourer a chance of employment and steady wages. "His sudden good fortune was too much for his powers of self-control." The excesses of this class made a substantial increase, we are informed, to the amount of alcoholic insanity admitted to the asylum. A feature of this asylum is the nursing system. In place of the usual asylum plan, according to which the male and female patients respectively are attended by persons of their own sex, the like principle being observed in respect to the head attendants, the method followed in the Stirling District Asylum is that of having female nurses in the sick and infirm wards of the male side, whilst the matron is at the head of the whole nursing staff. Under her are five assistant matrons, who are certificated hospital nurses, and whose presence in the wards, both male and female, is relied upon to maintain discipline and to set a worthy example. The same principle is adopted in night as well as day nursing. The Commissioners in Lunacy in the course of their annual reports refer in favourable terms to the nursing arrangements and to the results of the boarding-out system. These reports state that the fire-extinguishing arrangements are unsatisfactory, the pressure of water in particular being inadequate.

PLYMOUTH ROYAL EYE INFIRMARY.—The eighty-third annual meeting of the subscribers to the Plymouth Royal Eye Infirmary was held on Jan. 11th under the presidency of the mayor. The medical report stated that 2530 patients had been treated during 1904, as compared with 2285 in 1903. The financial statement showed that the income amounted to £1555, the expenditure being £1302. The committee states that the total outlay upon the new buildings had been £19,924 and at present only about £300 of that sum remain to be raised to make the institution entirely free from debt.

VITAL STATISTICS.

ANNUAL BIRTH-RATES AND DEATH-RATES FROM THE SEVEN CHIEF EPIDEMIC DISEASES IN ENGLAND AND WALES DURING 1904.

	Annual rates per 1000 living.			Infant mortality.—Annual death-rate of infants under one year per 1000 births.
	Births.	Deaths from all causes.	Deaths from seven chief epidemic diseases.	
England and Wales	27·9	16 2	1·94	146
Rural England and Wales	26 8	15·3	1·28	125
76 great towns	29 1	17 2	2 49	160
142 smaller towns	27·5	15 6	2·02	154

These rates are subject to revision.

We are indebted to the Registrar-General for the above death-rates for the urban and rural areas of England and Wales in the year 1904. We publish them for the information especially of medical officers of health who require these data for the compilation of their annual reports.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8405 births and 5419 deaths were registered during the week ending Jan. 21st. The annual rate of mortality in these towns, which had been 22·4, 19·9, and 17·5 per 1000 in the three preceding weeks, rose again last week to 18·1 per 1000. In London the death-rate was 16·6 per 1000, while it averaged 18·7 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 6·7 in King's Norton, 10·8 in Smethwick, 11·2 in Walthamstow, 11·8 in Leyton, 11·9 in Burton-on-Trent, 12·4 in Hornsey, and 12·6 in Bournemouth; the highest rates were 24·4 in St. Helen's, 25·0 in Hanley, 25·8 in Walsall, 26·0 in Grimsby, 27·6 in Swansea, 27·8 in West Hartlepool, 32·3 in Middlesbrough, and 32·5 in Merthyr Tydfil. The 5419 deaths in these towns last week included 358 which were referred to the principal infectious diseases, against 475, 399, and 378 in the three preceding weeks; of these 358 deaths, 92 resulted from whooping-cough, 88 from measles, 63 from diphtheria, 44 from diarrhœa, 38 from scarlet fever, 31 from "fever" (principally enteric), and two from small-pox. No death from any of these diseases was registered last week in Hornsey, Southampton, Reading, Great Yarmouth, Plymouth, Devonport, King's Norton, Warrington, Bury, Barrow-in-Furness, or Newport (Mon.); while the highest death-rates from the principal infectious diseases were recorded in West Ham, Hanley, Grimsby, Nottingham, St. Helen's, Salford, Preston, Stockton-on-Tees, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Leyton, Ipswich, West Bromwich, Grimsby, Nottingham, St. Helen's, Stockton-on-Tees, and Merthyr Tydfil; from scarlet fever in Northampton and St. Helen's; from diphtheria in Grimsby and Rochdale; from whooping-cough in East Ham, Bristol, Grimsby, Halifax, Bradford, and Sunderland; from "fever" in Salford; and from diarrhœa in Preston. Of the two fatal cases of small-pox registered in these towns last week one belonged to Burnley and one to Hull. The number of small-pox cases under treatment in the Metropolitan Asylums Hospitals at the end of last week was 18, against 17, 18, and 19 at the end of the three preceding weeks; one new case was admitted during the week, against five, one, and one in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2390, 2309, and 2192 on the three preceding Saturdays, had further declined to 2174 on Saturday last, Jan. 21st; 225 new cases were admitted during the week, against 201, 187, and 194 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 521, 443, and 301 in the three preceding weeks, rose again last week to 377, and were 22 above the number in the corresponding period of last year. The causes of 79, or 1·5 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Portsmouth, Bristol, Salford, Leeds, Hull, Cardiff, and in 39 other smaller towns; while the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Bootle, St. Helen's, Warrington, Manchester, and Barrow-in-Furness.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 21·6, 20·6, and 21·6 per 1000 in the three preceding weeks, declined again to 20·1 per 1000 during the week ending Jan. 21st, but was 2·0 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·7 in Perth and 16·7 in Edinburgh, to 22·1 in Aberdeen and 24·5 in Greenock. The 674 deaths in these towns included 33 which were referred to whooping-cough, 17 to diarrhœa, 15 to measles, three to diphtheria, three to "fever" (including one case of typhus), and one to small-pox, but not any to scarlet fever. In all, 72 deaths resulted from these principal infectious diseases last week, against 78, 79, and 85 in the three preceding weeks. These 72 deaths were equal to an annual rate of 2·1 per 1000, which was 0·9 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 40, 37, and 45 in the three preceding weeks, declined again last week to 33, of which 27 occurred in Glasgow and three in Aberdeen. The deaths from diarrhœa, which had been 12, 13, and 16 in the three preceding weeks, further rose to 17 last week and included 12 in Glasgow and three in Dundee. The fatal cases of measles, which had been 20, 14, and 12 in the three preceding weeks, rose again last week to 15, of which seven were registered in Aberdeen, four in Glasgow, and three in Leith. The deaths from "fever," which had been eight and four in the two preceding weeks, further declined to three last week and included one fatal case of typhus in Aberdeen. The deaths referred to diseases of the respiratory organs in these towns, which had been 184, 182, and 183 in the three preceding weeks, declined last week to 156, and showed a decline of 11 from the number in the corresponding period of last year. The causes of 16, or more than 2 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·0, 25·6, and 22·6 per 1000 in the three preceding weeks, further declined to 21·2 per 1000 during the week ending Jan. 21st. During the past four weeks the death-rate has averaged 23·6 per 1000, the rates during the same period being 18 0 in London and 18·4 in Edinburgh. The 154 deaths of persons belonging to
under notice showed a
in the preceding week ar
to the principal infectious diseases, against five and 21 in the two preceding weeks; of these, five resulted from measles, two from scarlet fever, two from diphtheria, and one from "fever," but not any from small-pox, whooping-cough, or diarrhœa. These 10 deaths were equal to an annual rate of 1·4 per 1000, the death-rates last week from the principal infectious diseases being 0·9 in London and 0·5 in Edinburgh. The fatal cases of measles, which had been 16, three, and 12 in the three preceding weeks, declined again last week to five. The 10 deaths from diphtheria corresponded with the number in the preceding week, while the mortality from scarlet fever showed an increase. The 154 deaths in Dublin last week included 23 of children under one year of age and 44 of persons aged 60 years and upwards; the deaths of infants were nine below the number in the preceding week, while those of elderly persons showed no variation. Four inquest cases and five deaths from violence were registered; and 61, or nearly two-fifths, of the deaths occurred in public institutions. The causes of 12, or nearly 8 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

THE DIRECTOR-GENERAL OF THE INDIAN MEDICAL SERVICE.

Lieutenant-Colonel Gerald Bomford, I.M.S., C.I.E., has been appointed Director-General of the Indian Medical Service. He entered the Indian Medical Service as Assistant Surgeon in 1874 and reached the rank of Brigade-Surgeon-Lieutenant-Colonel ten years later. He served with the Perak Expedition in 1875-76, for which he was awarded the medal and clasp.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: A. Patterson to the *Vivid* and F. J. Lilly to the *King Edward VII.* Staff Surgeon O. Rees to the *Thames.* Surgeons: R. W. G. Stewart to the *King Edward VII.* and L. A. Baiss to the *Barham.*

ROYAL ARMY MEDICAL CORPS.

Major T. H. F. Clarkson has been appointed Senior Medical Officer, Jersey.

INDIAN MEDICAL SERVICE.

Major A. J. Macnab, joint civil surgeon, Simla, is appointed to the medical charge of the Army Headquarters Staff and establishments remaining at Simla during the winter.

VOLUNTEER CORPS.

Submarine Miners: The Mersey Division: Surgeon-Lieutenant R. Jones resigns his commission (dated Jan. 21st, 1905).

Rifle: 1st Roxburgh and Selkirk (The Border); Supernumerary Brigade-Surgeon-Lieutenant-Colonel G. H. Turnbull (Senior Medical Officer, Scottish Border Volunteer Infantry Brigade) is granted the honorary rank of Surgeon-Colonel (dated Jan. 21st, 1905). 4th (Stirlingshire) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Lieutenant T. Beard to be Surgeon-Captain (dated Jan. 21st, 1905).

MENTIONED IN DESPATCHES.

In despatches relating to the operations in Northern Nigeria in 1903 the Acting High Commissioner states: "The medical staff consisted of Dr. H. P. Lobb and Dr. W. J. Healey, who were devoted to the care of the sick and wounded. I consider them both deserving of much credit."

THE NEW ARMY SCHEME.

We gather from what Mr. Arnold-Forster told a deputation the other day that it was impossible at present to commence the formation of territorial regiments. It appears that the number of short-service men in the army is so great that it is necessary to continue the long-service recruiting until a sufficient nucleus of long-service men has been obtained to insure the provision of drafts for India.

A RUSSIAN HOSPITAL SHIP.

We have received from a correspondent some notes of a visit which was made to the Russian hospital ship *Orel* in the month of December, 1904. The *Orel* was one of the volunteer fleet, was fitted up for hospital service in about six weeks, and, as could hardly help being the case, presented many of the objectionable features inseparable from the conversion of an ordinary vessel into a floating hospital. The operating room was abaft the captain's cabin on what a landsman would term the promenade deck. It was "all tiled in," was well lighted, and measured about 15 feet by 12 feet. Underneath it was a sort of waiting room for patients who, when their turn came, were taken up in a roundabout manner through the hatchways. A lift was provided but the patients could not be brought directly into the operating room on account of its position with reference to the wardroom used by the ship's officers. The cots were all in the space where the holds would ordinarily be. They were very close together, one above another, so that there did not seem to be much cubic space per man. Fans with overhead conduits were provided for the extraction of foul air but there was no forced admission of fresh air. The lower deck was just above the water-line and of course the scuttle would have to be closed at sea, so that on the whole it was probable that the atmosphere would be anything but good. Accommodation was supposed to be provided for 460 men, in addition to which there were 18 single cabins for officers and one larger cabin which would hold about six juniors. With that number of patients, however, there would certainly be great overcrowding. Apparently the refrigerating room was large enough and a sufficient daily supply of ice could be made. The cots were partly of English make and partly of French make, the former being preferred because they have springs. The mattresses were of French make, they were watertight, and, according to tests which had been made, each of them was capable of supporting seven men in the water. The method of taking patients on board seemed as if it would be very slow. They were to be placed in a perforated steel cradle which could be slung in a variety of positions; this cradle would then be hoisted in by a derrick and would be run along a little overhead rail. Good photographs of the *Orel* and of six other vessels belonging to the Russian Baltic fleet appeared in the *Engineer* of Jan. 20th.

THE WAR IN THE FAR EAST.

Public attention is no longer directed to the theatre of war in the Far East but has become focussed upon the stupendous events making up the tragic drama now going on in Russia. We are, as it were, seeing history in the very process of making and the present situation is a very remarkable one. Japan has found by far her most powerful ally in the internal condition of Russia and in the revolutionary spirit and disaffection which are apparently rapidly spreading throughout that empire. The unpopularity of the Russo Japanese war in Russia has furnished an occasion for a sudden outburst of deep-seated and long pent-up discontent on the part of its population. Be this as it may, the fact remains that it is now the state of Russia and not the war in the Far East that is uppermost in everybody's minds. There has been no change of importance in the Manchurian armies since we last wrote. There were, it is said, 15,000 disabled men altogether in the hospitals at Port Arthur at the time of its surrender, of whom 500 have since died.

The Irkutsk correspondent of the *Novoe Vremya* complains "that the hospital accommodation from Baikal to Omsk lacks comprehensiveness and only after ten months of war has the necessity for 80 fresh hospitals become recognised. The distance from the front indicates this section of the railway as the area for treating wounds in the second stage after operations. This is essential so as to obviate the neglect of orthopædic treatment of the extremities, as such neglect on a long journey causes many cases of inveterate, incurable contractions. It means returning many men to Russia unfit for work when such a result can be avoided. Many surgical, internal, and venereal cases are also imperfectly treated and there is a complete absence of Roentgen ray apparatus. Irkutsk, with its fine climate, is not fully utilised. It should be the headquarters for operations behind the base; but its dependence on Omsk causes apathy, misunderstanding, and friction. The fine doctors of the reserve who serve the Red Cross Society so well are stultified here."

The executive committee of the Red Cross Society proposes to sell scrip to the value of 400,000 roubles to meet impending outgoings in view of the insufficiency of ready money in the society's hands.

His Majesty's storeship *Humber* has left Hong-Kong carrying a fleet surgeon and medical stores and appliances for Wei-hai-wei, Port Arthur, and Dalny.

Major H. F. Cleveland, I.M.S., it is officially announced, has, with the consent of the Government of India, been appointed medical officer to the Amir and has on arrival at Kabul been cordially received by the Amir.

The Secretary of State has decided that the rates of half-pay of officers of the Indian Medical Service shall in future be the same as those laid down in the Royal Warrant for those of the same rank in the Royal Army Medical Corps.

MANCHESTER MEDICAL SOCIETY.—The annual meeting of this society was held on Jan. 11th for the election of office-bearers. Mr. W. Thorburn was elected President. Dr. E. M. Brockbank described an old MS. on Urines in the possession of the society, some pages being reproduced by lantern slides.

Correspondence.

"Audi alteram partem."

THE TREATMENT OF TYPHOID FEVER.

To the Editors of THE LANCET.

SIRS,—In his admirable Bradshaw lecture[1] Dr. F. Foord Caiger has made a definite and weighty pronouncement in favour of the general adoption in hospitals of the cold-bath treatment of typhoid fever and this has been endorsed by a leading article in THE LANCET. Consequently it is to be anticipated that an extension of the system will result in this country such as has already occurred in so many other countries. In these circumstances it may prove of advantage to emphasise not only the potentialities but also the limitations of the treatment. Dr. Caiger has referred with approval to the results obtained in the Brisbane General Hospital. From May 15th, 1882, to Dec. 31st, 1886, a period of nearly five years, 1828 cases were treated expectantly: of these 271 died, a case mortality of 14·8 per cent. On Jan. 1st, 1887, the cold-bath treatment was introduced suddenly, every case that was admitted on or after that day being submitted systematically to a course of cold bathing similar in detail to that recommended by Brand. The only exceptions were: (1) a very few patients (practically limited to the first year) who refused to submit to it; (2) cases in which the temperature in the rectum failed to attain 102·2° F.; and (3) cases in which contra-indicating conditions, such as hæmorrhage, perforation, and extreme cardiac failure, existed. This course was pursued without interruption down to Dec. 31st, 1896. During these ten years 1902 cases were treated; of these 142 died, a case mortality of 7·5 per cent. The figures in both periods include all cases admitted to the hospital, even those which were moribund on admission and which, of course, were not bathed. Under the bath treatment, therefore, an improvement occurred in the hospital mortality of typhoid fever amounting to practically 50 per cent.—in other words, seven out of every 100 cases admitted were saved on the average through the alteration of treatment. Conformably, Osler says[2]: "The cold-bath treatment, rigidly enforced, appears to save from six to eight in each century of typhoid patients admitted to the care of the hospital physician."

The results obtained at the Brisbane Hospital were due unquestionably to the fact that the treatment was regarded from the very commencement as a prophylactic against the consequences of protracted pyrexia and not as a curative measure to be adopted in special cases. To obtain the greatest possible benefit from the treatment it is essential (1) that it [illegible] of the fever b[illegible] and (2) that all [illegible] be bathed, for [illegible] not possible to [illegible] and evolution of the disease.

It may be doubted whether in this country the fall in hospital mortality will be proportionate to that which occurred in Queensland. In Queensland the hospital accommodation is large compared to the population and a high proportion of hospital patients live in boarding houses and hotels, not in their own homes. Hence I am inclined to think typhoid fever patients seek and obtain earlier admission and it may be that a large number of mild cases are admitted into hospital. Nevertheless, the fall in mortality in this country should be marked; I do not think a reduction of from 15 to 9 per cent. would be an excessive estimate. The limitations to the treatment depend upon the fact that it has little, if any, influence to avert death from hæmorrhage or perforation. From August 1st, 1885, to Dec. 31st, 1886, 586 cases were treated expectantly. Of these 11 died from hæmorrhage and 17 from perforation. The percentage mortality of each accident to total cases was therefore 1·88 and 2·9 respectively, or together 4·71. Of the 1902 cases treated by cold bathing during the ten years from Jan. 1st, 1887, to Dec. 31st, 1896, 23 died from hæmorrhage and 56 from perforation. The percentage mortality of each accident to total cases was therefore 1·2 and 2·9 respectively, or together 4·1. The figures quoted refer not to the frequency of these accidents but to their mortality. Perforation is almost of necessity fatal; hence the distinction is here unimportant. But hæmorrhage results in death only in some 25 per cent. of the cases attacked; and there is reason to think that the slightly diminished mortality from hæmorrhage under cold bathing depends upon a slightly diminished fatality, not upon a diminished occurrence of this accident. The conclusion therefore is that the cold bath treatment exerts no effect upon the occurrence of hæmorrhage or perforation one way or the other and that practically the whole saving of life results from the reduction of the "pyrexial" sources of death.

The impotence of the cold-bath treatment to avert the occurrence of hæmorrhage and perforation has an important bearing upon the prognosis of typhoid fever in the two sexes. Under expectant treatment Murchison found the female case mortality higher than the male. This, he pointed out, was in spite of the undoubted fact that perforation is 2·3 times more frequent in men; in my experience much the same is true of hæmorrhage. Thus while men are more prone than women to succumb to the intestinal lesion the reverse is true to an even greater extent with regard to the pyrexia. It might be anticipated, therefore, that the bath treatment would influence more favourably the female than the male mortality, an anticipation which is fully borne out by statistics. Under expectant treatment 1160 males and 668 females were admitted. Of the former 164 died, a mortality of 14 14 per cent.; of the latter 107 died, a mortality of 16 per cent These results accord fairly with Murchison's figures. In striking contrast, however, were the results obtained under cold bathing. By that system 1188 males and 714 females were treated. Of the former 103 died, a mortality of 8·7 per cent.; of the latter 40 died, a mortality of 5·6 per cent. Thus while the male case mortality fell from 14·14 per cent. to 8·7 per cent., a reduction of 38 per cent., the female case mortality fell from 16 02 to 5 6 per cent., a reduction of 65 per cent. It would be easy to demonstrate that this much greater relative success obtained by cold bathing in women is almost entirely due to their comparative immunity from hæmorrhage and perforation.

It is satisfactory to read that Dr. Caiger disbelieves in the utility of giving astringents in the intestinal hæmorrhage of typhoid fever, and that he is inclined to think that drugs of the vaso-constrictor class, such as ergot and adrenalin, if they produce any effect at all tend to increase the bleeding. There is no doubt that adrenalin has prolonged hæmoptysis in some cases.[3] On the other hand, there is equally no doubt that the inhalation of amyl nitrite, the most rapid vaso-dilator known, is capable of immediately stopping hæmoptysis in the great majority of cases.[4] And there is good reason to anticipate that the same drug would be effectual also in hæmorrhage from the systemic arterioles. It is doubtful, however, whether amyl nitrite inhalation would be of use in the [illegible] typhoid fever since the action of [illegible] usually impossible to fix the exac[illegible] f bleeding. In one case Dr. R. B. Huxtable of the Charters Towers Hospital, Queensland, used amyl nitrite for severe typhoid hæmorrhage and the patient recovered. The only drug which is of proved value in typhoid hæmorrhage is opium given in full doses (40 to 60 minims of the tincture) as recommended by Broadbent. The patient should then be immobilised on a water bed and all food and drink stopped, except a little ice to suck. Intestinal hæmorrhage, except when it amounts to a mere trace before the tenth day of fever, and this only in cases where the date of onset is definitely known, necessitates the abandonment of bathing for a time. This enforced cessation of bathing frequently alters the whole aspect of the case. Quite commonly the patient now falls rapidly into the typhoid state, with high fever, delirium, dry brown tongue, sordes and tremulous muscles, and unless great care be taken a sacral bedsore commences and quickly spreads. This sudden change for the worse is the strongest evidence of the efficacy of systematic cold bathing in averting the typhoid state. The question as to how soon to resume bathing after the hæmorrhage has ceased is probably the most delicate and difficult of all the therapeutic problems presented by typhoid fever.

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[1] THE LANCET, Nov. 26th, 1904, p. 1467.

[2] Johns Hopkins Hospital Reports, Baltimore, 1895.

[3] Dr. J. Gray Duncanson, Brit. Med. Jour., March 12th, 1904.

[4] THE LANCET, August 20th (p. 522), and Oct. 1st (p. 942), 1904.

Unlike hæmorrhage, perforation demands the permanent suspension of bathing, and there can be no doubt that Dr. Caiger is right in stating that laparotomy, and laparotomy at the earliest possible moment, is in almost all cases the only correct procedure. Writing in 1897 I said:[5] "There can ...... be little doubt that the treatment of perforation, in hospitals at any rate, will in future be mainly by laparotomy; and that those hospitals in which the routine treatment is by systematic cold bathing will provide by far the largest supply of *suitable* cases for this operation." The reason for this is clear. "Systematic bathing ...... has so altered the symptoms of this accident and rendered so certain the possibility of its immediate diagnosis that the whole question of treatment requires reconsideration. Under expectant treatment the diagnosis is not infrequently impossible at the time. At the Brisbane Hospital up to the end of 1886 it was not uncommon to find perforative peritonitis for the first time in the post-mortem room. ...... In contrast to this is the experience of the Brisbane Hospital during the first three years of the bath treatment. During this time 34 cases suffered perforation, but so clear was the mental condition in all these patients that in every instance they were able to fix almost exactly the time of the accident. Not only so, but they were able as a rule to give so significant an account of the onset, site, and character of the pain, that usually a positive diagnosis could be made even before the signs of peritonitis were apparent."

The history of many cases was a sudden pain in some definite part of the abdomen; later an access of vomiting with a concurrent exaggeration of the pain, indicating extravasation of bowel contents. And it was found that very often the administration of a hypodermic injection of morphia (one-third to one half grain) immediately after the commencement of the pain was capable of deferring the onset of vomiting for some hours. That is the opportunity for laparotomy in my opinion.

I am, Sirs, yours faithfully,
Francis Everard Hare, M.D.

THE TREATMENT OF STRABISMUS.

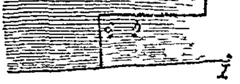
To the Editors of The Lancet.

Sirs,—As the brief account of my operation for strabismus, which appeared in The Lancet of Jan. 7th, p. 61, is not sufficiently clear to prevent the possibility of misinterpretation, I should like to supplement it by a few remarks of my own.

My principal object is to replace as much as possible tenotomy by the "advancement" of the muscles in the operation for all imperfections of the motility of the eyes (paralytic as well as concomitant squint, insufficiency, &c.). During last year I performed 100 "advancements," always with very good results, but in the same period I performed only two tenotomies.

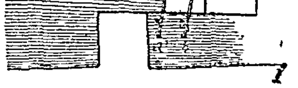
There are some rare cases of convergent strabismus of very old standing, with strong contracture (not contraction) and marked alteration of the structure of the internus muscle.

Fig. 1.



Lines of incision in muscle.
a, *b*, Points of suture.
i, Insertion of muscle.

Fig. 2.



Muscle advanced and sutured.
x, *y*, Gap in muscle. The remaining letters signify the *same as in* Fig. 1.

A surgical operation on this muscle seems to be admissible, simultaneously with "advancement" of the opposing muscle. Only, instead of setting back the shortened internus by a tenotomy, I propose to preserve its normal insertion on the eyeball and to lengthen it by a special procedure. The new operation consists in severing the muscle so that the divided extremities are left somewhat in the form of steps of a stair, as shown in Fig. 1, and lengthening it by uniting these extremities, as shown in Fig. 2. The operation has already given me excellent results.

I am, Sirs, yours faithfully,
Paris, Jan. 17th, 1905. Dr. Landolt.

THE PRINCIPLES OF TREATMENT OF PNEUMONIA.

To the Editors of The Lancet.

Sirs,—In a rather remarkable address on the Principles of Treatment of Pneumonia, published in The Lancet of Jan. 21st, p. 138, Dr. W. Ewart lucidly presents his views and his practice as derived from numerous and careful clinical observations and also from certain conceptions as to the pathological processes in the lungs and elsewhere. It is, of course, on this broad basis that all successful treatment must be reared and tested. Regarding the directing of treatment in conformity with what one conceives to be the pathology of the disease, this, though a most laudable ambition, is sometimes hazardous, and should no ill-results follow, the treatment may be right; but, on the other hand, the patient may recover in spite of the treatment. As to the indications for treatment which are supplied by the pathology of pneumonia I venture to notice briefly two of these, both of high importance, though differing widely in range. One of them is considerably exploited by Dr. Ewart; the other is not alluded to directly in his address but is suggested by his acute observations. That discussed by Dr. Ewart refers to the influence and import of the fibrinous coagulation in the lungs. He begins by quoting the opinion of a New York physician to the effect that "the extensive effusion of fibrin is really a 'breeding ground' for the diplococci and this enormous supply of pabulum is the explanation for the overwhelming amount of poison manufactured by them in the lung and thrown into the circulation." Then, in discussing the principles of action, Dr. Ewart advocates "defibrination," observing that "to discourage the local consolidation by diminishing the supply of fibrin factors is the end towards which our treatment and diet are made to converge." Further on it is explained that the consolidation is checked by administering citric acid, a precipitant of calcium which is essential to clotting. Other measures to this end are also advocated, including the possibility of impairing the solidification of the fibrin by withholding salt from the diet in view of the fact that the fibrinous exudation is rich in sodium chloride.

In studying the pathology of this disease for several years nothing more strongly impressed itself on my mind than the view that the pneumonic consolidation is nature's method of localising the morbid process and of curing the disease. The statement quoted by Dr. Ewart as to the fibrinous exudate forming a breeding ground for the pneumococcus belongs to the realm of fancy and is neither scientifically correct nor borne out by actual observation. In the first place, the fibrinous exudate is *dead*, in a state of coagulation necrosis, and so does not offer a suitable pabulum for the micro-organism. The organisms, imprisoned in this rigid dead substance, behave as they do in certain artificial media—viz., secrete an acid which quickly inhibits their vitality and their virulence. Some have supposed that this acid in the pneumonic lung is secreted by the pulmonary tissues and have termed it pneumic acid, but when engaged a few years ago in a research on this subject I extracted from pneumonic lungs an acid giving identical reactions to that obtained in artificial cultures. In examining microscopically sections of pneumonic lung in various stages of hepatisation I have been struck with the absence of active growth of pneumococci within the alveoli. Moreover, in cases of pneumococcus infection showing little or no tendency to pulmonary hepatisation; when the pneumococci run riot in the organism so to speak, the result is always grave and, indeed, generally fatal. Consolidation is doubtless the natural and wholesome reaction of the tissues to the disease, and though any attempt to modify the virulence of the organism and in this way limit the extent of the consolidation is not only justifiable but the object most to be desired, yet any interference directly, as by drugs, with the normal deposition of fibrin is, according to the view here propounded, simply to direct one's weapons against the *vis medicatrix naturæ*.

The other topic suggested by Dr. Ewart's address refers to the definitely scientific treatment of this affection in accordance with certain recent discoveries. Alluding to the objects of treatment, such as the arrest of the morbid process, the restriction of the invading host, and the neutralisation of the poison, Dr. Ewart remarks that the individual means to these ends may be inadequate at first or even mistaken. Inadequate doubtless, but perhaps not so much mistaken, provided our means are checked by the very definite method of blood examination which has been elaborated by Leishman and by Wright and Douglas. The amount of protective substances in the blood: those natural antitoxins which the latter observers have rather happily termed "opsonins," can be accurately estimated in any individual case of infectious disease and affords a true index of the patient's condition. The process is rendered both easy and speedy by the now celebrated method of Leishman, as modified by Wright. That the blood serum (not the corpuscular elements) contains a substance (an opsonin) which effects a chemical interaction with the bacteria so as to prepare the latter for phagocytosis seems to have been definitely determined quite recently by Wright and Douglas. In the case of two specimens of blood of conspicuously different phagocytic power the corpuscular elements were separated from the fluids and an interchange effected. "The leucocytes of the successfully immunised patient exhibited in these circumstances the lesser phagocytic action characteristic of the blood of the normal individual who served as a control, while the leucocytes of the normal individual exhibited the increased phagocytic action characteristic of the blood of the successfully immunised patient."[1] By counting the number of organisms (from an artificial culture) which the washed cells of normal blood when mixed with the patient's serum can ingest under certain conditions an accurate estimation can be made of the opsonic content of the blood. This phagocytic count is compared with the phagocytic count of normal blood, taken as unity,[2] and so from hour to hour or from day to day the rise or fall in the protective substances in the patient's blood can be accurately determined. Although at first sight it might be supposed that the results thus obtained would be capricious, yet repeated observations made in cases of acute and chronic infections show the method to be remarkably accurate. As already observed, this protective substance or opsonin is normally present in the blood, but when a vaccine is introduced into the patient's system its effect is to cause a greatly increased elaboration of opsonins by certain cells of the body. In the case of pneumonia we have no vaccine as yet which can be administered. But one can see that an attempt at a really scientific treatment of the disease would be made if the various methods of treatment adopted were considered in conjunction with the rise or fall of the opsonic curve. If, for instance, it was found that alkaline treatment was accompanied by a rise in the opsonic curve this would indicate that benefit was being derived, and *vice versâ*. In short, it might be possible [illegible]

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[5] The Cold-bath Treatment of Typhoid Fever, F. E. Hare, 1898, pp. 186 et seq.

[illegible] lately on animals I found in certain cases the opsonic value of the blood falling without any loss of body weight or other clinical symptoms to indicate it. At any rate we have here opened up the possibility of treatment based on scientific data of a very precise character. It does not include the entire treatment of the disease, more especially as to the mechanical aspects, but it covers a very wide field and may in time displace the theorising and groping which up to the present have more or less characterised the efforts of the physician.

I am, Sirs, yours faithfully,
Henrietta-street, W., Jan. 21st, 1905. A. G. AULD.

ANKYLOSTOMUM DUODENALE.

To the Editors of THE LANCET.

SIRS,—Upon my return to Egypt I find that in a communication by Dr. Alessandrini to the Italian Zoological Society, written at the end of 1904, I am given the credit of having made independent research upon the question of the migration of the larvæ of the ankylostomum duodenale from the skin to the intestine. I also hear that other authors, such as Bentley and Z[illegible]n, seem to have accorded me similar credit. I therefore ask for a few lines of your valuable space to state that my two communications on this subject were written by Professor Looss's authorisation as a means of informing English readers of his now well-known discoveries.

I am, Sirs, yours faithfully,
Cairo, Jan. 12th, 1905. F. M. SANDWITH.

FRACTURE OF THE ANTERIOR FOSSA OF THE SKULL DIVIDING THE OPTIC NERVE.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Jan. 21st Dr. F. J. Hathaway records a case of the above and it is commented upon in your annotations. Will you permit me to say that I discussed the same question in a paper before the Ophthalmological Society a few years since? I then recorded 18 cases and treated the subject somewhat fully in a paper which occupies 25 pages of the Transactions of the society for 1897. It is briefly abstracted in THE LANCET of June 26th, 1897, p. 1745. Since that time I have seen fully a dozen additional instances. Three cases a short while ago were attending my clinic at the same time and were shown at a meeting of the Sheffield Medico-Chirurgical Society. One case is at present among my out-patients at the Sheffield Royal Infirmary. I am not therefore disposed to consider the association of damage of the optic nerve with head injuries as particularly rare and, if looked for, such cases in a large clinic will not infrequently, I believe, be met with.

The medico-legal aspect of these cases is interesting and important. An individual meets with an injury to the head; there may be some loss of consciousness or not and the general symptoms pointing to severe head injury may or may not be marked but he asserts that he has thereby completely lost the sight of one eye. Examination with the ophthalmoscope only yields negative results. The lesson to learn from these cases is, I think, that one should be guarded in forming an opinion and should recognise the possibility of the patient's statement being correct. This will be corroborated, if true, after a lapse of a few weeks (three or more) by the decolouration which will be noticeable in the optic papilla. I referred to this matter in the paper I have mentioned and it has also been my habit to point out to my class for some years its importance. The absence of ophthalmoscopic evidence at the outset is doubtless due to the injury being posterior to the point of entrance of the central retinal artery into the optic nerve.

I am, Sirs, yours faithfully,
Sheffield, Jan. 23rd, 1905. SIMEON SNELL.

HESSING'S SPLINT AND CONTRACTURE AT THE KNEE.

To the Editors of THE LANCET.

SIRS,—I should be obliged if you would grant me space wherein to correct two omissions in my recent communication. First, the instrument I made use of was Hessing's splint-case appliance as modified by Hoefftcke. One of the modifications is a very important one and consists in an arrangement at the ankle whereby continuous traction of the leg is applied during the straightening of the knee. It is this traction which prevents the straightening process from causing pain. Secondly, I omitted to mention that the mobility of the knee, which at the commencement of treatment was almost imperceptible, has very slowly but steadily increased, being now some 15 degrees; in other words a flexed, rigidly ankylosed knee has been transformed into one with fair a [illegible] lity.

[illegible]

Wimpole-street, [illegible] [illegible] OPENSHAW.

WEST AFRICA AS A HEALTH RESORT.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if you would be good enough to contradict a report attributed to me that West Africa is likely to become a health resort. The health of Europeans in many of the coast towns now shows a marked improvement and will no doubt continue to improve. This is attributed to increased sanitation, including anti-mosquito measures, new residences in selected quarters, and more careful selection of those who go out and who, in consequence, realise how to live in a tropical climate and to avoid infection from malaria and other diseases, but it was very contrary to my wishes to imply that the improvement in health in West Africa is likely to be so rapid as is suggested by the remarks wrongly attributed to me.

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[1] Proceedings of the Royal Society, Sept. 23th, 1904.

[2] In each case one volume of serum is added to one volume of corpuscles from citrated normal blood and one volume of a suspension of the organisms.

I am, Sirs, yours faithfully,

Liverpool, Jan. 24th, 1905. RUBERT BOYCE.

THE CAUSATION OF SEX.

To the Editors of THE LANCET.

SIRS,—In my letter of Jan. 7th I find I have inadvertently made a mistake in one of the dates given. Under "Child II." the letter reads, "last menstrual period ended Oct. 3rd, 1900." Obviously it should be, and was, Sept. 3rd, impregnation taking place between Sept. 24th and Oct. 2nd, that is, premenstrually to the next expected period, which, of course, did not appear, conception having occurred. I must apologise for the error and trust you will grant me space to correct it.

I am, Sirs, yours faithfully,

Jan. 22nd, 1905. *MEDICUS.*

MEDICAL NOTES FROM THE FAR EAST.

(FROM A SPECIAL CORRESPONDENT.)

(Continued from THE LANCET *of Oct. 8th, 1904, p. 1048.)*

WITH a permit from the Minister of War, twice extended, I presented myself at the chief division of the military hospital in Hiroshima on August 9th, 1904, and was escorted round the hospital by Dr. Tanaka, second officer in charge, who talked freely in German for three hours, on the condition only of our avoiding topics relating to strength and disposition of forces. Surgeon-General Professor Sato, principal medical officer of Hiroshima and professor in the Military School of Medicine at Tokio, was out at the time of my visit. Dr. Tanaka, however, who was called up for service after having formerly served for ten years in the army, has himself done all the operating and was the more able to give the required information through having been attaché to the British forces in South Africa in 1900, when he was unable to proceed further than Kronstad.

Hiroshima is the central base for all military cases of sickness or wounds from the front, as Sasebo is for all naval cases, as Moscow is for all severe Russian cases which are not too serious to be sent to Europe, and as Netley is for our army and Haslar for our navy on foreign stations in normal times. Since the journey hither from Dalny or Antung at the mouth of the river Yalu takes three days the most serious cases do not leave Manchuria and all have passed through the first and most interesting stage before they reach Japan. From Hiroshima all but the most severe cases are distributed to the large hospitals at Tokio or the smaller hospitals at Osaka, at Sendai, and in the north of the island of Kyushu. There is accommodation in Hiroshima for nearly 4000 patients, half that number being the total under treatment at the time of my visit. This hospital is organised in six divisions—six virtually independent hospitals, of which two were in existence and use before the war broke out, while the other four have been built and all six re-staffed for their present use. The method of building is the same as elsewhere, the material being grey unstained wood plastered on the inside and resting on brick foundations, the pavilions, of one floor only, being ranged parallel to each other down either side of a central covered alley way. Each pavilion consists of half a dozen separate rooms of good size for special cases, pack-store, dressing room, nurses' room, and kitchen, between which is the entrance to the main ward; the lavatory, bath, and latrine are in an annexe. In the pavilion in which special inquiry was made there were seven patients in three private rooms and 72 patients in the main ward, the nursing staff consisting of eight female nurses and one sister.

This ward was considerably overcrowded, as were several other wards, the division for the more serious surgical cases, over which Dr. *Tanaka took me most thoroughly, having* 300 patients but only 250 beds. The extra 50 patients, all well on the way to recovery, were accommodated in two ways, either by lying on bedding placed on the floor of one-half of the ward, the beds being cleared into the other half, or by three of them sharing two beds put side by side. To the first expedient there is no objection for convalescent surgical cases on the score of comfort, for the men are accustomed to sleep on the floor without even the intervention of a mattress. The only drawback is that as the windows are sash windows not opening lower than to within two feet of the ground, there is no cross ventilation except from the doors and the occasional inlets about six inches square at the floor level, and for comfort's sake ventilation with the temperature at 85° F. in the shade is highly desirable. The alternative of three convalescent surgical cases sharing two beds is not objectionable, at least for Japanese, on any grounds. The bedsteads are the simple old-fashioned iron ones with plaited iron laths, such as are hardly seen in England now even in servants' bedrooms. Put side by side they give ample room for three men who, wanting nothing more than a sheet to cover them even at night, have each their own upper sheets and are content. The windows of these older buildings are sash windows of glass but in all the recent temporary buildings the window openings are occupied by sliding screens of paper mounted on light wooden frames or by *shutters of thin imbricated wood hinged above so as to* open outwards and to give shade from the sun during the day-time. At night, however hot it may be, the Japanese are accustomed to close all doors and windows and to sleep almost stripped; indeed, the police insist on the houses being completely closed as a protection against thieves, and in the new Japanese hotel at Sasebo the difficulty of ventilation was supposed to be overcome by a foot of open lattice work above the sliding panels all round the room under the eaves of the roof. It was with difficulty that the hotel authorities were induced to leave the panels open all night and fortunately neither thieves nor police appeared to have noticed the omission. In the hospitals it seems that the wards are often entirely closed at night. In winter it is probable that they will to a great extent be closed all day as well, for the medical men are not free from the fallacious belief that the paper screens allow the transmission of sufficient air and the supply of artificial heat is likely to be inadequate. The spirit of hygiene has a very unequal foothold. The Japanese authorities are most careful to isolate dysentery, yet on a recent voyage of one of the hospital ships patients suffering from typhoid fever and dysentery were mixed together and there was no isolation of the cases of kakké (beri-beri), although there is at least as good reason for the isolation of that disease as of dysentery. Their arrangements in the field for the drinking of boiled water only are admirable but here in their permanent station hospitals, in their university hospital at Tokio, and in their new Red Cross hospitals the latrine system is extremely defective, ill managed, and often close to the water-supply. In the hospitals in Hiroshima there is no cover to the opening in the footboard which takes the place of a seat, so that the dust and flies from the fæces have free access to the wards. The receptacles are open pans fixed in the earth a foot or more below the board, and when they are to be emptied they are reached only with difficulty by a small opening on the outside at the ground level, through which opening the contents have to be ladled and scraped away with much soiling of all the surroundings. Perhaps it will some day be recognised that it would be better to provide the latrines with covers inside the building, to substitute half a kerosene tin for the fixed open pan, and to change it for a clean one every day. The medical staff for this division of 250 beds consists of six surgeons; the nursing staff consists of 66 Red Cross nurses, not counting, I imagine, the half dozen American nurses who came to Japan under Miss McGee, M.D., and who were still at work there at the time of my visit. The admiration of these American ladies for the nursing qualities and instincts of their Japanese colleagues was pronounced. At the mouth of the river Yalu hospital ships are compelled to anchor out of sight of land, the patients being brought out to them on sampans—the heavy punts of the East—worked by a stern oar. On reaching Japan the sick and wounded are again transferred into sampans at Ujina, the port of Hiroshima, and are taken up the two or three intervening miles by water. The vessel that had just brought back patients from the Yalu had a roll of 300 sick, a large proportion of whom were suffering from kakké (*beri-beri*). This disease appeared to be very prevalent and there were said to be 800 cases of it in Hiroshima. Dysentery was not at that time serious either in extent or degree.

Turning now to the clinical experiences in military surgery the first noticeable point was the collection of bullets and skiagrams. During the war in South Africa it was customary to give the patient the bullet or fragment of shell or bone extracted from his body under operation. In the Japanese hospitals however all such specimens belong to the Government and are systematically preserved in glass bottles or in a special glass covered and locked box divided into 100 compartments, each specimen being put into a separate compartment with a label briefly summarising the case from which it was taken. There is thus already both in Sasebo and in Hiroshima a museum of distorted bullets and of military pathology superior to any collection made during the South African War. A regulation to secure this result in all future wars should surely be added to the rules of our services both British and Indian. The new museum buildings at Millbank in London would thereby be improved in one respect in which they must be lamentably deficient. The Lee Enfield bullet measures 0 303 inch, or 7 57 millimetres, in diameter, the Russian 7 7 millimetres and the Japanese only 6 5 millimetres. In length and shape they are all much alike, with a very similar nickel mantle. The usual distortions were seen—namely, the marks of the rifling, side to side flattening especially at the forward end flattening with deviation almost to a right angle of the front half or third and ripping off of part of the nickel mantles. None of the bullets, however bore any sign of malicious manipulation there were no split, hollow nosed or filed bullets and no mushrooming had taken place in any of the fragments preserved. One bullet measured 12 millimetres (half an inch) across but it was duly cased. The one or two Japanese bullets present had been extracted from Japanese soldiers thus illustrating one of the practical difficulties of modern strategy. Pom poms appear to play no part in this war although there was a single instance of a one pound shell in the collection at Sasebo. Altogether Dr Tanaka has in three months performed 238 operations following the German principle by which the chief surgeon alone operates and junior men are only allowed to act as dressers and clerks. As with the bullets so with the skiagrams. Every skiagram as soon as it is printed is properly mounted on a card of uniform size with the chief particulars entered on the back and these cards are classified and kept in order in a special drawer on the principle of a card index. The skiagrams themselves however were not so good as those at Sasebo. There was no localising apparatus and the need of it was not felt. Skiagraphy is well known to have its limitations and Dr Tanaka like so many others has searched in vain for bullets localised just before operation by the cryptoscope or by skiagrams in different planes. He was well aware how obvious and yet how elusive a splinter among the metacarpal bones might be or a bullet in the soft parts of the thigh or a shrapnel ball in the buttock. What memorable and unwelcome episodes the bare mention of the fact must recall to those who worked in South African hospitals and to many who have practised in recent years in any large surgical centre.

The result of these failures is that at Hiroshima the surgeons have arrived at the rule for cases of buried bullet 'If in doubt do not operate.' In looking over the skiagrams the answer to my question as to operative treatment was very often 'None, he got well without symptoms.' 'Weak surgery' will be the verdict of the enthusiast but it is possible that here discretion is sometimes the better part of valour. It would be interesting to have a complete inquiry two or three years hence into the condition of wounds with retained bullets. Considering the aseptic nature of simple bullet wounds there is a good deal to be said in favour of the policy of letting sleeping dogs lie. With shrapnel there is more danger for shrapnel wounds are more prone to suppurate and it is noted at Hiroshima that on the average men wounded with shrapnel stay longer in hospital than those having gunshot wounds. But here also it seems reasonable if the surgeon and the patient prefer it to defer operation until symptoms appear. Prompt operation will however be indicated by the foreign body lying in such a region or position as to make danger or discomfort probable in the future. There was then in the hospital a case of this kind in which a shrapnel ball had entered below the right eye and penetrated through the malar bone into the temporo sphenoidal fossa where it was visible in a skiagram. An operation was performed similar to Rose's method for reaching the Gasserian ganglion by turning down the masseter and the zygoma and turning up the coronoid process of the jaw and the temporal muscle when the bullet was found lying absolutely in contact with the uninjured internal maxillary artery. Recovery is now complete. There were two inoperable cases of bullets embedded in the brain in which the symptoms were slowly improving. Another man had been struck by a bullet which entered his left eye and passed out through the right temporal bone just below the mastoid process. A fragment of bone came away through the naso pharynx and back of the mouth. Apart from the loss of his left eye he seems to suffer only from some deafness in his right ear; he stood at attention and showed us the site of his wounds as if they had been through his leg or his boots. There were three most interesting series of cases of which brief notes were made the respective lesions being gunshot wounds of the spinal cord aneurysms of various kinds and gunshot neuralgia. Each series would have repaid a lengthened study had circumstances permitted.

[Considerations of space necessitate the omission of our correspondent's remarks on wounds of the spinal cord. He also described one case of the somewhat rare condition in military surgery of subphrenic abscess and a case of nerve suture the only operation of that kind which had as yet been performed the musculo spiral was the nerve sutured and the effect was complete relief of recent terminal radial neuralgia. After the paragraphs on wounds of the spinal cord he continues as follows —]

The series of aneurysms was interesting from the point of view both of diagnosis and prognosis. The commonest wound of considerable blood vessels consists in the minute rupture of a large vessel or the larger rupture of a small vessel in a limb where extravasation of blood is limited by fascia and muscular planes the result being the formation of a false or spurious aneurysm. It is not necessary that the bullet should itself rupture all three coats. It is enough that it should rupture the outer coat and most of the thickness of the middle one allowing the inner coat to bulge through the wound. The intra arterial pressure will then gradually enlarge the true aneurysm thus produced especially if the wound appears to be simple and the patient walks from the site of injury to the hospital or ambulance or is allowed to walk about the hospital after admission. This shows the imperative necessity not always recognised by those unaccustomed to military surgery, of absolute rest for all patients with flesh wounds, however simple during the first few days. A slight wound of the arterial coats may otherwise lead to aneurysm the inner coat becoming spread out over an ever increasing accumulation of blood may give way, and even if the swelling be circumscribed and the limb kept at rest there will be serious danger of gangrene from defective arterial flow and from venous obstruction by the pressure of the extravasated blood. Nor is the danger passed after operation when the clot has been incised and turned out without much loss of blood and either end of the vessel successfully secured and ligatured. In Hiroshima there have been several cases of gangrene after operation mostly attributed by the operator to the exclusion of too great a length of artery—usually the femoral from the groin downwards—and the cutting off of too many branches from the collateral circulation. This gangrene has usually limited itself to the tips of one or two toes there were however one or two cases which were less fortunate. In all down to the end of July 1904—that is for a period of less than six months since the beginning of the war—there have been 21 cases of spurious aneurysm. The arteries affected have been as follows in the neck the vertebral artery the second part of the subclavian and the third part of the subclavian, in the upper limb the axillary artery the brachial the radial and the anterior interosseous, in the buttock the superior gluteal artery, in the lower limb the popliteal artery the anterior tibial and the posterior tibial. Two of the above cases of spurious aneurysm proved of special interest in operation. In one a bullet wound had been received on June 25th 1904. When the patient was admitted at Hiroshima on July 23rd a large swelling was found under the outer half of the clavicle bulging the pectoral muscles slightly forwards and transmitting arterial pulsation. On July 25th the usual operation for ligature of the third part of the subclavian was per

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the clavicle, when the blood gushed out to an alarming extent despite the ligatured subclavian. The wound was instantly plugged with gauze and after much trouble, the pectoralis minor being reflected, the axillary artery was secured immediately above and below the site of injury. The aneurysm was spurious and a fortnight later recovery was already complete so far as could be judged. In the other case a bullet had passed in through the right eye and out just below and behind the angle of the right lower jaw. No symptoms were caused except, of course, those due to the pulped eye. Facial, temporal, and occipital pulses could be felt; cerebration was normal; and the superficial blood return of the neck was unimpaired, but there was a large tense swelling in the site of the wound of exit behind the angle of the jaw. The tumour was incised and profuse pulsating hæmorrhage took place from the depths of the wound, apparently arising from one of the important arteries of the neck. The wound was promptly tamponned with gauze and after infinite trouble the source of the hæmorrhage was traced right down to the transverse process of the second cervical vertebra, through which the blood was found welling up, obviously from a ruptured vertebral artery. At this depth it was impossible to reach the artery to tie it, even if the end could be found, and the patient had lost so much blood that further operation was inadvisable. The wound was therefore again tamponned and death unfortunately occurred next day, probably from cerebral clot.

There have also been several cases of arterio venous aneurysm but the Japanese surgeons have not yet had an opportunity of seeing the results of operation or non-operation under these conditions. At present, if there is a considerable swelling or definite symptoms—not including the mere buzzing sound—Dr. Tanaka ties the artery above and below, as a rule, leaving the vein untouched. Both Mr. G. H. Makins and Mr. A. A. Bowlby, however, in their books refer to the frequency with which apparently harmless arterio-venous aneurysms cause weakness and incapacity of a limb as soon as the patient returns to military duty or civil employment, and also to the fact that the difficulties of operation are increased by delay.

The third interesting series was one of gunshot neuralgias, 24 cases of which had been operated on by Dr. Tanaka. Neuralgia of the median nerve has been especially common and in nearly every case of this series definite cause for the neuralgia had been discovered and to some extent removed. Pressure by scar tissue, involvement in callus, subacute inflammation of surrounding parts leading to perineuritis and neuritis are the common causes, the most usual being inclusion in scar tissue. Operative treatment consists of neurolysis—another word for removal of the cause—and stretching so as to break down intraneural adhesions. The result is not immediately satisfactory to either patient or surgeon but there is a slow improvement which continues until in most cases the neuralgia is completely gone.

Of interesting visceral lesions notes were made of one gunshot wound of the thorax and one of the abdomen. The first was a case of hæmopyothorax. The wound of entrance was situated an inch below, and outside, the right nipple; the wound of exit was in the seventh intercostal space close by the angle of the right scapula. The injury was received on June 21st, 1904, and speedily healed on the outside. Intrathoracic symptoms were slow in manifesting themselves and the physical signs, variable in character and indefinite in extent, seemed only to indicate a subacute bronchitis of the right lower lobe of the lung and a slight dry pleurisy at the base in the flank with low fluctuations of temperature to 100° F. (38·3° C.). After a time pyrexia became more marked, dulness was made out in the sixth space in the posterior axillary line, pus was found on puncture with a needle, and an operation was performed on August 4th. On incision a localised collection of blood clot was discovered, broken down at the centre into pus. An inch of rib was resected and the wound was drained with sterilised gauze. As seen after a few days the drain had already been dispensed with, the temperature had fallen to normal, and the intrathoracic signs had disappeared. In the second case a man had been shot through the liver and had recovered without operation and without manifesting any symptoms of injury. The wound of entry was in the right anterior axillary line immediately below the costal margin, at about the tip of the tenth rib. The exit was immediately internal to the inferior angle of the right scapula as the patient stood at "attention." Both liver and lung must have been traversed, and apparently not only must the gall-bladder and the large vessels of both organs have escaped but the bullet must also have passed out through the seventh intercostal space behind, avoiding the ribs both above and below, for at no time had there been any local tenderness or any sensory disturbance. Notwithstanding the aseptic methods in use at these hospitals, the occasional occurrence of suppuration in fresh operation wounds was acknowledged. There were several cases of fractured tibia and fibula or femur all fixed in well-made plaster splints, those for the femur being continued as a spica round the waist and strengthened by a lateral iron. But I do not think there was a single case on extension; still less one on a Hodge's splint which appears to be unknown in Japan although it is, to many London surgeons at any rate, the ideal treatment for fractured femur.

From the foregoing it will be seen how thoroughly the Japanese practice conforms to the European, both in arrangement and management of the hospital, in nursing, in diagnosis, and in surgical and general treatment. They will, however, have to make very great reforms in certain parts of their sanitary administration. As a rule they have shown considerable ingenuity in adapting European methods to their own circumstances and their technical work compares favourably with that of any army or any hospital.

CHICAGO.

UNHEALTHY WORK IN THE STOCKYARDS.—SHAMELESS INDIFFERENCE TO THE INSANITARY CONDITION OF THE BUILDINGS AND THE CATTLE PENS.—POLLUTION OF THE SUBSOIL.—THE NEED FOR LEGISLATIVE INTERFERENCE.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(Concluded from p. 185.)

THE statistics that have been given and the details concerning the housing of the population engaged at the stockyards indicate that whatever ill-health prevails in this community in excess of what might be expected in the ordinary course of events is due in all probability to the nature of the occupation of the workers. The objection, however, may be raised that such a difference is but slight and therefore is not worth troubling about. Where human life is concerned, however, such an answer cannot, of course, be accepted. Besides, looking closely into all the circumstances it does appear as if some three or four lives, if not more, are lost every year in every thousand of the population of Packingtown and that these lives would be saved if, instead of the present disgusting slaughtering and packing factories, proper abattoirs were built and placed under efficient sanitary control. Of course, the estimate of from 3 to 4 lives per 1000 per annum is but a rough conjecture, based first on the fact that the statistics seem to show an excess of more than 2 per 1000 on the average for the whole city and that the very exceptional amount of vacant space and open air enjoyed in Packingtown should result in giving this district a death-rate below the average for the city as a whole. Especially should the death-rate be lower in this the eleventh sanitary district than it is in the fifth, sixth, and fifteenth sanitary districts. As this is not the case, it is only natural to attribute the comparatively higher death-rate of the eleventh sanitary district to the unwholesome conditions under which the work is done in the stockyards.

Speaking to local practitioners, they told me that the stockyard workers suffered more especially from tuberculosis and diseases of the respiratory organs and also from rheumatism and heart disease. The latter complaints were especially noticeable among those who had constantly to enter the cold storage rooms. In another department the workers are affected by the dust of the bones that are ground to make buttons. Then there is a department where a considerable number of women pack tongues in tins. Just behind them these tins are soldered and this operation produces a great heat. Finally, and also close at hand, jets of steam are discharged into other tins so as to sterilise them. And yet not very far off there are cold storage rooms. Here, then, dangerous variations of temperature constantly prevail. A partition would protect some of the women workers from the steam, but no one seems to care and even so simple and inexpensive a device has not been adopted In some compartments it will be noted that the women often put their aprons over their heads On inquiry it was ascertained that they do this not to keep their heads clean but to keep off the damp Again there is a blue paint employed to colour the tins Fine particles of this paint are blown about and have *a distinctly irritating effect on the air passages which predisposes* them to more serious disease While many work in overheated and damp atmospheres, others are engaged in the chilly and cold storage rooms Such temperatures lower the resisting power of the mucous membrane in the air passages and increase the susceptibility to disease

In regard to tuberculosis, it was pointed out that there were so much blood, water, steam, and damp about that even if some of the workers suffered from pulmonary tuberculosis and did expectorate on the floor this could not dry and therefore could not be breathed by others because there is no dust in the atmosphere The atmosphere might have all kinds of unpleasant qualities but it did not contain any dust On the other hand, with the aid of steam, grease, and dirt which abound in these buildings the bacilli of tuberculosis are believed to be capable of multiplying rapidly and they may live for a very long time As for being taken up so as to come in contact with living human beings this is done by the boots of the persons going to and fro, by the pieces of meat which fall on the floor, by the carcasses, notably of the big cattle, which are deliberately laid on the floor, by the wheels of the trucks which roll over the floor, and by cases, tins, and boxes of all descriptions pushed and dragged about Then there are the rafters, the dark nooks, and the corners where all the conditions necessary to form good culture grounds abound Thus it is that tuberculosis is especially prevalent among the workers at the stockyards , and this is not only an important fact in itself but it gives rise to the increased possibility of the occasional introduction of the bacilli in the provisions which are sent from Chicago all over the world The condition of this great industry affects not only the health of the inhabitants of Chicago It is a local, but it is also a national, it is even an international, question Here is one of the largest amalgamations, trusts, or unions of various firms representing various branches of associated industries that exist in the world It has command of a great portion of the meat trade throughout the United States and threatens to become an absolute monopoly From America to all parts of the world large quantities of these Chicago prepared and preserved meats are exported If infection can be spread through meat then what a danger such an establishment might become to the world at large As already explained, anything like a thorough disinfection of the premises is impossible and is never attempted Nor can natural disinfection take place because daylight and the direct rays of the sun cannot reach the greater part of the interior of the buildings where the work is done, the meat is handled, and the tuberculous attendants expectorate That the surroundings are foul, that in any case there is something wrong in the conditions of the work or of the workers, is shown by the fact that the smallest scratch or cut will result in blood poisoning if the wound is not at once treated with a strong antiseptic Then there are the festering sores of the men who work in the ham curing department and who are constantly plunging their hands and arms in the brine It may also be noted that rendering vats are most dangerously placed The lids are on the level of one floor and the vat or tank is on the floor below If the lid is taken off there is no rail to prevent anyone falling in It is asserted that several persons have thus met with an awful death In these rendering vats the fat is converted into oil or oleo margarine and the steam escapes into the rooms where people work, adding to the unwholesomeness of the premises

Outside and all [illegible] -ttle, sheep, and pig pen [illegible] to a length of 25 miles [illegible] es in length so as to a[illegible] ogs, 50,000 sheep, and 5000 horses It would be thought that before allowing such an enormous congregation of living animals on one single spot the most elaborate precautions would have been enforced Yet the view given in the last article (Fig 7), taken from the window of the chief government inspector's office, shows that the cattle pens are made of wooden partitions which have not even been whitewashed Nor is this some out-of the way and neglected corner On the contrary, it is the most frequented part and close to the main entrance of the stockyards Of course the first step to be taken in planning such a cattle market would be to provide throughout an absolutely water tight flooring or paving Further, this pavement should be convex so as to drain automatically to small surface gutters gravitating to numerous gullies emptying *into very carefully built self cleansing sewers* Considering the enormous amount of manure which must accumulate in such a market the necessity of water tight pavement to prevent the contamination of the subsoil is self evident Nevertheless, and it will scarcely be credited, a large portion of the stabling and cattle pens is on bare earth The liquid manure sinks straight into the subsoil , no attempt is made to prevent this wholesale contamination Here and there, not to prevent contamination but to secure a better roadway, a firmer foothold, and to reduce the mud nuisance, a sort of rough wood pavement was put in This is made of trunks of trees cut horizontally and these little round logs are placed side by side This backwoodsman's expedient has now been replaced by the use of bricks but neither bricks nor blocks prevent the contamination of the subsoil

It is over the bare earth also that the railway cattle vans laden with livestock arrive and discharge their freight It does not seem to have dawned upon anyone that precautions are necessary At Berlin the space between the railway lines is carefully arched over with a brick and cement pavement Then along the lines there are water reservoirs built up at a considerable height to give sufficient pressure for cleansing purposes. When a train arrives after the cattle have descended on the pavement especially built for them the sand is swept or shovelled out of the vans What cannot be thus removed is washed out with a fire hose After that an attendant arrives with brushes and pails containing a hot 5 per cent solution of soda With this the inside of the cattle, hog, or sheep van is carefully scrubbed The State, as owner of the railways, pays two marks for the cleaning of each van Considering how much cheaper money is in America the payment should be at least one dollar for sweeping and washing out each cattle van whenever it reaches the central market at Chicago There is no reason why the American railway companies should not be as clean and as careful as the German State railway department Considering that more food is exported from Chicago than from Berlin such precautions are more necessary at Chicago than at Berlin Yet even by the main entrance of the stockyards there is no evidence of any such precautions Here in front of the principal gate (as shown in Fig 8 in the last article) are a large number of railway lines and with that carelessness for human life which is a disgrace to America the trains pass among the people walking in and out of the stockyards At Berlin many lines also converge to the cattle market and municipal slaughter house but there are fine iron overhead bridges, so that pedestrians may cross in all directions without any risk of being hurt by the trains At Chicago the cattle step out on the bare earth which they [illegible] Cattle runs have been constructed not [illegible] o provide inclined plains so that [illegible] walk up to the higher floors of the buildings where it is more convenient to kill them and to deal with their carcasses How such rough wooden structures can be kept in a proper state of cleanliness is another matter which has received little or no attention Pending their sale the animals have no suitable stabling provided for them

At Anderlicht, near Brussels, the stables for cattle awaiting slaughter are built with the same care as hospital wards Alike in the trough, floor, and ceiling no angles are allowed All is rounded off In no place can dirt accumulate Along the whole length of the mangers there is a water pipe so that they can be instantly flushed out The flooring, of course, is absolutely water tight and the ceiling and the walls can likewise be flushed with water from the fire hose With louvre windows on each side through ventilation is secured and the direct rays of the sun can penetrate into the stables Of course the slaughter house sheds are even more elaborately ventilated Not only do large windows face each other on both sides but there are lantern ventilators on the roof and openings on the floor level Where tripe is prepared the apex of the roof is opened along its whole length and cannot be closed Now the wholesale slaughter-house and cattle-market of Anderlicht form not a municipal or State establishment but a private enterprise, run for profit just as the stockyards of Chicago. The capital engaged is trifling as compared to that of the multi-millionaire monopolists of Chicago. Therefore, in the perfection of cleanliness and drainage, of scientific appliances, of bacteriological and well-appointed laboratories for microscope work, and of disinfecting apparatus the Chicago stockyards should excel far and away what is done in such places as Anderlicht. It may be considered only natural that the State or a municipality the first object of which is not profit but the health of the public and the welfare of its employés, should at least in some circumstances manage better than a private business undertaking. But at Anderlicht we have only private enterprise the main object of which, as at Chicago, is profit; yet Anderlicht presents to Chicago all the difference between civilisation and barbarism. This must be due, I cannot help repeating, to the absence of the sense of dignity which is one of the worst failings noticeable in America. So long as a thing pays it does not matter what ignoble expedient may be employed to make it pay. Some of the principal owners of the Chicago stockyards have confessed that they have more money than they know how to employ. Yet they allow a small enterprise like that of Anderlicht to put them to shame. Had they any sense of pride they would not be content to continue pocketing money made from filth but would feel intensely humiliated by the thought that not only had municipalities, both large and small, but even private enterprises succeeded in building and managing cattle markets and slaughter-houses where no filth accumulates but where there are light and air throughout, no subsoil contamination, and no promiscuity between the carcasses of diseased animals and meat intended for human food. Where at Chicago are the quarantine stables? where is the quarantine slaughter-house? where is the quarantine depôt for suspected or diseased carcasses? where is the quarantine destructor for the same? At Chicago all these dangerous services are mixed "higgledy piggledy" with healthy cattle and wholesome meat.

The mere fact that several European Parliaments have felt that the filthy ways prevalent at Chicago necessitated special legislation against importations from that town is such an affront that if there were any sense of dignity the whole nation would rise and insist upon the sweeping out of those truly Augean stables known as the Chicago stockyards. If this is not done there is ample vacant space in the immediate neighbourhood for the State or the Chicago municipality to build model slaughter-houses according to modern principles of sanitary science. Then a law could be enacted prohibiting private slaughter-houses. The fees that could be charged at the municipal slaughter-house would more than cover the outlay. The Federal Government would on its side have to intervene by a general law to prevent the removal of the Chicago business to some other place where the local regulations might be less strict. Here, again, the necessity of a general law is felt. The municipality of Chicago may plead as its excuse for allowing such abominations to grow up in its midst that had it been more careful and stringent the business would have gone elsewhere to the detriment of the revenues and prosperity of the city. But there is something that is more important than revenue and that is public health. Only public health needs uniform laws, otherwise evils will grow up where the law least interferes. So the Chicago stockyard grievance must be dealt with from the national as well as from the local standpoint. An immense economic problem is involved; but it is a health problem as well, because health primarily depends on food—wholesome, clean food. Fortunately, there are some highly educated and public-spirited American men and women who realise the importance of this great problem and are grappling with it from various points of view. The President of the United States is not indifferent. It is said, on the contrary, that Mr. Roosevelt has determined to take in hand the question of the beef trust. There can be no better handle for dealing with this than the need to protect public health and in Europe there are many precedents to show how this has been done and done not only to the benefit of the public and of public health but also to the profit of the trade itself. In a word, the intervention of the State and the municipalities has proved, at least in this matter of slaughter-houses, to the lasting and real advantage of all concerned.

CHOLERA AND PLAGUE IN THE NEAR EAST.

(FROM THE BRITISH DELEGATE TO THE OTTOMAN BOARD OF HEALTH.)

THE following has been the course of the cholera epidemic in Turkey and the adjoining countries since the date of my last letter, published in THE LANCET of Dec. 24th, 1904.

No case of the disease is believed to have occurred at Bagdad since Nov. 30th. At Basra a single case was observed on Dec. 1st and none has been reported since. At Amara there were two cases and three deaths between Dec. 2nd and 7th, and the epidemic is thought to be at an end there. At Suleimanieh 34 cases and 21 deaths occurred between Nov. 18th and Dec. 15th and between the same dates there were 40 cases and the same number of deaths at Mamouret-el-Hamidié. At Revendouz a more serious outbreak has occurred, 203 cases with 185 deaths being reported there between Nov. 30th and Dec. 10th, and 21 cases with 16 deaths between the 10th and the 13th. The disease has also appeared among the Abu-Abdullah division of the nomad tribe of Ascara, whose camps are at present in this vilayet between the *caza* of Souk and the *sandjak* of Muntefik, along the lower reaches of the Tigris; but no figures are forthcoming as to the intensity of this outbreak. At Rania 42 cases and 42 deaths were recorded before Dec. 14th and a week later it was reported that the disease was still present there and at Keui-Sanjak but was on the decline in both. At Deir-Zor there were 15 cases and 16 deaths between Nov. 30th and Dec. 12th. At Hay no case of cholera was recorded in December and towards the end of the month it was reported that the state of Kerbela and Nedjef—where severe measures of precaution are said to have been taken during the Bairam fêtes—was satisfactory as regards epidemic disease.

At the very end of December cholera appeared at Van in Turkish Armenia. Information is at present lacking to show whether the infection reached this district from Russian Transcaucasia in the north or from Mesopotamia in the south. On Dec. 30th and 31st 27 cases with 12 deaths were observed there; in the first seven days of January there were 79 cases with 46 deaths and between Jan. 8th and 13th 14 cases with 5 deaths.

Information as to the behaviour of cholera on Persian territory continues to be fragmentary. Writing on Nov. 3rd the Ottoman sanitary delegate at Tehran reported that cholera was raging with new intensity at Meshed-i-Sar on the Caspian Sea. It had also just appeared at Ardebil, where it was causing many deaths daily. The Tehran board of health, which has recently been showing sporadic activity, had proposed to establish observation posts on the principal roads from Tehran to the provinces of Azerbeijan and Mazanderan. It also proposed to stop all travellers at Astera, Enzeli, Mendjil, and Kazvin, and "to turn back the sick"; to prohibit all pilgrimage until the epidemic is over by refusing passports to intending pilgrims; to re-establish "with rigorous severity" medical inspections, and if necessary quarantine, on the Turco-Persian frontier; and to open at least two inspection posts one or two days' journey on the Persian side of that frontier where persons sick with cholera or suspected cholera would be put in hospital. It is not yet known whether these proposed measures have been really executed.

Another report from the same source, dated Nov. 9th, states that according to information given by the Customs authorities cholera was still raging at Meshed-i-Sar, where it was causing an enormous mortality so that "the whole region had become one huge cemetery." The physician to the Russian legation at Tehran had reported that around Resht and Enzeli the disease had caused "veritable hecatombs" and there was general panic. It was also prevalent at Kerman and Kazerun; it had broken out with renewed severity at Maragha; it was lessening at Ispahan; and was also diminishing at Tabriz—after causing there a mortality of between 12,000 and 18,000. The disease was still present at Sarakhs, Navrouzabad, Singar, and Devlet. At Saoutch-Boulak there was a panic with flight of the population. Only sporadic cases were occurring at Miandjié and Khosrovabad but there was a revival of the epidemic at Nehi-abad and in the plains of Khaf.

In a third report, dated Nov. 16th, it was stated that cholera was very intense at Mohamerat (? Mohamerah on the Shatt-el-Arab); that the epidemic was over at Tabriz; but that the disease was still epidemic at Ardebil. In a fourth report, dated Nov. 19th, it was stated that there was a revival of the outbreak at Kazvin and in the Mazanderan province. Finally, in the fifth report, dated Nov. 23rd, the same authority asserts that a regiment of recruits marching from Tabriz to Tehran had been attacked by cholera and had sown the infection broadcast along the course of their march. They were then encamped outside Tehran, and no precautions being taken to prevent their communicating with the town one case of cholera had already occurred in an inhabitant of Tehran near the site of their camp. The Customs authorities reported that a grave form of cholera was prevalent at Mohamerah where most of the cases ended in death. A new explosion of the disease had occurred at Kazvin and at Yengué-Imam owing to the passage through these places of the above-named regiment of recruits. At Tabriz also there had been a recrudescence, and there were still sporadic cases throughout the whole province of Ghilan. In the province of Ghoutchan (*sic*) cholera had appeared in the village of Ali-abad and was spreading southwards. The disease had revived at Kelate and Gharatikan; it was causing 8 deaths daily at Kerganeroud, 20 deaths daily at Astera, and was raging, with consequent flight of the population, at Chefa-Roud and Taleh. (I give the names of these places as they are spelt in the report from which they are quoted. Most of them cannot be identified on the maps at my disposal.) Many deaths were still occurring at Saoutch-Boulak; at Kerman 15 deaths were being daily recorded, and at Kashan the epidemic was at its height.

To the above notes may be added the statement that in Tehran a considerable mortality has recently been observed from diarrhœa, dysentery, and typhoid fever, all of which diseases have been traced to contaminated water-supplies; that a grave form of typhoid fever was epidemic at Kerman, and that "typhus" (though whether this means petechial or abdominal typhus is not clear) was prevalent at Maragha and at Meshed-i-Sar.

The following figures relating to the prevalence of cholera on Russian territory are given on the authority of the official announcements in the Russian journals. There has been an increase in the outbreak, followed by a decline, in the military post of Serakhs in Transcaspia. Between Nov. 16th and 21st there were 25 cases here with 13 deaths; between the 23rd and 29th there were 27 cases and 20 deaths; between Nov. 31st and Dec. 6th, 4 cases; between Dec. 7th and 14th, 4 cases, and apparently none since. On Nov. 24th cholera appeared in Tashkent and its neighbourhood, where 18 cases were recorded on the 24th and 25th and 4 more cases in the four following days. Between Nov. 31st and Dec. 6th there were 16 cases here with 7 deaths; between the 7th and 14th, 11 cases in the town and 22 cases with 16 deaths in the district of Tashkent; and between the 15th and 21st 4 cases in the town and 28 cases in the district. Between Dec. 7th and 14th the disease appeared in Askhabad and caused 3 cases, followed by 5 other cases in the subsequent week. One case has also occurred at Krasnovodsk, imported from Tashkent. Cholera is still present in Baku, where it caused 27 cases and 8 deaths in the week ending Nov. 22nd, while in the same week there were 13 cases in the Baku district, 22 in the Lenkoran district, and 2 cases in that of Djevat—all in the Baku government. In the week ending Nov. 29th there were 53 cases in Baku and the Baku government, and in the following week 66 cases in the town itself and at Balakhani in its neighbourhood. In the Lenkoran district of this government there were no less than 376 cases with 331 deaths between Nov. 21st and Dec. 3rd, and 177 cases with 152 deaths between Dec. 7th and 14th. In the Djevat district there were 286 cases and 217 deaths from the beginning of the epidemic on Nov. 4th to Dec. 3rd, and 264 cases with 203 deaths between Dec. 7th and 14th. In the Kubin district there were 20 cases and 14 deaths between Nov. 21st and 29th. Finally, in six infected districts of the Baku government there were 168 cases between Dec. 15th and 21st and 10 cases in Baku itself in the same period.

In Tiflis 3 cases of cholera were observed on Nov. 19th; followed by 4 cases between the 23rd and 29th; 2 cases between Nov. 31st and Dec. 7th, and apparently none since. The following have been the figures received from the [illegible] ases in the Zangezur district [illegible] 32 cases between the 22nd and [illegible] 31st and Dec. 7th (including 1 case in a prisoner in the Elisavetpol town prison, and the rest in the districts of Zangezur, Djebrail, and Elisavetpol); 129 cases between Dec. 7th and 14th, and 9 cases with 5 deaths between the 15th and 21st. The outbreak in the Erivan government has been a particularly severe one. Between Nov. 16th and 22nd there were 522 cases and 342 deaths here, followed by 915 cases between the 23rd and 29th; 1018 cases and 661 deaths between Nov. 31st and Dec. 6th; 1352 cases and 1107 deaths between the 7th and 14th (including 956 cases and 839 deaths in the Erivan district, 241 cases with 177 deaths in that of Nahitchevan, and 154 cases with 158 deaths in the town of Erivan); and 324 cases with 279 deaths between the 15th and 21st (including 31 cases in the town of Erivan).

The following figures are from the Volga governments. In the town of Astrakhan there were 3 cases with 1 death between Nov. 16th and 22nd, and in the government of that name 11 cases and 5 deaths in the same period. Then between Nov. 23rd and 29th there were 6 fresh cases in the government; between Nov. 31st and Dec. 6th 6 more cases; between the 7th and 14th 1 case only (in Astrakhan itself); and between the 15th and 21st 3 cases. In the Saratof government there were 36 cases between Nov. 16th and 22nd; 40 cases with 19 deaths between the 23rd and 29th; 22 cases (of which 21 were in Tsaritsyn and one in the Volsk district) between Nov. 31st and Dec. 6th; 10 cases between Dec. 7th and 14th (all in Tsaritsyn); and 11 cases (in the same town) between the 15th and 21st. In the Samara government there were 13 cases between Nov. 16th and 22nd; 165 cases (of which 162 occurred in the Nikolaief district) between the 22nd and 29th; 32 cases between Nov. 31st and Dec. 6th; 17 cases between the 7th and 14th; and 70 between the 15th and 21st.

An outbreak of plague of some severity has recently occurred at Aden. Between Oct. 26th and Dec. 27th there were 203 cases with 144 deaths there. Of these, 182 cases and 131 deaths occurred in the crater which is five miles distant from the port; 18 cases and 10 deaths at Sheikh Othman, ten miles distant from Aden; 2 cases and 2 deaths at Malla, three miles from Steamer Point; and only 1 suspicious case at Steamer Point itself.

A remarkable outbreak of pueumonic plague is also reported from the Ural districts of Southern Russia and is said to have caused 190 deaths. Fuller details of this epidemic will probably be received later.

Constantinople, Jan. 17th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Specialism in the Indian Medical Service.

WITH the view of encouraging officers of the Indian Medical Service to qualify in chemistry the Government of India notifies that in selecting a probationer for the Chemical Examiner's Department preference shall *cæteris paribus* be given to an officer who has passed the intermediate or final examination of the Institute of Chemistry of Great Britain and Ireland or any equivalent examination, and that for appointment as chemical examiner preference shall *cæteris paribus* be given to a probationer who is in possession of the diploma of Fellow or Associate of the Institute of Chemistry or any equivalent degree or diploma. Other forms of specialism are to be encouraged particularly for sanitary appointments and for asylum work.

The Rapid Increase in the Mortality from Plague.

The rise in the mortality from plague throughout India continues and in some districts is assuming alarming proportions. There were 19,465 deaths for the week ending Dec. 24th, 1904, as compared with 18,284 for the previous seven days. The principal increases are in the United Provinces and the Punjab. In the former provinces the increase of late has been very rapid and 6822 deaths were recorded. No less than 41 out of 48 districts are affected and nearly all the chief towns. Cawnpore returns 295 deaths, Bareilly 186, and Allahabad, Aligarh, Lucknow, and Mirzapur return over 100 deaths each. The outlook for those cities which have been previously attacked is very serious. In Bengal the disease is also rapidly spreading, especially in some of the up-country towns. Both Bombay city and Calcutta show signs of a further recrudescence. The detailed figures published are: Bombay Presidency, 4154 deaths; Bombay city, 110; Karachi, four; Madras Presidency, 353;

Calcutta, 18; Bengal, 2005; United Provinces, 6822; Punjab, 3940; Central Provinces, 359; Mysore State, 39; Hyderabad, 809; Central India, 132; Rajputana, 345; and Kashmir, eight. It must be borne in mind that these figures of weekly mortality are only approximate as registration is everywhere very defective. It is possible that the true mortality from plague is 50 per cent. over the published figures.

The Septic Tanks on the River Hooghly.

The outcry made by the Hindu community some months ago against the drainage of the septic tanks connected with several mills on the river Hooghly above Calcutta led to the appointment of a committee of inquiry. Its report has just been published. It was found that the effluents varied in purity but for the most part contained no perceptible solids and were non-putrescible. Chemical analysis showed, however, that the results compared unfavourably with reports of similar analyses made in England. The nitrates were in insufficient amount while the albuminoid ammonia was in excess. Bacterial analysis also showed a large number of colon bacilli and a general bacterial contamination. The amount of river water with which the effluents became diluted was not capable of any trustworthy estimate. The committee considers that these septic tanks are a vast improvement on the old system of latrines and that a stoppage of the use of the tanks would probably increase the pollution. It suggests certain methods of improving the effluents. The great danger is in the dry season when the river flow is small and it concludes that the effluents in their present condition should not be emptied into the river above the waterworks or near them. The objections of the Hindu community are on religious grounds by some members and on sentimental grounds by others. As it is impracticable to pass the effluents over land it is suggested that, failing improvement in character, the fluid might be used as feed water for boilers; but here, again, difficulties may arise from the workmen. There is little doubt that these septic tanks can be improved in construction and use but the objections against them are, I think, fanciful in the circumstances present here. It is forgotten how much the river is polluted by the inhabitants living on the banks and by the thousands who go down to bathe and considering the size of the river the objection against the septic tank effluents from a few mills is simply a vexatious one and probably arises from an ignorance of the process by which the sewage is purified in these tanks.

Jan. 7th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

University Intelligence.

SINCE my last letter Mr. H. Gilbert Barling has been appointed by the Council of the University dean of the medical faculty. Mr. Barling, who came to Birmingham nearly 25 years ago, is professor of surgery, honorary surgeon to the Birmingham General Hospital, and a member of the Council of the Royal College of Surgeons of England. Since the inception of the University he has been vice-dean of the faculty. He has made many valuable contributions to surgical literature. His lectures upon appendicitis delivered at the University under the Ingleby trust were at the time, and have remained since, one of the most authoritative works upon the subject. The University is to be congratulated upon its good fortune in being able to induce Mr. Barling to spare from his other work the time requisite for the office, the successful tenure of which is felt to be insured by all those who are acquainted with his business ability and tact. The principal's report for the years 1904–05 contains a reference to the Dental Hospital. For some time past the students in dentistry have suffered from the undoubted inconveniences inseparable from so antiquated a building as the old Dental Hospital. All interested in the school will be glad to hear that such disabilities are to be speedily removed by the opening of a new hospital possessed of all modern requirements. It is estimated that the building will cost £10,000, of which more than half has already been raised. The principal in his report took the opportunity of saying how closely allied the medical and the dental faculties were in their fortunes and that he hoped a special effort would be made to open the building free of debt. He said that as the only school in the country at present privileged to grant a degree in dentistry it was incumbent upon the university authorities to see that the preparation for their degrees was of as thorough and scientific a nature as possible.

The Health Committee.

The question of the milk-supply in Birmingham has occupied of late the attention of the health committee and in this connexion a circular letter has been addressed by the medical officer of health to the farmers of the district pointing out the ways in which contamination occurs and the rapidity of the multiplication of germs in milk. To prevent these mischievous results the farmers are requested to see that more regard is paid to cleanliness by the milkers and that the milk is stored under such conditions that its temperature will not be higher than 45° F. A long report on the method by which "humanised" milk is distributed in Liverpool was presented by a deputation of the health committee which had recently visited that city for the purpose. It is believed that some such scheme will be adopted in Birmingham. At the same meeting the question of the advisability of framing regulations for hairdressers' and barbers' establishments was also considered. The matter was referred to the medical officer of health for his consideration.

Birmingham, Tame, and Rea Drainage Board.

At the last meeting of the above board the members were strongly advised by their engineer, Mr. J. D. Watson, to substitute as opportunity arose bacteria beds for the intermittent filters now in use at their farm. He supported his recommendation by stating that 15 acres of bacteria beds were capable of dealing with the sewage for which at present 1000 acres of intermittent filtration beds are required, that this would set free a great area for growing grass and roots, and that the effluent from bacteria beds is purer than that from filtration beds.

The Health of the City.

The death-rate in Birmingham for the week ending Jan. 14th was 19·8 per 1000, as compared with 21 per 1000 in the previous week; the zymotic death-rates in the same periods were 1·0 and 0·7. The number of patients in the scarlet fever hospital and in the typhoid fever wards was in each case reduced, the gratifying report being made that there was now no pressure on the accommodation in the isolation hospitals. The slight rise in the zymotic death-rate was due to deaths from whooping-cough and pulmonary tuberculosis. Influenza has been accountable for a large amount of sickness in the city and in the surrounding Black Country.

The Floodgate-street Area

At a meeting of the Birmingham magistrates held on Jan. 19th to consider a report of the licensing committee upon the Licensing Act, 1904, it was possible to obtain some information as to the probable attitude to be adopted by the committee towards the Floodgate-street area. Mr. Chance, the chairman of the committee, said he believed there were some who thought that considering the report of the medical officer of health the magistrates should confine their attention to this area. He did not think so; he pointed out that of the houses scheduled in this area more than half were fully licensed houses, many of which it would be very expensive to close. He considered that more good would be done to Birmingham if the committee was not restricted to this area and if it was allowed a little latitude to go outside. A motion, however, that the attention of the committee should be first drawn to the number of superfluous licensed houses in this area was carried.

Jan. 24th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Princess Christian at the Liverpool School of Tropical Medicine: Major Ronald Ross's Lecture on the Progress of Tropical Medicine.

Her Royal Highness Princess Christian visited Liverpool on Jan. 12th to attend a lecture by Major Ronald Ross, C.B., F.R.S., late I.M.S., on the Progress of Tropical Medicine and on some phases of the work of the Liverpool School of Tropical Medicine. Her Royal Highness was accompanied by the Princess Victoria of Schleswig-Holstein, the Earl and Countess of Derby, and the Right Hon. Joseph Chamberlain, M.P., and Mrs. Chamberlain. Sir Alfred Jones, K.C.M.G., who presided, explained to Her Royal Highness that

Liverpool was doing what it could to push forward the study of tropical medicine which was for the common good. The tropics had already been made more habitable for the British people. The people of Liverpool had enabled them to spend £50,000 on the work but nothing would have been done but for the example of Mr. Chamberlain and the thanks of the school were due to him. Major Ross in the course of his lecture remarked that disease was the principal bar to progress in tropical countries. Particularly in the case of tropical Africa one was struck with the fact that that great continent still remained uncivilised in spite of its proximity. There was only one way to grapple with the great enemies of civilisation: they must sit down patiently with the microscope and the test-tube. Having dealt with the vague medical knowledge of tropical maladies up to a recent time he said that perhaps the earliest light came from a study which was despised by many—namely, that of the parasites of man and of animals. Tracing the progress of the study he referred particularly to the discovery that the malaria germ was carried from the marshes to human beings by mosquitoes. It was often asked whether malarial fever could not be produced in other ways than by the bite of mosquitoes. He could only say that no satisfactory evidence of this had yet been given and, moreover, that for zoological reasons it was exceedingly unlikely that the parasite, which already possessed a sufficiently complex life-history, could exist in other localities besides its own proper hosts, man and mosquito. The fact that yellow fever was carried by mosquitoes only was now determined with the utmost certainty. The germ had not yet been found but the manner in which it attacked was known. During the last quarter of a century pure science had made discoveries which had resulted in the partial or complete solution of the problems in connexion with five or six tropical diseases but it did not follow that life would be benefited. Neither the general public nor scientific men seemed fully to realise this point. If to-morrow he were to discover a method of checking any disease, so simple that it could be applied without the smallest difficulty, were they convinced that it would be so applied the day after to-morrow? He knew that it would probably not be applied for years or perhaps even for centuries. That seemed a bitter thing to say and some might doubt whether it was true but he would give a case where it had actually happened—he meant the case of vaccination against small-pox. When, therefore, the mode of propagation of malaria was discovered it became obvious that a great propagandism must be carried out. The public must be informed of the new discoveries and the State must be requested to take action. They owed the initiative in that matter to Mr. Chamberlain who, early in 1899, publicly formulated a scheme for the creation of schools of tropical medicine—that was to say, he at once recognised the public importance of tropical medicine and at the same time did his utmost to encourage the further study of it. The Liverpool School, ably led by Sir Alfred Jones, had collected funds for a large amount of pure scientific work, also for direct sanitary labour; and the London School and the schools of Hamburg and elsewhere had contributed their share. A few months after the Liverpool School was established it sent out an expedition to Sierra Leone which discovered the species of malaria-bearing mosquitoes there existing and showed exactly how to deal with the disease in large towns. It sent other expeditions to the Gambia, to the Gold Coast, to Lagos, and to the Congo. These had mapped out the health conditions of the coast in a manner which was never attempted before. They had sent out no less than 14 of such expeditions to various parts of the world and had published 12 separate works and reports on the subject. He explained what the anti-mosquito crusade accomplished, resulting in improvement of health in some districts and in the [illegible] yellow fever from Havana. [illegible] fever fell within one year f[illegible] of malarial, yellow fever, elephantiasis, and other germs in various phases of development were then given on a screen and explained by Major Ross. A vote of thanks to the lecturer was proposed by Mr. Chamberlain which was cordially carried.

Return of Professor Rubert Boyce from West Africa: the Health of West Africa.

Professor R. Boyce, [illegible] out recently from Li[illegible] on a special expeditic[illegible] of Tropical Medicine, returned to Liverpool on Jan. 22nd. It is understood that valuable knowledge has been acquired which will be embodied in a report. Professor Boyce states that, although the West Coast of Africa will not become a health resort some parts in certain seasons may become quite healthy. The health of Europeans in many of the coast towns now shows a marked improvement and will no doubt continue to improve. This is attributed to increased sanitation, including anti-mosquito measures, new residences in selected quarters, and more careful selection of those who go out and who in consequence realise how to live in a tropical climate and to avoid infection from malaria and other diseases.

Opening of the James Hakes Memorial Hall.

At the annual meeting of the Liverpool Medical Missionary Society held on Jan. 23rd the ceremony of opening the new dispensary building and James Hakes Memorial Hall took place. Miss Hakes declared the buildings open and addresses were delivered by Dr. William Carter, J.P., and Dr. Bond, the medical officer to the society. The late Mr. James Hakes, who was surgeon to the Liverpool Royal Infirmary, was one of the founders and most liberal supporters of the mission and Miss Hakes made the generous gift of £1000 to build the new hall in memory of her father. The whole cost amounted to £3900. There are consulting and dispensary rooms and accommodation for nurses and others in the medical division of the buildings.

Hospital Extension at Ormskirk.

A meeting of the Ormskirk and Lathom joint hospital board was held on Jan. 18th, at which it was resolved that the scheme of extension of the hospital and alteration of the administrative block should be proceeded with in accordance with plans submitted; and that application should be made to the Local Government Board for borrowing powers. It is estimated that the work will involve an expenditure of about £3000. A letter was read from the Earl of Derby's agent intimating that his lordship was willing to sell to the board for the purposes mentioned 5254 square yards of land in Green-lane, Ormskirk, at 2*s.* per square yard. It was resolved that the offer should be accepted and a provisional agreement entered into.

Jan. 24th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

University of Leeds.

Dr. C. M. Chadwick, who has held the professorship of materia medica and therapeutics since 1898, has tendered his resignation and the Council referred the question of the "teaching and manner of dealing with the chair, which includes the subjects of materia medica, practical pharmacy, pharmacology, and therapeutics," to the Board of the Faculty of Medicine. The following report of the board on this subject was approved by the Senate and adopted by the Council:—

[illegible]

on such terms and conditions as [illegible] this report to be carried into effec[illegible] [illegible] acology of the [illegible]

Jan. 24th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

The Employment of Tramps in Glamorgan.

REPRESENTATIVES from each of the eight boards of guardians in Glamorgan and from several of the sanitary [illegible] on Jan. 21st [illegible] labour farm [illegible] Mr. Joseph [illegible]

Fels offered to purchase land in any part of the county suggested by responsible local authorities and to let it to them at a peppercorn rent for three years; at the end of this period the land could be given up altogether to Mr. Fels or purchased from him at the price that he gave for it. A suggestion was made that 100 acres should in the first instance be purchased on the terms offered and managed by a joint committee of the local authorities. Employment for 100 men would thus be obtained and it was estimated that the cost of the undertaking would not entail an annual expenditure equal to a farthing rate over the whole county. No definite conclusion was arrived at with regard to the offer of Mr. Fels but it was decided to report the details of the proposal to the several authorities who were represented at the conference. A deputation consisting of Welsh Members of Parliament and others was appointed to bring under the notice of the Government a resolution unanimously adopted to the effect that the problem of the unemployed being national in its scope could only be effectually dealt with by the State and that the Government be therefore called upon to deal with the question without delay.

Bath Small-pox Hospital.

The provision of a small-pox hospital has for several years been under consideration by the corporation of Bath, the only accommodation at present existing for the isolation of cases of the disease being in the iron buildings which are used also for the isolation and treatment of other infectious diseases. Great difficulty has been experienced in obtaining a suitable site for the hospital but during last year ground was acquired outside the city boundary and plans were drawn for a well-equipped institution to be built of Bath stone. The proposed buildings included a small administrative block and a pavilion with two six-bed wards and two one-bed observation wards. The cost was estimated at £3750. At the meeting of the corporation held on Jan. 17th the sanitary committee recommended the carrying out of the work above indicated but so great was the opposition to the scheme from the residents in the neighbourhood of the proposed site that it was decided to ask the committee to reconsider the whole question. The principal argument of the opponents of the scheme appears to have been that a portion of the site, though not of the actual hospital buildings, would be within half a mile of the union workhouse.

The Sale of Food and Drugs Acts in Bristol.

In the administration of the Sale of Food and Drugs Acts in Bristol during 1904 the samples of food submitted for analysis numbered 735 and 52 of these were condemned by the public analyst. Of milk 278 samples were taken and 30, or 10·8 per cent., were found to be adulterated. It is satisfactory to find that this percentage is lower than that of 1903, when it was 13·9. At a recent meeting of the corporation the inspector under the Sale of Food and Drugs Acts was appointed to administer the Shop Hours Closing Acts and his salary was raised from £200 per annum to £300. He was also given an assistant at a salary of £130 per annum. At the same meeting of the city corporation the sanitary committee recommended an increase in the salaries of the five district surveyors who now receive from £220 to £240 per annum and also advised the appointment of an additional surveyor in view of the recent extension of the city boundaries. These recommendations were strongly opposed and in the end successfully. The duties of an inspector under the Sale of Food and Drugs Acts are unquestionably responsible and require the exercise of tact and firmness but it is a little difficult to understand why they should be esteemed of more value than those of trained sanitary officers whose want of skill might do incalculable harm.

Bristol Dispensary.

The Bristol Dispensary was established so long ago as 1775 for the relief of the sick poor at their own homes but many patients are now treated either at the institution on Castle-green or at the branch at Bedminster. During 1904 the number of persons under treatment was 10,556, a slight decrease upon the previous year. The finances of the dispensary appear to be satisfactory, there being a balance in hand of £10, although on the year's working there was a loss of £15.

Clutton Workhouse.

At a recent meeting of the Clutton (Somerset) board of guardians, which represents a population of 25,000 persons, Mr. Preston Thomas, Poor-law inspector of the Local Government Board, animadverted upon the accommodation for tramps in the workhouse, more especially as regards the sleeping accommodation and the absence of a bath and means for disinfecting clothes. At present in wet weather the want of proper shelter prevents the tramps carrying out their allotted work and Mr. Thomas urged that such arrangements should be made that it would be possible for each man to do a day's work in return for his board and lodging. At the next meeting of the board of guardians the question of erecting new tramp wards will be considered.

Vagrancy in Wiltshire.

The chief constable of Wiltshire has reported to the county vagrancy committee that during last year 36,991 tramps were relieved, compared with 28,553 in 1903. The increase was very noticeable in the last quarter, the number in each year being respectively 11,479 and 7859. A midday meal was provided for 14,405 persons in 1904 at a cost of £57 while in 1903 there were fed 11,430 at a cost of £44.

Merthyr Education Committee.

Mr. D. J. Thomas, medical officer of health of Merthyr Tydvil, has been appointed medical officer to the education committee at an annual salary of £30. Among his other duties he will be required to visit, when instructed by the committee to do so, any teachers who are frequently absent from duty on account of alleged illness and to report to the committee upon the circumstances of the case.

Horfield Inebriate Reformatory.

The Home Secretary has granted a new certificate to the Horfield Inebriate Reformatory, in the county of Gloucester. The number of females to be detained is not to exceed 20. The reformatory is reserved for the better class of inebriates committed under the Inebriates Act, 1898, and no inmate is to be admitted except by transfer from another reformatory.

Jan. 24th.

SCOTLAND.

(From our own Correspondents.)

The Western Infirmary, Glasgow.

The new dispensary in connexion with the Western Infirmary, Glasgow, was formally opened on Jan. 18th by Lady Blythswood. Sir Matthew Arthur, chairman of the managers, presided, and among those present were Lord and Lady Blythswood, Sir John and Lady Primrose, Sir Lauder Brunton, Sir Hector Cameron, Principal Story, Mr. Henry E. Clark (President of the Faculty of Physicians and Surgeons), Professor McCall Anderson, Dr. J. Finlayson, Dr. Donald Macleod, Dr. D. J. Mackintosh, and Mr. Henry Johnston. The chairman, in giving an outline of the progress of the work, said that a public appeal for the necessary funds to erect a new dispensary was made in 1897 and resulted in the raising of about £24,800. Estimates were accepted in 1902 and building operations were commenced but the cost of the building had exceeded the amount subscribed by £10,000. Besides the relief it afforded to the sick poor a dispensary such as that was an important adjunct to medical education because it was compulsory for students to attend the out-door practice of a hospital, and here there were on an average about 400 students enrolled. In the design of the buildings attention had therefore been given to the provision of increased facilities for teaching and to extending the opportunities for scientific study. The architect was Mr. John James Burnet and the managers were much indebted to Dr. Mackintosh for the careful attention that he had given to the details which would greatly facilitate the working. After Lady Blythswood had declared the building open the chairman, on behalf of the contractors, presented her with a silver bowl as a memento of the ceremony and Lord Blythswood in a short speech returned thanks for his wife. Sir Lauder Brunton then delivered a brief address, dealing chiefly with the benefit of dispensaries to the community at large, the great necessity for a pure milk-supply, and the establishment of a national league for physical education and improvement. Such a league, he said, was in process of formation and would strengthen existing organisations having similar objects. The proceedings then terminated with votes of thanks to Lady Blythswood, Sir Lauder Brunton, and Sir Matthew Arthur.

Death of Brigade-Surgeon Alexander Johnston.

The death occurred on Jan. 18th at Ryde, Isle of Wight, of

Dr. Alexander Johnston, brigade surgeon, in his sixty-fourth year. Dr. Johnston was a native of Aberdeen and studied medicine at Marischal College, where he graduated as M.D. in 1864. His ambition lay in the direction of the Army Medical Service and he was successful in receiving an appointment to join the forces on the West Coast of Africa where the rest of his life was chiefly spent, Lagos, Cape Coast Castle, and the other stations being visited in the course of his term of office. He retired on a pension several years ago and afterwards took up residence at Queen's-road, Aberdeen, but on the death of his wife he went to live in the Isle of Wight on account of the state of his health. Dr. Johnston had no family. He was of a retiring disposition and took no part in public affairs but was highly esteemed in the profession and by all with whom he was associated.

County Hospital Dispute.

Sheriff Lee has just decided a somewhat important action which was raised in Arbroath Sheriff Court at the instance of the Dundee and Forfar district committees of Forfar county council against the Arbroath district committee for payment of £274 for the maintenance of patients sent from the Arbroath district of the county to the pursuers' joint hospital at Forfar during the year ending Whitsunday, 1904. The sum sued for included a proportion of the permanent charges of building and maintaining hospital and staff and the defenders pleaded that they were liable only for payment of a rate per patient. The pursuers' account showed that the rate was 30*s.* per week and the defenders tendered an offer of £49 10*s.* in full, [illegible] weeks. Sheriff Lee [illegible] effect to the defende [illegible] in expenses. He ho [illegible] put on the pursuers' [illegible] defenders were liable only for payment of a certain rate per patient and he found no warrant or authority in that letter for charging the defenders with a proportion of the permanent charges of the hospital. In a note to his interlocutor the sheriff characterised the contract which the pursuers alleged had been entered into as a gambling contract and said that no public body was entitled to enter such.

Jan. 23rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Public Health of Dublin.

AT the last me [illegible] which was held in the [illegible] Charles Cameron reporte [illegible] ending Dec. 31st, 1904, was 3 per 1000 below the mean rate, while the zymotic death-rate was 2 per 1000 above the mean, being raised by an outbreak of measles which during the last five weeks had caused 50 deaths. The epidemic was almost altogether confined to the south side of the city, only one case having occurred on the north side. In other words, while no less than 50 deaths took place on the south side of the river, only one case was notified on its northern side.

Death of Professor Ambrose Birmingham, M.D. R.U.I., F.R.C.S. Irel.

Professor Ambrose Birmingham, one of the best known and most highly esteemed of the medical teachers of Dublin, died on the night of Jan. 23rd at the early age of 41 years. After a most distinguished career as an undergraduate of the Royal University of Ireland he became demonstrator, and afterwards professor, of anatomy at the medical school of the Roman Catholic University. He was a highly successful lecturer and by his talents and energy soon doubled the number of students seeking education at the medical school.

The Milk Question in the North of Ireland.

If the public of the North of Ireland are not initiated into the mysteries of "the milk question" it will not be the fault of the Belfast local papers in which we are being treated almost every day to lectures, letters, and articles on this subject. The discussion began a short time ago when a public lecture was delivered in which sterilised milk was strongly recommended for infants under one year old, as well as for adults who were weak or who were suffering from diarrhœa, consumption, and wasting diseases; and it was also urged that sterilised milk was required as a food for those attacked with infectious or zymotic fevers. This teaching has raised a storm of opposition on the part of those who contend that sterilised milk—as has been demonstrated both by scientific investigation and by clinical experience—is not merely objectionable but is often positively dangerous to children owing to its diminished nutritive value. Those who object to sterilised milk say that what is needed is not a method of treating milk like sterilisation which simply palliates effects, does no real good, puts a premium on carelessness and uncleanliness, and tends to retard progress in the right direction; what is wanted, they say, is a really pure clean milk which is "dairied" and distributed in such a way that the consumer receives the milk just in the same condition as it left the cow. It is hoped that some good will come out of this discussion and that the health authorities of Belfast will try to keep pace with the teaching of clinical experience and of scientific experiments and will really put in force the laws, so that we may have clean dairying and hygienic distribution of milk. It is very much to be regretted that the Belfast public health committee so rarely takes the initiative in any public health reform, only moving when compelled to do so by the force of outisde public opinion.

Death of Dr. O. M. Praeger.

Dr. O. M. Praeger, resident surgeon in the fever department of the Belfast union workhouse, died on Jan. 16th. He was 31 years of age. A member of an old and distinguished Belfast family, Dr. Praeger was educated at Queen's College, Belfast, and graduated in 1900 in the Royal University of Ireland. He was a popular student and took an active share in 1904 in the bazaar for the Students' Union and when the Students' Union was opened he was president of it and he was first editor of the college magazine, "*Q.C.B.*" After graduating he was appointed on the resident staff of the Belfast workhouse and for four months last year he was resident officer of the Purdysburn Small-pox Hospital. At the usual meeting of the Belfast board of guardians held on Jan. 17th the very greatest surprise and regret were expressed by the chairman and all the guardians at the sad news of Dr. Praeger's sudden death and throughout Belfast the very deepest sympathy is felt for his mother and for his sorrowing relatives.

Ulster Medical Society.

A meeting of the Ulster Medical Society was held in the Medical Institute, Belfast, on Jan. 19th, Dr W. Calwell, the President, being in the chair. Mr. A. B. Mitchell showed a patient, the subject of Œsophageal Stricture, with a Symond's tube which he had worn for six months, and a case operated on for Hare-lip and Cleft Palate. Dr. W. B. McQuitty read notes of a case of General Paralysis. Dr. H. L. McKisack read a paper on the Treatment of Pneumonia by the External Application of Ice, and Dr. J. C. Rankin read a paper on X Ray Treatment and showed several cases of rodent ulcer, lupus, &c., treated by this method. In the discussion which followed the reading of these papers, Professor J. A. Lindsay, Dr A. Dempsey, Mr. Mitchell, and the President took part.

Coronership for Belfast.

For the coronership of Belfast, vacant through the death of Mr. E S Finnegan (solicitor), Dr. James Graham (late chairman of the public health committee) and Mr. John Finnegan (son of the late coroner) are candidates.

A Medical High Sheriff for Belfast.

Dr. Henry O'Neill has been nominated as High Sheriff for Belfast by the city corporation, of which he is a member. He is the first medical man to attain this distinction in Belfast.

Jan 24th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Medical Practice in the Canton of Zurich.

THE various "physical health societies" in the canton of Zurich have a membership of several thousand persons and they have been trying to bring in a law sanctioning "free medical practice" in the canton. The effect of such an enactment would be to encourage quack practitioners of every sort. Among the 24 cantons in Switzerland there are only two (Glarus and Appenzell) in which "free practice" is permitted. The medical men of the canton did all they could to prevent measures so disastrous to the health of the population, especially as regards infective cases, being introduced. The question was thoroughly discussed in dozens of daily and weekly newspapers and in many meetings convened for the purpose; many thousands of Dr. Alexander's pamphlet on the disastrous results of "free medical practice" in Germany were also distributed. These discussions have had the effect of counteracting the hostility of the "physical health societies" to pharmaceutical and therapeutical science. On Nov. 30th, 1904, the question put to the public vote was carried against "free medical practice" by 51,000 votes against 22,000. Meanwhile the official authorities have consented that a professor should be appointed at the University to lecture on physical and dietetic therapeutics; this also is in conformity with the views of the medical profession at large, as it is desirable that public opinion should be able to recognise the errors of the statements made by the "physical health societies." The Cantonal Medical Society of Zürich at its last meeting appointed a committee composed of two professors, members of the medical faculty of the University at Zürich, and five medical practitioners to consider this question and to submit a report to the authorities.

Treatment of Infantile Broncho-pneumonia.

Dr. Theodore Zangger of Zürich has published in the *Correspondenzblatt für Schweizer Aerzte* of Jan. 1st an article on the Treatment of Infantile Broncho-pneumonia. This disease is responsible for one-twelfth of all the deaths in Switzerland, nearly 5000 children succumbing to it every year. As regards the mortality of this malady there are very few recent statistics based on a large number of cases. Bartels, von Ziemssen, and Steffen report a mortality of 41 per cent. in 231 cases. Roger finds a mortality of 75 per cent. in pneumonia complicating whooping-cough and Comby the even more appalling mortality of 81 per cent. in 715 cases of pneumonia after measles. Dr. Zangger has carefully examined the trustworthy statistics of the town of Zürich. Both the Children's Hospital (98 cases) and the out-patient department of the University (802 cases) report only 20 per cent. of deaths. 146 of these cases refer to pneumonia after measles, 108 to pneumonia after whooping-cough, and 476 to simple broncho-pneumonia. Dr. Zangger believes that proper bath treatment, the details of which he published in THE LANCET of June 28th, 1902, p. 1826, will further diminish this mortality. He describes at length ten cases thus treated, in all of which the inflammatory process subsided within eight days, generally after the employment of from two to eight baths. When it is considered that the mortality of whooping-cough and measles almost entirely depends on the favourable or unfavourable issue of a complicating pneumonia, this treatment of infantile pneumonia, which need not supersede medicinal treatment, deserves the serious attention of the profession.

Zurich, Jan. 23rd.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Variola Hybrida (So-called).

Dr. Happel read before the American Medical Association in 1901 a paper in which he described a species of small-pox as variola hybrida and he further gave it as his opinion that the epidemic then prevailing widely in the United States was for the most part not genuine small-pox but a sub-species. Dr. A. H. Mansfelde of Ashland, Nebraska, read before the Nebraska State Medical Association at a meeting held last May at Omaha, Nebraska, a paper in which he upheld the views of Dr. Happel. Dr. Happel defines variola hybrida as a modification of small-pox in which not the person but the virus which produces the disease has undergone a vital change and he states that the two modifications of small-pox, varioloid and variola hybrida, are nowhere to be taken as convertible varieties of genuine small-pox. Dr. Mansfelde believes variola hybrida to be a species of small-pox but that is far from the disease being entitled to be called genuine small-pox. He thinks that it is a hybrid form of the classical disease, hybridised in its seed, whether that be of vegetable or of animal origin. The views of Dr. Happel and Dr. Mansfelde have received little support in the United States, the great majority of the medical profession regarding the epidemic as one of genuine small-pox.

Jan. 14th.

Medical News.

UNIVERSITY OF CAMBRIDGE.—Mr. Ivor L. Tuckett, Trinity, has been appointed an additional demonstrator of physiology.—The following candidates have passed the examination in Tropical Medicine and Hygiene and are entitled to the University diploma:—

D. H. Ainslie, D. Alexander, C. A. Bentley, J. M. Buist, J. H. Cook, T. G. D. Cooper, J. W. Cornwall, W. A. Densham, and C. E. Williams.

There were 15 candidates.—The following degrees were conferred on Jan. 19th:—

Doctor of Medicine.—R. H. Marten, Caius.
Bachelor of Medicine.—F. L. Woods, Caius.
Bachelor of Surgery.—G. F. Bird, M. F. Grant, C. D. Mathias, and S. A. Owen, Trinity; O. V. Payne and C. M. Stevenson, St. John's; H. M. Clarke, Clare; G. T. Western, Pembroke; W. R. Higgins, W. Lowe, W. H. Thresher, and F. L. Woods, Caius; F. W. M. Palmer, Jesus; R. F. Moore, Christ's; R. Puttock, Emmanel; and E. W. Sheaf, Downing.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated:—

Surgery.—T. H. Jones (Sections I. and II.), King's College Hospital; R. C. Richards (Section I.), University College Hospital; A. M. Walker (Sections I. and II.), Manchester; and J. M. Wall (Sections I. and II.), Westminster and St. Thomas's Hospitals.
Medicine.—J. B. Bradley (Section I.), [illegible] 'en, Bristol; T. H. Jones (Sections I. and [illegible] al; T. R. Roberts (Section II.), Londo [illegible] kes (Sections I. and II.), Leeds; and M. C. Vivian (Section I.), Royal Free Hospital.
Forensic Medicine.—A. B. Gosse and M. E. Jeremy, Royal Free Hospital; T. H. Jones, King's College Hospital; and J. H. K. Sykes, Leeds.
Midwifery.—C. G. Grey, St. Bartholomew's Hospital; M. E. Jeremy, Royal Free Hospital; T. H. Jones, King's College Hospital; A. M. Walker, Manchester; and P. C. West, St Thomas's Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—P. F. Howden, M. E. Jeremy, T. H. Jones, and A. M. Walker.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. T. Tanja has been recognised as *privat-docent* of Internal Medicine.—*Berlin:* Dr. Max Martens, *privat-docent* of Surgery, has been granted the title of Professor.—*Brussels:* Dr. Brachet of Liège has been appointed to the chair of Anatomy, Dr. Sacré and Dr. Hauben, who have been Professors respectively of Systematic and Topographical Anatomy, having resigned.—*Cracow:* Dr. Alexander Bosovski, *privat-docent* of Surgery, has been promoted to an Extraordinary Professorship.—*Göttingen:* Dr. A. Pütter has been recognised as *privat-docent* of Physiology.—*Lemberg:* Dr. Leon Popielski of St. Petersburg has been appointed to the chair of Pharmacology and Pharmacognosis.—*Lyons:* Dr. Rollet has been promoted to the chair of Ophthalmology vacant by the death of Dr. Gayet.—*Munich:* Dr. Hans Gudden, *privat-docent* of Mental Diseases, has been promoted to an Extraordinary Professorship.—*Würzburg:* Dr. Wilhelm Weygandt, *privat-docent* of Mental Diseases, has been promoted to an Extraordinary Professorship.

UNIVERSITY OF OXFORD.—James Ritchie, M.A., B.Sc., M.D. Edin., reader in pathology, has been elected to an Ordinary Fellowship at New College.—Degree days for the present term are: Thursday, Jan. 26th; Thursday, Feb. 16th; and Thursday, March 16th.—The examination for a Radcliffe Travelling Fellowship will commence on Tuesday, Feb. 28th. Names must be sent in on or before Saturday, Feb. 11th. (Full particulars will be found in the *University Gazette* of Dec. 6th, 1904.)

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.—In aid of the endowment of cots at this hospital (an institution which has "a reliable income of only £763" and which is now being rebuilt to accommodate 200 patients), a gigantic Christmas tree and children's fête with music will be held on Thursday, Feb. 2nd, from 3.30 to 6 P.M., at the Kensington Town-hall. The entertainment will be opened by the Mayor. The tree is to be illuminated by electricity and each child will receive at least one present. Tickets, 2*s.* 6*d.* each, by private sale only, on or before Feb. 1st, from the honorary secretary, 50, Albert Hall

Mansions, London, S W , or the honorary secretary, Royal Waterloo Hospital Ladies' Association, 16, Brook street (corner of New Bond street), W

ROYAL DENTAL HOSPITAL, LEICESTER SQUARE —This hospital has received a donation of £100 from the Worshipful Company of Goldsmiths

A CENTENARIAN —Mrs Pritchard Bembridge of Sidmouth, Devon, reached the age of 104 years on Jan 20th

UNIVERSITY COLLEGE, BRISTOL —The sixth annual dinner of the University College Colston Society will be held on Jan 31st under the presidency of the Right Hon Lewis Fry, with the Rev Dr Butler, Master of Trinity College Cambridge, and Sir Oliver Lodge Principal of the University of Birmingham as the guests of the evening The society was founded in 1899 for the purpose of perpetuating the memory of Edward Colston and assisting University College, Bristol, *in such a manner as the committee of the* society might approve Last year the sum of £400 was handed by the society to the building fund of the College The Government grant to the College for 1905 will be £2000, an increase of £800 compared with 1904

ROYAL LONDON OPHTHALMIC HOSPITAL GUILD (MOORFIELDS EYE HOSPITAL) —The fifth annual general meeting of the Royal London Ophthalmic Hospital Guild (Moorfields Eye Hospital) was held on Jan 23rd at 20 Portland place W by *kind permission of Lady Samuel* Sir Marcus Samuel presided supported by Mrs Lang head of the Guild, Lady Agnes Frank, Lady Russell Reynolds Lady Maurice, the Lady Mayoress Mr H P Sturgis (chairman of the hospital) Mr A Gordon Pollock, Sir James Reid, and a large number of members and friends The report stated that H R H Princess Christian of Schleswig Holstein had graciously consented to become president of the guild The guild founded to assist the hospital, which had to contend with lack of funds and public interest had been able to aid with blankets coverlets and sheets for the beds, and for the past two years to maintain a cot and woman's bed in the wards The nurses library had been replenished and members had rendered personal service by visiting the patients An interesting event was the centenary dinner when the collection at the ' Guild table amounted to £136 special thanks being due to Mrs Lang for the trouble which she took in the matter The country centres were growing in importance and two new ones had been added—at Bury St Edmunds and Pinner The members now numbered 200 with 100 associates 50 having joined during the year and only three had resigned On the motion of Lady Reynolds the report was adopted Mr Sturgis, on the part of the hospital, expressed the gratitude of the committee [illegible] ery penny subscribed [illegible] ner Mr Pollock also [illegible] the guild and its aid to the centenary fund which he hoped would eventually pay the rent and taxes The officers and council were re elected and a vote of thanks to Sir Marcus Samuel and Lady Samuel closed the proceedings

THE LADIES' HEALTH SOCIETY, MANCHESTER —This society held its annual meeting on Jan 13th at the Manchester town hall The report showed that its work extends over certain of the poorer parts of Manchester and Salford which are divided into 23 districts, in each of which lives an intelligent woman belonging to the working class called a health visitor paid by the society and supervised by ladies who give of their time and energies in helping their poorer sisters The society is assisted by the corporations of Manchester and Salford which pay the salaries of nine and of four visitors respectively Dr J Niven gives his valuable cooperation The visitors go to the dwellings in their districts and where disease breaks out they show how [illegible]

adoption of the report, spoke in high praise of the society s usefulness Its work is done among the poorest and if we are to have ' a strong and better population in the future we must begin with the rising generation As to the poor mothers themselves they had to go early to their work and had no chance of learning household duties or the bringing up of children ' But mothers ought not to be so ignorant and helpless or obliged to work so near their confinement or so soon after it We may learn something from Germany and from the Jews as to these matters Dr Niven, in seconding a vote of thanks to the Lord Mayor, said that he had been coming to the conclusion that ' a great many of the babies who died from summer diarrhœa died from starvation' , that the mothers did not know what food to give them and had not enough "Many poor mothers could not suckle their children because for lack of proper nourishment they were in a state of physical misery' This is a pitiful statement to have to make "Pity 'tis, 'tis true '

BOOKS, ETC RECEIVED

BAILLIÈRE TINDALL AND COX 8, Henrietta street, Covent Garden W C

Autobiography of Frederick James Gant F R C S Consulting Surgeon to the Royal Free Hospital Author of Works on Surgery Science and Religion and Women of the Times Price 3s 6d net

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Wellcome s Photographic Exposure Record and Diary 1905 Price not stated

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CLAY WILLIAM [illegible]

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Sociological Papers By Francis Galton E Westermarck P Geddes E Durkheim Harold H Mann and V V Branford With an Introductory Address by James Bryce President of the Society Published for the Sociological Society Price 10s 6d.

Simpkin, Marshall, Hamilton, Kent and Co., Limited, 4, Stationers' Hall-court, E.C.

The Plenum or Propulsion System of Heating and Ventilation. By Harold Griffiths, Qualified by Examination as Associate, Royal Institute British Architects; Fellow, Surveyors' Institute; Member, Sanitary Institute; Member, Incorporated Association Municipal and County Engineers, &c. Price 4s. 6*d*. net, post free. (Copies may also be obtained of the Author, Harold Griffiths, 8, Craig-court, Whitehall, S.W.)

Steinheil, G., 2, Rue Casimir-Delavigne, Paris.

Ecole Massothérapique de l'Hôtel-Dieu (Service de M. le Dr. J. … des Membres. Par le Docteur … pitaux, Ancien Aide d'Anatomie

I … Stades de son Développement. Eléments d'Embryogénie. Par J. Potocki, Professeur Agrégé à la Faculté de Médecine de Paris, Accoucheur des Hôpitaux, et A. Branca, Professeur Agrégé à la Faculté de Médecine de Paris. Préface de M. le Professeur Pinard. Price Fr.10.

Swan Sonnenschein and Co., Limited, London.

Principles of Physiological Psychology. By Wilhelm Wundt, Professor of Philosophy in the University of Leipsic. Translated from the Fifth German Edition (1902) by Edward Bradford Titchener, Sage Professor of Psychology in the Cornell University. Vol. I. Price 12s.

Taylor and Francis, Red Lion-court, Fleet-street, E.C.

Appendix XVIII. to the Second Edition of the Descriptive Catalogue of the Pathological Specimens contained in the Museum of the Royal College of Surgeons of England. By Samuel G. Shattock, Pathological Curator of the Museum. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Allport, Wilfrid, M.B., B.S. Lond., F.R.C.S. Edin., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Ophthalmic Surgeon to the Queen's Hospital, Birmingham.

Amyot, Thomas Engelhart, M.B., B.S. Durh., has been appointed House Surgeon to the Dorset County Hospital, Dorchester.

Atkinson, J. P., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Lynton District of the county of Devon.

Barton, Guy D., M.B., B.C. Cantab., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Derbyshire Royal Infirmary.

Bennett, Thomas, M.B., Ch.B. Glasg., has been appointed House Physician to the Derbyshire Royal Infirmary.

Bokenham, T. B., M.R.C.S., L.R.C.P. Lond., has been appointed … r the Factory and Workshop Act for the … ie county of Berks.

Boy … M.R.C.S. Eng., has been appointed Physician to In-patients at the Melbourne Hospital, Victoria, Australia.

Knight, J., M.D. Glasg., D.P.H., has been appointed Medical Officer of Health for Scarborough.

Lister, Harold, M.B. Melb., has been appointed District Medical Officer and Public Vaccinator at Jarrahdale, West Australia.

MacKenzie, Marion E., M.B., Ch.B. Edin., has been appointed Resident Medical Officer to the Hanley, Stoke, and Fenton Hospital for Infectious Diseases at Bucknall, Stoke-on-Trent.

Myott, Edgar C., M.B., B.S. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant House Surgeon to the Derbyshire Royal Infirmary.

Rigby, W. H., M.B. Melb., has been appointed Officer of Health at Collie District, West Australia.

Robertson, A. S., M.B., M.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Peterborough District of the county of Northampton.

Scott, Walter Henderson, L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Medical Officer to the Newton Abbot (Devon) Hospital.

Searancke, N. F., M.R.C.S. Eng., L.R.C.P. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Mitcheldean District of the county of Gloucester.

Young, Edward Herbert, M.D. Durh., L.R.C.P., M.R.C.S., L.S.A., D.P.H. Lond., has been re-elected Medical Officer of Health for Okehampton (Devon).

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Bolton Infirmary and Dispensary.—Junior House Surgeon. Salary £100 per annum, with apartments, board, and attendance.

Bristol Royal Infirmary.—Resident Obstetric Officer. Salary £75 per annum, with board, lodging, and washing.

Buxton, Derbyshire, Devonshire Hospital.—Assistant House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

Chester General Infirmary.—House Surgeon. Salary £100 per annum, with residence and maintenance.

Chesterfield and North Derbyshire Hospital and Dispensary.—Honorary Ophthalmic Surgeon.

City of London Hospital for Diseases of the Chest, Victoria-park, E.—Physician.

Crumpsall Workhouse, Manchester.—Junior Resident Assistant Medical Officer. Salary £110 per annum, with apartments, fire, light, washing, and attendance.

East London Hospital for Children and Dispensary for Women, Shadwell, E.—Pathologist and Registrar. Honorarium £100 per annum.

Eccles and Patricroft Hospital.—House Surgeon, unmarried. Salary £70 per annum, with board and washing.

Edinburgh, Craig-Leith Poorhouse and Hospital.—Resident Medical Officer. Salary at rate of £100 per annum, with board and apartments.

Egyptian Government (Ministry of Public Instruction).—Professor of Pathology and Bacteriology at the School of Medicine, Cairo. Salary £800 per annum.

Evelina Hospital for Sick Children, Southwark, S.E.—Physician to Out-patients.

Halesworth, Patrick Stead Hospital.—Surgeon. Salary 50 guineas a year.

Hospital for Consumption and Diseases of the Chest, Brompton.—Assistant Resident Medical Officer. Salary £100 per annum, with board and residence.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £20, with board and residence.

Kent and Canterbury Hospital.—House Surgeon, unmarried.

Leeds General Infirmary.—Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

Lewisham Union. Medical Officer for the Sydenham District. Salary at rate of £130 per annum, and fees.

Manchester, Ancoats Hospital.—Resident House Surgeon. Salary £100 per annum, with board, residence, &c. Also Resident House Physician. Salary £80, with board, &c.

Monmouthshire Asylum, Abervagenny.—Junior Assistant Medical Officer. Salary £150 per annum, with board, lodging, and washing.

Plymouth, South Devon and East Cornwall Hospital.—House Surgeon. Salary £100, with board, residence, and washing.

Rochdale Infirmary.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, residence, and washing.

F … , Soho-square, W.—Clinical Assistants.

I … of the Chest, City-road, E.C.—

Sheffield Royal Hospital.—Assistant House Physician, unmarried. Salary £50 per annum, with board and lodging.

Somerset and Bath Lunatic Asylum, Wells, Somerset.—Medical Superintendent. Salary £600 per annum, with house and allowances.

Sunderland Infirmary.—House Physician, House Surgeon, and Assistant House Surgeon. Salary in each case £100, with board, residence, and washing.

Teignmouth Hospital, S. Devon.—House Surgeon. Salary £70 a year, with board, lodging, and washing.

Walsall and District Hospital, Walsall.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

Worcester General Infirmary.—House Physician. Salary £80 per annum, with board and residence.

Births, Marriages, and Deaths.

BIRTHS.

Bryant.—On Jan. 17th, at Mansfield-street, Cavendish-square, W., the wife of J. H. Bryant, M.D., F.R.C.P., of a son and a daughter.

Ennion.—On Jan. 16th, at Meldreth, Royston, Herts, the wife of O. R. Ennion, M.R.C.S., L.R.C.P., of a daughter.

Gordon-Green.—On Jan. 23rd, at Westerton, 46, Beach-road, Southsea, Hants, the wife of Staff-Surgeon H. W. Gordon-Green, R.N., M.R.C.S. Eng., L.R.C.P. Lond., of a son.

Passmore.—On Jan. 20th, at Felbrig, Carshalton, Surrey, the wife of William Henry Passmore, M.R.C.S., L.R.C.P. Lond., of a son.

Payne.—On Jan. 19th, at Brunswick House, Cumberland Gate, Kew, the wife of Mr. E. L. Payne, M.R.C.S., L.R.C.P., L.S.A., of a daughter.

Roche.—On Jan. 18th, at Rochester, the wife of Lieutenant Colonel E. A. Roche, R.A.M.C., of a son.

Wilson.—On the 20th instant, at Denham House, Goldhawk-road, W., the wife of James Wilson, M.D., of a daughter (prematurely).

MARRIAGE.

Brockwell—Smith.—On Jan. 18th, 1905, at Christ Church, Gipsy-hill, by the Rev. R. C. Joynt, John Brocas Chambers Brockwell, M.R.C.S. and L.R.C.P., eldest son of the late Dr. John Brockwell, of Gipsy-hill, S.E., to Annie Amelia, elder daughter of the late William Edwin Smith, of Lewes, Sussex.

DEATHS.

Beaumont.—On Jan. 22nd, at the Middlesex Hospital, London, W., Edward Frederic Beaumont, M.B., of Bardwell-road, Oxford, aged 28.

Birmingham.—Jan. 23rd, in Dublin, Ambrose Birmingham, M.D., Professor of Anatomy, Catholic University of Ireland, aged 40 years. R.I.P.

Mouncey.—At Earlestown, Lancashire, on the 21st inst., Louisa Elizabeth Ainley Mouncey, eldest daughter of Chas. J. Mouncey, M.B., and Mrs. Mouncey, aged 19 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE CORONER, THE MEDICAL MAN, AND THE JURYMEN

A SINGULAR discussion took place at the Lambeth coroners court on Jan 23rd Mr John Troutbeck the coroner, was holding an inquiry regarding the death of a child, aged two months, who had been suffocated whilst in bed with its parents Evidence was given by a medical man who had been sent for when the death was discovered, and Dr Ludwig Freyberger was summoned to describe the cause of death At this point a juryman said "I should like to ask why a second doctor was called in To this the coroner replied "Because I chose The juryman now expressed the opinion that the course taken "was most unfair, and was in return promptly informed by the coroner: "It has nothing to do with you Sir" The foreman of the jury here interposed with a remark which according to the published reports, seems not to have advanced beyond the opening words when the coroner abruptly refused to allow any discussion on "a question of general policy The foreman however, persevered and eventually succeeded in saying "I think the doctors who devote their lives to the service of the people should be called When addressing the jury in his summing up the published accounts of the incident describe the coroner as saying "This is a question of a case which requires special skill and that is not possessed by all general medical practitioners It would be just as well to say that all doctors possessed special skill in surgery and many other things If is not a question of ordinary but of special skill and evidence

Without commenting on the circumstances of this individual case we may express the opinion that no exceptional pathological skill is required for the examination of a case of asphyxia The calling of special witnesses to give evidence of a purely pathological nature is a subject which requires very careful consideration and has already been discussed at great length in the columns of THE LANCET

THE ACTION OF ANÆSTHETICS ON PLANTS

To the Editors of THE LANCET

SIRS —I recently made an experiment with a plant here which I desire to bring under your notice The plant in question, which I have planted in a pot, is popularly known here as sensitive grass It is "mimosa pudica" On touching the leaf at any point with the finger it immediately closes up This is generally known of course I find however, that on exposing it to the vapour of ammonia or formalin it immediately closes, but stranger still is the fact that it is susceptible to anæsthesia If exposed to chloroform held closely (but not in contact with it) the leaf remains open and shows no response, as in the case of ammonia or formalin, but if after one and a half or two minutes the chloroform is withdrawn the *open* leaf seems quite impervious and oblivious of any stimulus such as contact with the finger or exposure to ammonia or formalin I do not know whether the anæsthesia of plant life is known, so venture to place the information before you

I am, Sirs, yours faithfully,

Brisbane Australia, Nov 26th, 1904 R MACDONALD

*** Our correspondent will find an annotation on the subject in THE LANCET of Jan 9th 1904 p 108

AN UNFORTUNATE DEPARTURE

THE picture post card is now being much used by public institutions and those interested in the prosperity of certain seaside towns and health resorts as frank advertisements This makes the issue by a medical man of a post-card displaying his house beneath which in bold type is the legend "Dr A——s an unfortunate departure The specimen which has been sent to us is one we are informed, "of numerous copies that have been going the rounds through the post here,' and would certainly serve to instruct the public where the medical man in question could be found The mischief of the card entirely depends on what is implied in "going the rounds" If the cards have been sent only to Dr A——s patients no harm has been done but if there has been anything like a broadcast distribution of them the medical man in question has erred

THE CLIMATE OF MANILA.

To the Editors of THE LANCET

SIRS —I should be glad if any of your readers would kindly give me any information in the correspondence columns of THE LANCET as to the climate of Manila and its suitability as a residence for one troubled with chronic bronchitis I am, Sirs yours faithfully,

Jan 21st, 1905 H

THE "NORMYL CURE

A CORRESPONDENT has forwarded to us some literature dealing with the treatment for intemperance which goes under the name of the "Normyl Cure' Its usefulness is apparently vouched for by the Rev Hugh B Chapman, vicar of St Luke's Camberwell Our correspondent seeing that a technical description would be furnished to any medical man wrote for the same, and when he had received it forwarded it to us From this we learn that the chief constituent of "Normyl" is prepared from a member of the group of plants known as 'the aristolochia' combined with sundry other nerve tonics and sedatives While not denying that drug treatment has its uses in restoring to health those who are intemperate—atropine, for instance, has we believe, been used with success—we rather doubt the wisdom of anyone, however honest and well meaning he may be, giving testimonials as to the "cure of drunkenness The best thing for the proprietor of the "Normyl cure to do would be to submit it to the Government inspector of inebriate homes who would, we doubt not, be enabled to make an extensive trial of the same under the very best scientific safeguards

LADY HOSPITAL MANAGERS

To the Editors of THE LANCET

SIRS —The Royal Portsmouth Hospital may be added to the list named by your correspondent, in which ladies act on the committee of management We have four in a total of 36 members The addition was made some years ago with a certain amount of fear and trembling on the part of some members of the committee but the change has worked well There are many matters associated with household management and domestic thrift in which the advice and judgment of a lady are most valuable

am, Sirs yours faithfully,

Southsea Jan 22nd, 1905 HENRY RUNDLE

THE CASE OF DR A D GRIFFITHS

To the Editors of THE LANCET

SIRS —Will you kindly announce the following additions to the amount promised towards the Arthur Griffiths testimonial fund?

	£	s	d		£	s	d
Amount previously acknowledged	15	4	0	Mr W D J Morris	0	10	6
Dr J Tatham Thompson	1	1	0	Dr Herbert Vachell	1	1	0
Mr Alfred Rees	0	5	0	Dr Thomas Wallace	1	1	0
Dr J Hugh Rees	0	5	0	Dr William Sheen	1	1	0
Mr Cornelius A Griffiths	0	10	6	Dr William Martin	0	10	6
Dr S Allan Shiach	0	5	0	Dr R Tudor Thomas	0	10	6
				Mr T Garrett Horder	0	10	6

I am, Sirs, yours faithfully,

23, The Walk, Cardiff, Jan 23rd, 1905 ALEX P FIDDIAN

IS LEPROSY CURABLE?

TREATMENT

I M S, is

to Lepers

society supports 600 lepers) three cases are declared by the deputy sanitary commissioner of the district to be "to all intents and purposes completely cured Others show less favourable results The hopeful cases will be isolated and observed for six months before a final decision can be pronounced If found to be of lasting benefit the society will adopt the treatment in others of its 42 asylums in India and the East

A WARNING

To the Editors of THE LANCET

SIRS —It cannot be too widely known that a youngish fair, foreign looking man about 5 feet 4 inches without hair on his face is visiting the houses of medical men in the South Kensington district about a quarter past eight in the morning with a bogus message ' to go directly and whilst it is being delivered upstairs makes off with the coats available I am Sirs yours faithfully,

Jan 11th 1905 G P

THE FEES OF MEDICAL WITNESSES

To the Editors of THE LANCET

SIRS —Last week I had to give evidence at the quarterly sessions in a case of wounding Before the case came on I was asked to give a receipt for my fees and noticed that 13*s* was allowed for expenses I was not paid at the time but the money was sent afterwards with a deduction of 10*s* and a message that a mistake had been made and that only 3*s* could be allowed for expenses The distance from home was 11 miles and I was detained all day, so that I had to get lunch The 3*s* barely covers the train fare

I am, Sirs yours faithfully,

Jan 23rd, 1905 M D

*** By the Order of the Home Office 'reasonable travelling expenses may be paid where the witness has to travel more than two miles to give evidence What may be considered reasonable is practically in the discretion of the officials —ED L.

IMPROVEMENTS IN THE TECHNIQUE OF VACCINATION

To the Editors of THE LANCET

SIRS —There are at present two methods in use for ejecting the vaccine from the usual vaccine tube In both the two ends of the tube are broken off, then in the first method the operator blows out the vaccine with his mouth, in the second he uses a small rubber cap The first is dangerous and the second is cumbersome A better plan is to remove only one end of the tube preferably that which contains least air, and to warm the other (closed) end with a lighted vesta The whole of the vaccine may in this way be ejected directly into scarifications or if preferred on to a lancet or watch-glass. All risk of sterilising the vaccine is avoided by holding the tube in the left hand while the match is held in the right. Both from the points of view of asepsis and of convenience the method seems to have distinct advantages.

I am, Sirs, yours faithfully,

London Hospital, Jan. 19th, 1905. H. S. SOUTTAR.

YANATAS.

To the Editors of THE LANCET.

SIRS,—*Apropos* of remedies for seasickness there is a remedy named "Yanatas" sold by the Yanatas Company, Limited, 1, Granville House, Arundel-street, Strand, W.C. Will you kindly inform me what is the composition of this liquid (orange coloured and of a narcotic odour) and also whether in your opinion it would be safe to administer it continuously for the cure of insomnia? This question is of public importance, since Yanatas is recommended as a cure for "sleeplessness and all disorders of the nervous system."

I am, Sirs, yours faithfully,

Cobham, Jan. 23rd, 1905. J. L. W. KITCHING.

⁂ We do not know the composition of the liquid referred to but shall be pleased to submit a sample forwarded by our correspondent to analysis.—ED. L.

THE LANCET IN 1846.

A CORRESPONDENT sends us the following interesting extract from "The Newspaper Press Directory for the Year 1846, published by C. Mitchell at his Town and Country Advertising Office, Red Lion Court, Fleet Street, London":—

LANCET.

Saturday. Price 8d. Established October 1, 1823.

ADVOCACY. Medical and Chemical Sciences—Politics—Liberal—Anti-Poor-Law. This periodical is well known to be conducted with great ability by Mr. Wakley, M.P., the Coroner; and though, of course, principally devoted to medical topics, the active reforming spirit of its Editor imbues it with more of what may be called an *aggressive* character; and induces on its part a more severe sort of censorship over the authorities, than may be observed in its powerful professional rival. In particular, it exhibits all his uncompromising hostility to the new Poor-law. And the close connexion of the science and practice of medicine with many important departments of jurisprudence and of law (as on the bastardy clauses of the Poor-law, the medical attendance on unions, sanitary regulations, [illegible] for animadversion and attack on [illegible] order of things. This journal is thus brought into closest connexion, or rather collision, with the Poor-law authorities throughout the country; and the incessant avocations of its editor, whether as Senator or Coroner, supply constant incentives to exertion and continual stimulations to attack, on some subject or other. Published by John Churchill, 46, Princes Street, Soho.

The following is the wording of the title-page of THE LANCET in 1846:—

THE LANCET. A Journal of British and Foreign Medical and Chemical Science, Criticism, Literature and News. MDCCCXLVI. In Two Volumes Annually. Volume I.' Edited by Thomas Wakley, Surgeon, M.P. for the Metropolitan District of Finsbury, and Coroner for the County of Middlesex. London: Printed for the Editor, and published by John Churchill, Princes Street, Soho.

The page was very nearly as large as that of to-day and the column was of the same size—viz., three inches by nine inches—with two columns to the page. The first week's number of the year consisted of 28 pages and the last number of the year 24 pages. The index consisted of 14 pages for Volume I. and 10 pages for Volume II. and there was no separate list in the index of the illustrations. The total number of pages in Volume I. amounted to 726 and in Volume II. to 714, or a total for the year of 1430, whereas for the first half year alone of 1904 the total number of pages, including the index, amounted to 1882. Although the extract quoted above states that THE LANCET was established on Oct. 1st, 1823, as a matter of fact the first issue was dated Sunday, Oct. 5th, 1823, and was published by G. L. Hutchinson at THE LANCET Office, 210, Strand, where all communications for the Editor were "requested to be addressed (post paid)."

THE CHOICE OF AN ANÆSTHETIC.

To the Editors of THE LANCET.

SIRS,—In reply to "Hector" in THE LANCET of Jan. 21st, having had a varied experience in the administration of all kinds of anæsthetics in villages in remote parts and also in hospitals and in private in the west end of London, I venture to advise "Hector" as follows: Use ether as your anæsthetic and for children in a Rendle's mask, for adults a "Clover." Do not use a "Junker" for chloroform, it will only prove a success in the hands of those who are almost daily using it. I advise ether on account of its safety over other anæsthetics.

I am, Sirs, yours faithfully,

Chichester, Jan. 23rd, 1905. A. M. BARFORD.

◆

Jack.—Influenza must by treated as is any other specific fever—i.e., the patient must rest in bed and the diet must be light.

E. L. P.—We have not examined the preparation but we will do so if our correspondent will forward us samples.

Irish Reader.—We should have nothing to do with the apparatus in question.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 [illegible] M.), London Throat (9.30 A.M.), Royal Ear [illegible] .M. and 2.30 P.M.), Throat, Golden-square [illegible] (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (1st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (2nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.).

SATURDAY (4th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (1st).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Annual Meeting. Specimens will be shown by Mr. Targett, Mr. Handley, Dr. F. E. Taylor, and Mr. Bland-Sutton. Short Communication:—Dr. E. W. H. Groves: A New Operation for the Cure of Vaginal Cystocele. The President (Dr. Malins): Annual Address.

THURSDAY (2nd).—RÖNTGEN SOCIETY (20, Hanover-square, W.).—8.15 P.M. Messrs. Newton and Son will show Dr. T. Holland's X Ray Diaphragm Compressor. Paper:—Dr. C. A. Wright: Some Points in the Construction of a High Frequency Machine (accompanied probably by some novel exhibits).

NORTH-EAST LONDON CLINICAL SOCIETY (Tottenham Hospital, N.).—4 P.M. Clinical Cases.

FRIDAY (3rd).—SOCIET[illegible] Hanover-square, W.).—8.30 P.M. Ex[illegible] rs before and after the meeting. [illegible] nce of Ethyl Chloride in Commerc[illegible] hyl Chloride in Eye Practice, with [illegible] Barton: Continuous Administrati[illegible] ns about the Upper Air Passages [illegible] enced by Dr. McCardie).

WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich-road, S.E.). 8.45 P.M. Paper:—Dr. Annis: Immunity against Disease.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by Mr. C. A. Parker, Dr. F. Spicer, Mr. P. de Santi, and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (30th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. M. H. Macleod: Clinique. (Skin.) 5.15 P.M. Dr. H. Tilley: Nasal Catarrh, its Causes, Diagnosis, and Treatment.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Saunders: Congenital Syphilis and its Treatment, with cases.

TUESDAY (31st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. W. Ewart: Clinique. (Medical.) 5.15 P.M. Mr. H. B. Robinson: On Diseases of Ducts of the Breast.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. M. Moullin: Anterior Displacement and Stenosis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture:—Mr. H. W. Carson: Diseases of the Naso-pharynx.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3 30 P.M. Dr. Batten: Polioencephalitis, its Relation to Poliomyelitis.

WEDNESDAY [illegible] GRADUATES' COLLEGE AND POLY- [illegible]).—4 P.M. Mr. P. G. Freyer: [illegible] Mr. A. W. M. Robson: Pancreatic [illegible]

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Beddard: Practical Medicine.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn road, W.C.).—5 P.M. Demonstration:—Mr. S. Low: Oro- and Laryngo-pharynx.

THURSDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Dr. T. W. Eden: Acute Torsion of the Pedicle in Pelvic Tumours.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Davis: Cardiac Disease: Treatment.

CHARING CROSS HOSPITAL.—4 P.M. Mr. Waterhouse: Demonstration of Surgical Cases. (Post-Graduate Course.)

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7, Fitzroy-square, W.).—5 P.M. Lecture: Dr. J. E. Squire: "Murmurs" not dependent on Diseases of the Heart. (Post-Graduate Course.)

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.)—3 P.M. Dr. McCann: The Treatment of Pruritus and Allied Conditions.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond street, W.C.).—4 P.M. Lecture:—Mr. Parsons: Glioma of the Retina.

FRIDAY (3rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. R. Lake: Clinique. (Ear).

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—5 P.M. Mr. Bidwell: Surgical Treatment of Chronic Gastritis.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3 30 P.M. Dr. Batten: Nerve Terminations in Muscle.

EDITORIAL NOTICES.

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1904, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

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VOLUMES for the second half of the year 1904 are now ready. Bound in cloth, gilt lettered, price 18*s*. carriage extra.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a m. by Steward's Instruments.)

THE LANCET Office, Jan. 26th, 1905.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rainfall	Solar Radia in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8 30 A.M.
Jan. 20	30·30	E.	...	40	40	32	37	38	Overcast
" 21	30 15	S E	...	51	40	32	33	34	Foggy
" 22	30 30	N E.	...	40	37	33	35	37	Overcast
" 23	30 29	S E.	...	42	42	33	36	37	Overcast
" 24	30 22	S.	...	49	47	36	40	42	Foggy
" 25	30 30	W.	...	59	47	42	44	45	Foggy
" 26	30 68	N.E.	...	50	40	34	33	35	Fine

During the week marked copies of the following newspapers have been received:—*Westminster Gazette, Surrey Advertiser, Reading Mercury, Mining Journal, Local Government Chronicle, Daily News, Liverpool Post and Mercury, Daily Chronicle, Standard, Literary Digest, Aberdeen Weekly Free Press, Plymouth Mercury, Freeman's Journal, Hertfordshire Mercury, Windsor and Eton Express, Liverpool Courier, Eastbourne Chronicle, Morning Leader, St. James's Gazette, Manchester Evening News, Newcastle Daily Chronicle, Newcastle Journal, Bath Weekly Argus, &c.*

in the chest, a fact which emphasises the importance of preventing chills after release from isolation and of dispensing with the hot bath immediately before discharge. But I should regard it as unlikely that in the convalescent stage there is much danger of distribution by talking of those pathogenic organisms the habitat of which is the throat. Any fluid which may be sprayed in the act of talking comes from the neighbourhood of the incisor teeth and as there is a constant flow of saliva backwards to the pharynx it must be only occasionally that in this stage such fluid contains bacteria derived from the fauces.

The nose.—Rhinitis is a common and very important complication. The great facility this affection offers in young children for a widespread diffusion of infection when the discharge contains the infective agent is sufficiently apparent. It is often most intractable to treatment and the knowledge that it is frequently associated with "return" cases leads to its being the main cause of prolonged detention of patients in hospital. Every endeavour is made that a patient shall leave free from nasal affection, though there can be no doubt that the condition often relapses within a short time of the child reaching home. It not infrequently is first noticed after the patient has been discharged. At Birmingham, while only 6 per cent. of all cases had an abnormal condition of the nose at the time of discharge, no fewer than 22 9 per cent. of the infecting cases had been noted as leaving with such abnormality. Dr. Knyvett Gordon relates that rhinorrhœa was associated with 39 out of the 174 alleged infecting cases which occurred in Manchester in the years 1902 and 1903; in eight cases it had been present at the time of leaving hospital; in 31 it appeared later. Professor Simpson found that of 90 discharged patients whom he regarded as probably the cause of fresh outbreaks 49 had nasal discharge, five had sore nose, and 15 had cold in the head with running at the nose. But it must be noticed that rhinorrhœa does not necessarily prove infectious in the family. It may be calculated from the Birmingham statistics that less than one-eighth of the cases discharged with a morbid condition of the nose became associated with the "return" cases. This may be due to one of the following causes: the exposed children may not be susceptible; the discharge may never actually be conveyed to them; or the discharge may not in all cases carry with it the infecting virus. It is probable that the last is most frequently the correct explanation, for in diphtheria the rhinorrhœa which sometimes occurs in convalescence is often found not to be associated with the presence of the Klebs-Löffler bacillus. In other words, the risk attached to rhinorrhœa would appear to be that if the infecting agent is still present on the mucous membrane of the nose the discharge will act as a vehicle for its distribution. From many observations it seems likely that in both scarlet fever and diphtheria persons may be released from isolation still carrying the contagium on their mucous membranes and yet prove harmless unless catarrh is set up and the resulting discharges act as carriers of infection.

The ears.—Otitis is also a common complication of scarlet fever. Among nearly 11,000 patients treated in the Board's hospitals during 1903, 15 per cent. suffered while in hospital from otorrhœa. Even this does not include all, for not rarely it occurs for the first time after the patient has left hospital. Otorrhœa which has ceased for weeks is apt to recur when the child comes again under home conditions. The frequency of this complication being admitted, what is its potentiality for transmitting infection? Dr. Millard states that otorrhœa was present on discharge in 2·2 per cent. of alleged infecting cases as compared with 1·5 per cent. of all cases. The inquiry is to some extent obscured by the fact that rhinitis often co-exists with the otitis (*vide* Professor Simpson's table), and the difference is not sufficiently great to enable one to say that otorrhœa plays a very important part in the causation of "return" cases. Since otorrhœa, for anatomical and pathological reasons, frequently persists for a long time after the original infective process with which it was associated has disappeared this observation is of considerable interest. It may be debated whether the fact that otorrhœa is less infectious than rhinorrhœa results from the specific contagium being frequently wanting in the secretion or because with ordinary precautions there is less risk of the discharge being brought in contact with the mucous membranes of other children.

Desquamation.—Against the infectiousness of secondary peeling and late desquamation of the feet there has been accumulated a considerable amount of evidence; for example, at Birmingham during 1896–98 while 8·2 per cent. of all patients left with some late peeling of the feet only 7 per cent. of alleged infecting cases had exhibited this condition on discharge. The impression that even earlier desquamation is not infectious has been gaining ground for several years but definite information on this point is not yet very extensive. In 1895 Dr. Boobbyer[6] stated that his experience as medical officer of health led him to believe that too much importance had been attached to risk of infection from desquamation. He pointed out that the disease frequently failed to spread from an actively desquamating patient (though surrounded by susceptible persons) if the mucous surfaces had been only slightly invaded. Dr. H. Meredith Richards,[7] then superintendent of the Birmingham Fever Hospital, also expressed the opinion that desquamation was simply concomitant and not the essential cause of infection. Dr. E. G. Gilbert[8] of Tunbridge Wells remarked that for 20 years he had acted with success on the conviction that in a desquamating skin after scarlet fever there was no danger to others and that if the throat and the nose were quite sound isolation of the patient was not necessary for more than a month. Dr. J. Priestley[9] in the same year recorded that at Leicester, at the time of an outbreak of small-pox, about 120 children in various stages of desquamation after scarlet fever were sent to their homes and no secondary cases occurred at any of these houses. In 1902 Dr. Millard[10] of the Leicester Fever Hospital reported that he had adopted four weeks as the minimum period of isolation and had discharged during three months 190 patients after an average period of detention of 35·3 days. The exact number was not given but it was stated that many of these were still desquamating. Of the five cases which had gave rise to fresh outbreaks in their own homes only one had been noted as having desquamation present on discharge and in this patient the peeling was confined to the feet and the nose was found to be unhealthy. From several of the Board's hospitals during the past two or three years a number of patients who had not suffered from complication have been discharged desquamating at the end of four weeks' detention but no statistics as to results have yet been published. At Southampton during 1903 Mr. R. E. Lauder[11] also put the matter to the test and ignored desquamation as a reason for further isolation. He reports that 325 convalescents left hospital during the year. Of these, 204 patients who had not suffered from complications during their stay in hospital were discharged peeling, after an average detention of 28 days; there were only two "return" cases. 33 were discharged without desquamation or complication after an average stay of 33 days; there were no "return" cases. The remaining 88 patients, in whom complications of various kinds had occurred, left after an average stay of 50 days and there were five "return" cases. Mr. Lauder remarks: "If peeling *per se* were infectious then it is almost impossible to conceive how 204 patients discharged from the hospital in a peeling condition failed to be responsible for more than two return cases."

No morbid condition.—It is not uncommon for patients discharged apparently free from all abnormality to give rise to "return" cases. Dr. Boobbyer stated that 11 out of 29 infecting cases which were discharged from the Nottingham borough hospital in 1893 were normal on discharge. Dr. Millard recorded that 58 per cent. of the infecting cases at Birmingham were quite clear in every way at the time of leaving hospital. It must be recognised, however, as I have already related, that a morbid condition not infrequently develops or recurs after the child has been sent home and that this is apt to be followed by the occurrence of "return" cases.

Conclusions.—To sum up the results of these investigations, the evidence that infectivity lies not in the desquamating cuticle but in the throat and nasal cavities is decidedly strong. In scarlet fever, therefore, as in diphtheria, it must be impossible to ascertain definitely by clinical means when the patient has been freed from infection. It must not be assumed, however, that prolonged infectivity is the rule; it is probable that the majority of patients are free from infection at the end of the minimum periods of isolation usually prescribed—the six weeks for scarlet fever and the four weeks for diphtheria *It would seem impossible to* discover by clinical means the minority who retain infection longer and difficult even to differentiate those by whom transmission of infection is likely The impression derived from experience has been that such transmission is especially liable to occur from those who suffer from rhinitis at the time of their discharge or have suffered from this complication during their period of isolation, and this impression has been supported by statistics whenever subjected to that test A nasal discharge, therefore, while not to be regarded as proof that the patient continues infectious is a symptom to be viewed with considerable suspicion, for if the contagium is still resident in the mucous membrane of the nose it will unfailingly act as a vehicle for its distribution

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[6] Loc. cit.

[7] Brit. Med. Jour., August 31st, 1895, p. 524.

[8] Ibid., Sept. 14th, 1895.

[9] Transactions of the Epidemiological Society, vol. xiv., 1894-95.

[10] The Lancet, April 5th, 1902, p. 959.

[11] The Lancet, March 12th, 1904, p. 712.

Review of suggested methods of indirect infection —Having acquired from the study of the convalescent more or less definite ideas regarding the infectivity of scarlet fever one is now in a position to consider critically the various ways which have been suggested for indirectly acquiring the disease

Milk —I shall deal very briefly with milk as a vehicle of infection Several outbreaks[12] of scarlet fever have been proved to the satisfaction of the medical officers concerned to be *due to the consumption of contaminated milk It is* possible that this occurs more frequently than is known, for the milk supplied in towns often comes from various sources, passes through several hands and suffers much blending before it reaches the consumer, and it is thus difficult to trace the career of any given sample

Unrecognised cases —I next come to the influence of unrecognised cases which there is reason to believe is one of the chief causes of the failure of isolation to eradicate the disease It is now widely appreciated that scarlet fever, like diphtheria may exist in an extremely mild form, so mild that a considerable number of cases do not come under medical observation at all and so are never isolated There are patients also with marked throat affection in whom the rash either does not occur or has such a brief existence as to escape notice It is not at all unusual for such cases to be admitted into hospital under certificate of diphtheria Cultures prove negative and desquamation suggestive of scarlet fever ensues in spite of the fact that no rash has *been observed before or after admission*

Scarlatinal sore throat —Again it is within the experience of everyone that inflammation of the throat is apt to arise in households in which scarlet fever has been notified and I think we are justified in considering it probable that many of these cases are scarlatinal in nature Murchison wrote many years ago 'I have frequently found that when one or two children in a house have had scarlatina every adult in the same dwelling has suffered from a severe angina' In cases of this kind which have come under my observation, although the throat affection has been severe no rash has been observed nor has desquamation followed

Healthy infection-carriers —The part played by the health next under consideration The it is known, may exist in th who have been intimately exposed to infection and in a variety of circumstances it is believed may be communicated to others who develop the disease It is possible that in scarlet fever healthy persons may similarly carry the infective agent in their throats but in the absence of bacteriological evidence this must remain uncertain Even in diphtheria we have no means of estimating the magnitude of the part the bacillus carrier takes in the spread of infection I may mention however that it is very rarely that one hears of either disease occurring in the homes of any of the staff of a fever hospital or among their friends This is in spite of the fact that 10 per c
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Temporary immunity —This incidentally leads me to raise rather an interesting point Nurses and medical officers not infrequently do not develop scarlet fever until they have worked for many weeks, or even months, in the scarlet fever wards Patients admit
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acquire the disease

the susceptibility of an individual varies from time to time but *another interpretation is at least possible* In a well conducted scarlet fever ward, as in a diphtheria ward, there is no reason why a person should not work or live for a considerable time without actually acquiring in the throat or nose infective secretions derived from patients, and it seems to me that this may well be the explanation of the apparently temporary immunity The fact, therefore, may be regarded as further evidence of similarity in the mode of infection of diphtheria and scarlet fever

Air, clothes &c —The question of the extension of infectious diseases by fomites and air has been recently discussed by Dr Chapin[13] superintendent of health of the city of Providence U S A and he arrives at the conclusion that the importance usually attached to these methods of transmission is based on very slight evidence At a time when the desquamating cuticle was regarded as the sole source of infection in scarlet fever it was natural that a somewhat exaggerated importance should have been attached to the risk of conveyance by clothes and that the carpets and curtains, even the walls and ceiling, should have had dangerous properties attributed to them It has thus come about that to disinfection of the room, furniture, bedding, and clothes the sanitary authorities especially devote their attention But although many cases have been recorded *where it was possible that diseases were transmitted by* fomites this is very different from proving that they were so carried Much of the evidence was accumulated at a time when the possibility of danger from the convalescent, the infected yet healthy contact and the unrecognised case was not yet fully appreciated, and when allowance is made for coincidence also one may fairly question with Dr Chapin whether the generally received doctrine rests on a really sound basis That articles such as cups, handkerchiefs, pillows, sheets, blankets, sofa cushions towels, toys, and the like liable to come in contact with the mouth or the nose of other persons, may transmit the disease if smeared with infective secretions no one can doubt But secretion deposited elsewhere generally speaking cannot come into action until dry and pulverised, and when due allowance is made for the influence of light, desiccation, and starvation upon the virulence and vitality of all pathogenic organisms it must certainly be seldom that germs in the form of dust are received in sufficiently potent dose to cause the disease *These observations are important* in that they indicate the direction which rational disinfection should take and the need for promptness and discrimination in dealing with this matter

Conditions necessary for transmission —In conclusion of this section I shall enumerate the conditions which appear to be necessary for the transmission of scarlet fever and similar diseases from a potentially infectious person The contagium must be present in a form capable of being carried, there must be a vehicle for its conveyance, it must be actually conveyed to a mucous membrane the germ must be still virulent *when received*, the dose must be sufficiently large, and the receiver must be susceptible to infection

In measles all these conditions are usually fulfilled in marked degree There is abundant secretion distribution of which takes place by sneezing and coughing by the contaminated hands of the attendant, and by articles smeared

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also frequent during the acute illness but much rarer in the convalescent stage, thus 'return' cases occur in diphtheria less commonly than in scarlet fever Transmission takes place as in that disease but the average susceptibility is less

THE MANAGEMENT OF SCARLET FEVER

It is now generally recognised that owing to the several sources of infection with which I have dealt in the first section of this paper, eradication of the disease from large centres of population will not result from isolation of the notified cases. But this is no reason why every endeavour should not be made to limit the spread of infection. Though the case death-rate was only 3·1 per cent. among the patients treated in the Board's hospitals during 1903 nephritis occurred in 5·3 per cent., endocarditis or pericarditis in 0·8 per cent., middle-ear disease in 15·6 per cent., and mastoid abscess in 0·8 per cent. Scarlet fever, therefore, cannot be regarded even now as other than a serious illness. The methods of management, which are being adopted with a view to the limiting of infection, I shall now proceed to discuss, giving statistics illustrating the results of each.

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[12] Vide Bacteriology of Milk by Swithinbank and Newman

[13] Annu e City of Providence

14

Scarlet fever may be treated at home or in hospital, and there are drawbacks to each system. Home isolation tends to become a farce when the entire family occupies but two or three rooms, and, generally speaking, such isolation is not practicable among the poorer classes. When the patient is retained at home the wage-earner by reason of popular feeling often finds himself unable to continue at work. There is absence of skilled nursing; syringing of the throat and feeding by artificial means, often needed in septic cases, are of course not available. Even among the more well-to-do home treatment is not without its drawbacks. The isolation is frequently defective and secondary cases are apt to arise, while the patient has to pass the whole period of convalescence indoors, confined to the tedium of an often ill-ventilated bedroom.

Home treatment: first method.—There are two methods of home treatment. In the one more commonly adopted the patient is isolated from the other susceptible inmates by being kept to a single room. In Manchester during 1901 roughly one-fifth of the notified cases were treated at home. Dr. J. Niven,[15] the medical officer of health, using the rent to determine the circumstances of households, ascertained that the persons who were removed to hospital were of a much poorer class; he noted, also, that on the average there was considerably less susceptible material at home when the patient was not so removed. Since these home-treated cases differed from the hospital patients in these all-important respects it is obviously impossible to come to any trustworthy conclusion from Dr. Niven's statistics as to what would have happened had all the cases been treated at home. In the year mentioned 358 primary cases were treated at their own homes; there were 351 other unprotected persons *under 15 years of age* in these households, and 69 (19·6 per cent.) subsequent cases occurred.

More unsatisfactory are the results when home isolation is uniformly adopted for all classes. During the last few years interesting and instructive reports have been kindly sent me by Dr. Chapin[16] and I shall quote from his statistics. Providence has a population which has risen from 132,000 in 1890 to 193,000 in 1904 and home treatment had until recently been practically the only method employed. During eight years up to, and including, 1903 scarlet fever was acquired by no fewer than 26·1 per cent. of the 4412 persons in infected families *under 21 years of age*, other than the primary cases. (During this period 3023 patients, out of a total of 3315 cases, had been treated at home.) This high percentage of secondary cases forms a drawback to home isolation which is clearly a serious one, serious not only to the individual but also to the community. In the previous section it was shown that in a not inconsiderable proportion of the convalescents from both diphtheria and scarlet fever infectivity was protracted beyond the period of isolation. The multiplication of cases in the infected homes may thus have an effect not to be estimated merely by the number of secondary cases. Scarlatinal sore throats, also, to which I have referred as occurring in homes infected with scarlet fever are, of course, not included among the secondary cases, yet they are quite possibly highly infectious.

Second method.—The second form of home isolation consists in effectually separating the susceptible children by sending them away. This, so far as the children are concerned, is much superior to the other method, but it is obviously of limited application and there is some risk of infecting fresh households. In Providence, during the last 17 years, from 652 families infected with scarlet fever there were thus removed 1051 persons, mostly children, none of whom had had the disease. 52 (5 per cent.) were attacked while away from home. Dr. Chapin informs me that scarlet fever patients are isolated at Providence until desquamation has ceased, and five weeks was, until March, 1902, the time laid down as the minimum period of isolation. It is interesting to find that 19 of the above persons who had been thus sent away from the infected houses were attacked on their return home, a percentage on the infected families of 2·9. These cases correspond closely to the "return" cases of fever hospitals, described by some writers as purely a "hospital phenomenon." That similar instances of late infection are rarer when the other method[17] of home isolation is adopted may possibly be due to the more susceptible material being to a great extent used up in the secondary cases.

Segregation hospitals.—Hospital treatment also is of two kinds. The first is the segregation hospital, where wards of from 12 to 20, or more, beds are provided for scarlet fever patients, smaller wards for combined diseases, and single-bedded rooms, usually quite inadequate in number, for doubtful or complicated cases requiring complete isolation.

Drawbacks.—It is needless for me to indicate the advantages of hospital treatment for the poorer classes and I shall confine myself to pointing out the drawbacks attaching to segregation. 1. There is the risk, a small risk as a rule, which erroneously certified patients run of acquiring the disease in hospital. Scarlet fever often assumes a mild type and there is sometimes difficulty by the time the patient has arrived at the hospital in deciding whether or not the diagnosis is correct. 2. Then there is the possibility of infection by some secondary disease. This danger is not confined to fever hospitals but attaches to all institutions where sick children are collected together. A child admitted with scarlet fever may be at the same time incubating a second infectious disease which he transmits to some of his fellow patients. 3. Again, the period of isolation is on an average longer than when the patient is treated at home. This, however, may be due to the fact that, while many practitioners still regard desquamation as the sole criterion of infectivity, the hospital authorities attach much importance, perhaps too much, to the mucous discharges. 4. The fourth point is that there may be in a ward patients suffering from the same disease in different degrees of virulence—a state of affairs which may possibly act to the detriment of those admitted with a mild variety. 5. Again, rhinitis, which so frequently leads to prolonged detention, is regarded by some as transmissible. Both these drawbacks may be to some extent diminished by a classification of cases. 6. It is suggested, also, that the congregation of cases in wards affords facilities for a patient, who in other circumstances would be free from infection, to become reinfected. 7. Lastly, there is the fact that in a small percentage of cases the treatment has apparently failed and "return" cases arise as a consequence of the patient's discharge.

Protracted infectivity.—There has been considerable discussion as to the exact reason for this occasional persistence of infection. Professor Simpson raised the question as to how far segregation was responsible for it. As Dr. A. Newsholme[18] expresses it, Does the mucous membrane with its crypts act as a continuing incubator of scarlatinal germs originating from those which caused the patient's illness, or does it act merely as a suitable storehouse for germs derived from other patients, a storehouse which can only be emptied by one or more weeks' separation from these patients? Professor Simpson inclined to the second view and suggested that protracted infection might cease if convalescents were completely isolated for a fortnight and treated antiseptically. In diphtheria we are able to test this and there can be no doubt that in this disease, at any rate, the first explanation is the correct one in many cases of protracted infection, the germs which are present are descended from those which originally caused the patient's illness.

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[15] Report on the Health of the City of Manchester, 1901.

[16] Loc. cit.

[17] Extracts from Dr. Chapin's report: Since 1895, there must have been at least 1300 families in which susceptible children remained after the removal of the warning sign. ...... The disease recurred in 30 families after removal of the placard (in 20 within a month); ...... and in seven other families living in the same house (in five within a month).

[18] Public Health, August, 1904, p. 713.

Disappearance of infectivity —It may be added that antiseptic treatment in prolonged infection in diphtheria is disappointing In a proportion of our cases—a small proportion, it is true—although the nose is douched, the throat syringed or painted with antiseptic lotion every four hours, and the patient kept isolated in a single-bedded room yet the bacilli persist for weeks and even months Indeed it would seem as if the disappearance of the bacilli was not entirely due to their mechanical removal but in some degree to a specific bactericidal action on the part of the mucous membrane or its secretion, the development of which property was in some cases considerably delayed The question as to how persons suffering from these infectious diseases lose the contagium and cease to be infectious seems to me both an interesting and an important one which has not yet been sufficiently discussed If it does depend on a specific property which the tissues develop in the course of the illness there is hope that measures may be devised for hastening the onset of this action The provision of a method of effectually and speedily removing infection is as important to the public health as the discovery of an antitoxin

To return to the relation between segregation and prolonged infectivity it is probable from analogy and from the fact that infection is sometimes prolonged in cases treated by home isolation that segregation is not wholly responsible But I should regard it as possible that it has some effect To express it in the terms of the theory to which I have just referred, I see no reason why a specific bactericidal action, if one exists, should not in some cases be short lived, just as in diphtheria the antitoxic property is In these cir [illegible] quire infectivity from his [illegible] re acquiring the disease [illegible] the segregation hospital on the occurrence of cases in the households attacked? Dr Niven[19] reports that in Manchester, during the year 1901 there were 1534 cases removed to hospital There were 2937 unprotected persons under the age of 15 years left and 356 subsequent cases[20] occurred, a percentage of 12 1 In addition, 3 6 per cent of these children acquired scarlet fever after the discharge of the primary case from hospital Thus in all 15 7 per cent of the unprotected children in these households acquired the disease Comparison with the results at Providence of the treatment of all classes at home would suggest that the removal to a segregation hospital had very considerably reduced the risk to susceptible persons in the infected households quite apart from the undeterminable influence on the health of the community One would not be justified in saying how much for all the conditions may not be the same in the two instances

To improve results —The question arises as to whether these results could be improved I shall pass over the secondary cases which however, form the majority of the subsequent cases, merely remarking on the importance of prompt removal of the primary case, on the danger of infection being spread by the soiled hands of the parent and on the necessity for immediate disinfection of articles likely to be smeared with infective secretions, cups spoons handkerchiefs, sheets, pillows towels toys &c, all matters which are very much in the hands of the medical attendant

It is probable that the number of "*return cases* might be reduced were the attention of parents more generally called to the fact that freedom from infection cannot be definitely ascertained For some time after the return home of the patient precautions should be taken with regard to such articles as those indicated above and if possible he should not sleep with children unprotected by previous attack In many households such precautions are possible but are not taken because the parents are under the impression that the child is so to speak guaranteed free from infection The general incidence might also be influenced if convalescents were prevented from attending school for at least a month after their release from isolation These remarks apply to home treated, as well as hospital treated, patients Is it possible by any modification of hospital treatment to reduce still further the number of "return' cases? I have already indicated that segregation may conceivably have a delaying influence on the freeing of patients from infection and it would be well to remove this possibility A separation of acute from convalescent patients and of complicated from uncomplicated cases has been a step in this direction But the gathering together of the complicated cases is not free from objection and two of the principal drawbacks to the segregation hospital, the occasional occurrence of secondary disease and the risk to wrongly certified patients, still remain In these circumstances attention is naturally being directed to the possibility of securing isolation rather than segregation for hospital patients

True isolation hospitals —This brings me to the second form of hospital treatment—the true isolation hospital In hospitals of this type the patients are treated in wards built on the cubicle system In each ward is a central passage with single bedded cubicles opening into it, separated from one another by partitions, composed in great part of glass Each room is well ventilated and provided with its own hot and cold water fittings for hand basin and moveable bath All articles used by the patient, such as cups, plates, spoons, &c, are sterilised after use, and the nurses wash their hands and change overalls on going from one cubicle to another In this way it has been found possible to treat different diseases in adjacent cubicles without interchange of infection There are drawbacks to this system, of course From the patient s point of view the curtailment of out door exercise and the confinement to one room are objectionable, the glass partition, however, relieves him from a sense of complete isolation From the administrative aspect the wards are more expensive to build, the nursing is not so convenient—a matter of some importance when over one third of the patients are under five years of age—and there may arise difficulty in securing adequate disinfection of the attendants' hands The drawbacks however, are not insurmountable, and hospitals of this construction have been found to work satisfactorily in France and the United States

Many of the wards of a segregation hospital could be readily converted into cubicle wards by glass partitions If a suitable classification of cases were adopted the common bathroom and lavatory might still be used Unless there were special indications the overalls might be dispensed with, and the nurse need disinfect the hands only before and after attending to the mouth and the nose In wards where miscellaneous diseases acute cases, or cases complicated with chronic mucous discharges were treated the wearing of rubber operation gloves would facilitate the frequent washing and disinfection of the hands which would be required (These gloves are worn by nurses in the septic wards and isolation rooms of the North Eastern Hospital and prove satisfactory) Sterilisation of the food utensils is indispensable and this might be done centrally The provision of several fixed hand basins is an almost essential convenience but might in many cases prove the chief difficulty in the conversion of wards from the one system to the other Since transfer of infection depends almost entirely on the conveyance of infective secretions by the soiled hands of the nurse on the playing together of the children and the use of the same toys and on the imperfect cleansing of eating and drinking utensils wards modified as suggested would in all probability meet the occasion This method of treatment is said to be efficient in the case of scarlet fever but I am not able to bring before you statistics dealing with sufficient numbers to allow of trustworthy conclusions being drawn from them One would anticipate that the danger of acquiring disease in hospital would diminish almost to vanishing point that the period of isolation would be shortened, and that the number of patients discharged while still infectious would be lessened It is unlikely that 'return cases would be altogether prevented but owing to the special attention which would be paid to the throat and nasal cavities the results would probably be better even than those of home treatment by the second method, which in effect this system of isolation closely resembles

In conclusion gentlemen, the beneficial influence of hospital treatment on the incidence of scarlet fever cannot be realised to the full without cooperation on the part of parents, medical attendants, and sanitary authorities, and I have endeavoured in this paper to indicate in some particulars the direction which such coöperation should take It is of prime importance also that the micro-organism of scarlet fever should be isolated and identified It would probably lead to a saving of public money were an organised research made into this subject for there can be little doubt that under the present system, while some are discharged who are still infectious, many are isolated for an unnecessarily long period.

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[19] Loc cit

[20] In both Providence and Manchester when cases have occurred nearly simultaneously in one house they have been treated in these statistics as primary and subsequent

APPENDIX.

The following table, in which the condition, *at the time of discharge*, of alleged infecting cases and all cases is compared, is compiled from Dr. Millard's valuable paper published in the *British Medical Journal* of Sept. 3rd, 1898.

—	Enlarged tonsils or congested mucous membrane.	Enlarged cervical glands.	Morbid condition of the nose.	Otorrhœa.	Desquamation.	Sores and excoriations.	Skin eruptions.	Albuminuria.	Quite clear in every way.
Alleged infecting cases (158)									
Percentages	*3·1*	*2·1*	*22·9*	*2·2*	*7·0*	*3·1*	*3·1*	*0·6*	*58·2*
All cases									
Percentages	*5·4*	*2·3*	*6·0*	*1·5*	*8·2*	*2·2*	*1·0*	*0·5*	*72·6*

The next table is from Professor Simpson's report to the Metropolitan Asylums Board, 1901, and deals with the condition of 90 probable infecting cases *at the time of his visit.*

—	Unhealthy throats and enlarged cervical glands.	Colds in the chest.	Colds in the head.	Discharge from the nose.	Sore nose.	Discharge from the nose and ears.	Desquamation and eczema.	Various.	Healthy.
Cases (90)	7	5	15	36	5	13	3	3	3
Percentages	*7·7*	*5·5*	*16·6*	*40*	*5·5*	*14·4*	*3·3*	*3·3*	*3·3*

The statistics which have been quoted as to the results in infected families of different methods of management are presented below in tabular form.

—	Unprotected persons exposed.	Subsequent cases among these.	
Home treatment.			Per cent.
Providence (1895–1903*) ...	4412 (under 21).	1154	= *26·12*
Manchester (1901†)	351 (under 15).	69	= *10·62*
Home isolation by second method.			
Providence (1887–1903)	1051 (mostly children).‡	52 (secondary) 19 ("return")	= *5·02* = *1·82*
Hospital segregation.			
Manchester (1901)	2937 (under 15).	356 (secondary) 106 ("return")	= *12·12* = *3·62*

* All classes. (Only 292 patients out of 3315 were sent to hospital and these are not separated in the calculations.)

† To some extent selected cases.

‡ 876 under 15 years of age, 136 between 15 and 20, and 39 over 20. Children who returned home before the placard was removed are not included.

UNIVERSITY OF LEEDS.—The higher education subcommittee of the Leeds education committee has made the customary annual grants out of funds provided for the purpose by the Local Taxation (Customs and Excise) Act, 1890. The total amount available was £6225 and of this £1550 were allotted to the University. This grant is in addition to the sum of £4000 which was previously voted by the city council. The Duke of Devonshire has contributed £1000 to the Foundation Fund which now amounts to £66,477. Arrangements have been made to hold a dinner of the court of the University on Monday, Feb. 6th, in the University Buildings. Mr. Alfred Mosely, C.M.G., will be the principal guest and it is noted that there will be a large attendance. Earlier in the day Mr. Mosely is to give an address on "Some Lessons learned by the Recent Mosely Commission of Educationalists in the United States."

PRIMARY HEART FAILURE AS THE IMMEDIATE CAUSE OF DEATH IN ACUTE DIPHTHERITIC TOXÆMIA.[1]

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IN studying the action of a poison on the body one of the most important points to be determined is the exact manner in which death is brought about. I have therefore been guided in the choice of my subject by two considerations: first, that heart failure is commonly looked upon rather as a complication of acute diphtheritic poisoning than as the immediate cause of death and as the result of an essential lesion of the disease; and, secondly, that many continental physicians deny that the pathological changes, which in England are considered to be the cause of heart failure, play any important part in bringing about the death of the patient.

Diphtheria is much more closely allied in character to poisoning by snake venom than to the infectious diseases as we see them clinically and like snake venom the poison of diphtheria probably consists of several different bodies. Sidney Martin[2] has shown that in addition to the secretion of a toxin, the diphtheria bacillus has the power of digesting the proteid constituents of a suitable medium in which it grows with the formation of albumoses and an acid body which also have a poisonous action. Ehrlich[3] has demonstrated that the toxin probably consists of two distinct substances: (1) Toxin which gives rise to the acute symptoms of poisoning; and (2) toxone which leads to a degeneration of the peripheral nerves after the acute symptoms have subsided. Diphtheria antitoxin has a greater affinity for toxin than toxone and in the partial neutralisation of toxin bouillon will combine with the former in preference to the latter. This is borne out clinically by the fact that antitoxin is more efficient in preventing death from acute diphtheritic poisoning than in lessening the tendency to subsequent paralysis. To attain the latter object large doses of antitoxin are necessary. This view is not held by all pathologists, notably Arrhenius and Madsen,[4] who maintain that diphtheria toxin is a homogeneous poison.

Provisionally, therefore, diphtheria may be divided into two stages from both the pathological and clinical standpoints: (1) An acute toxic stage the symptoms of which are referable to the action of toxin on the body; and (2) a convalescent stage during which paralytic phenomena are developed as a result of the action of toxone on the peripheral nerves. The determination of the duration of the acute toxic stage is by no means simple, because paralysis may come on before this stage is ended and, moreover, the two stages are not sharply divided by a fall of temperature or marked alleviation in the acute symptoms. In addition to this the local symptoms may have completely subsided and yet the patient is not free from death from acute toxæmia. The most trustworthy indication is undoubtedly the time at which death may occur and from the records of cases during eight consecutive years at University College Hospital I have found this time to be on the average the tenth day of the disease, the earliest being the third or fourth and the latest the fifteenth. This observation agrees with most of those made during the numerous epidemics of the disease which have occurred and therefore it may be stated generally that death usually takes place some time during the first fortnight but that in a few cases life may be prolonged into the third week. Further, the incidence of paralysis[5] is greater during the third week than at any other time. Hence, taking these two facts together, the patient can never be considered safely over the acute stage of diphtheria until the end of the third week

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[1] This paper was communicated to the Medical Society of London on Nov. 28th, 1904.

[2] Martin: Supplement to the Local Government Board Reports, 1891–92; and THE LANCET, August 3rd, 1895, p. 287.

[3] Ehrlich: Die Wertbemessung des Diphtherieheilserums, 1897.

[4] Arrhenius and Madsen: Toxines et Antitoxines, Centralblatt für Bakteriologie, &c., Sept. 23rd, 1904.

[5] Goodall: On Diphtheritic Paralysis, Brain, Parts lxx. and lxxi., p. 286.

Having defined the difference between these two stages I shall now consider the clinical and pathological aspects of the acute stage of the disease in support of the view that the toxin of diphtheria kills by its direct action upon the heart and its nervous mechanism The following remarks apply to uncomplicated cases only and exclude those in which death is due to asphyxia from laryngeal involvement Aretæus[6] the Cappadocian, in the second century described ulcers about the tonsils including the Egyptian and Syrian ulcers He stated that if the disease spread to the thorax by the windpipe it occasioned death by suffocation if it spread to the mouth the patient died from inflammation fever fœtid smell, and want of food The Spanish and Italian physicians of the sixteenth and seventeenth centuries described epidemics of a disease which Bretonneau[7] subsequently identified as malignant angina and the disease of Aretæus and to which he gave the name of diphtheria At that time death was considered to result from occlusion of the air tubes and the names ' garotillo " morbus strangulatorius and other synonyms indicative of suffocation were given to it In his earlier writings Bretonneau shared this view and showed that the croup of Francis Home was identical with diphtheria However, more than 30 years after his first work on diphtheria was published he states in his fifth memoir[8] that he had seen cases of toxæmia in which life was destroyed without closure of the larynx but that he had never read of such cases in the literature He compares death in these cases to that which occurs in poisoning by cantharides

It is however to Trousseau[9] that we owe the most complete and definite account of the symptoms of systemic intoxication in diphtheria and his vivid description applies exactly to the disease as we see it to day In describing a case he says ' The little patient grew cold, like a cholera patient, she had a tendency to lipothymia, her pulse was exceedingly weak and slow, but her breathing was free We tried in vain to get her [illegible]
come her utter loathir [illegible]
ceptible diminution of [illegible]
the state of the nose w [illegible]
longer any secretion of the fœtid ichorous discharge although the erysipelatous redness had disappeared, although looking only to the local manifestations amendment had taken place that amendment was deceitful and the child died poisoned by the diphtheritic poison In the act of refusing to drink, and in turning away from the nursing sister she fainted and died without coming out of the faint This manner of dying is frequent in malignant diphtheria

[illegible]

of albuminous urine which in comparatively rare cases may be completely suppressed, and (3) vomiting These phenomena stand apart from all the others which are of irregular occurrence such as general hæmorrhages and so forth Consciousness is retained to the end of life and there is no evidence that the brain is affected beyond in some cases a little drowsiness from which the patient can be completely roused at any moment The great prostration which occurs in the worst cases is in part due to heart failure and in part to a direct action of the toxin upon the motor cells of the spinal cord as I shall show later

The *heart symptoms* which are invariably present commence in the majority of cases a few days before death and although death may occur on the same day as the signs are first noticed yet life may be prolonged for a week or more after the symptoms of heart failure have appeared The time of onset of cardiac failure is some time during the first week of the disease especially about the sixth day The first sign is noticed in the pulse which becomes very compressible as a rule rapid but at times slow, and almost always irregular in force and rhythm The cardiac impulse may be diffused and slapping the first sound at the apex feeble and short and the second pulmonary sound accentuated Irregularity of the pulse is much commoner than is supposed but frequently it is not noticed as the pulse varies from hour to hour and may appear to be quite regular if only casually examined Sometimes before death the pulse becomes remarkably slow and this slowing is a very fatal sign The pulse grows progressively weaker and more irregular till it is imperceptible and in this condition the patient may linger for hours or even days finally to die from syncope Death may be quite sudden if any strain is thrown on the heart as for instance vomiting or struggling The face is remarkably pale and waxy looking the lips are cyanosed and as the pulse fails the surface becomes cold and the patient restless The respirations are sometimes sighing or irregular All these symptoms are referable to a *primary failure of the heart*

In addition to its action upon the heart the diphtheria toxin also directly affects the *kidney*, and probably also indirectly through its nervous mechanism leading to a diminution in the amount of urine and to the presence of albumin, but this action upon the kidney cannot lead to the death of the patient unless the urine is completely suppressed because most diphtheria patients have albumin in their urine and the urine of patients who recover may be diminished to one ounce in the 24 hours Complete suppression of urine is comparatively rare and when it does occur the symptoms of heart failure are nearly always well marked when the suppression commences and are not secondary to it Fatty degeneration of the renal epithelium is the most constant microscopic lesion found or the kidney may appear to be practically normal

Whether the *vomiting* which is independent of the taking of food and is not present in every fatal case, is secondary to heart failure or to partial or complete suppression of the functions of the kidney is a difficult question to answer At any rate it can be definitely stated that uræmia never occurs in diphtheria apart from acute Bright's disease which is a rare complication[10] This absence of uræmia was noted by Sir William Gull[11] in 1859 Vomiting has been supposed to depend upon fatty degeneration of the stomach[12] as it may occur before heart or kidney symptoms are present but I cannot think that such a lesion would give rise to vomiting
As I shall show later [illegible]
the motor nucleus of [illegible]
if we are to regard vo [illegible]
a lesion would be mor [illegible]
would fatty degeneration of the stomach, especially as considerable irritation of the fauces is present which no doubt is responsible for the transmission of abnormal nerve impulses to the hypersensitive centre

Hitherto I have only considered those cases in which the patient has received a fatal dose of toxin and as we saw that in such cases primary heart failure was invariably present although vomiting might be absent and a fair amount of urine might be passed so in the milder types of the disease we see that heart failure is the most constant symptom of systemic infection Out of 177 cases carefully examined by Villy[13] 155 showed signs of heart failure These signs are evidenced as in the fatal cases by irregularity or intermittence of the pulse with or without the physical signs of cardiac dilatation They commonly begin about the end of the second week—i e, rather later than in fatal cases—but may be noticed in the first or not until the third week of the disease and they continue from two to six weeks but in some cases for four or five months As long as any irregularity of the pulse remains it is dangerous to allow any strain to be thrown on the heart as this is the class of case in which sudden death is liable to occur during convalescence It is probable that if the heart and the pulse were carefully examined in such cases of sudden death some signs of heart failure would very frequently be found Cases are often seen in which the strain of getting up too early undue excitement or vomiting initiates heart failure during convalescence thereby bringing into evidence a latent weakness of the heart

A case which was brought to my out patient room at the North Eastern Hospital last August illustrates the fact that this latent weakness of the heart may be brought into prominence at much later periods following the disease The patient a boy aged 11 years had had two fainting attacks in which vomiting occurred during the past six months each being referable to strain. He had had diphtheria four years previously and by the kindness of Dr. E. W. Goodall I obtained access to the notes of the case which were taken whilst he was in the Fever Hospital. Here it stated that the patient had an irregular pulse during an attack of diphtheria, thereby indicating that the heart had been affected. When I saw the patient he was pale and his pulse was irregular and intermittent, although the heart showed no signs of dilatation. By October he had quite recovered and no irregularity whatever could be detected in the pulse.

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[6] Aretæus On the Causes and Symptoms of Acute Diseases book i chapter ix Sydenham Society 1856

[7] Bretonneau First Memoir New Sydenham Society p 5

[8] Bretonneau Fifth Memoir New Sydenham Society p 173

[9] Trousseau Clinique Médicale de l'Hôtel Dieu de Paris dixième édition tome I p 455

[illegible]

It is impossible to describe the irregularity of the pulse in acute diphtheritic poisoning, as it does not conform to any type: every degree and variety occur, together with intermittence. In addition to this the pulse alters considerably in both degree of irregularity and in frequency during the 24 hours and these changes often occur at very short intervals. Very commonly when the pulse is irregular the frequency is diminished and when it becomes regular the frequency is increased. The following is a table showing these changes occurring in the pulse in one of my cases.[14]

Time.		Frequency.	Regularity.
Nov. 13th	5 A.M.	71	Very irregular.
	7 "	120	Regular.
	8 "	90	Irregular.
	9 "	—	Slightly irregular.
	11 "	86	"
	3 P.M.	96	"
	5 "	108	Regular.
	9 "	82	Irregular.
	10 "	79	Slightly irregular.
Nov. 14th	2.30 A.M.	66	Very irregular.
	4 "	88	Irregular.
	6 "	104	Regular.
	7.15 "	96	Slightly irregular.
	8 "	89	Irregular.

The pulse became irregular on the ninth day of the illness and was quite normal on and after the forty-eighth day. The heart showed signs of dilatation on the ninth day and was apparently normal again on the thirtieth day. After the fauces were clean the child was quite well and lively and it was only on examining the heart and pulse that anything could be found amiss. Apart from irregularity the frequency of the pulse may be affected alone and whilst as a rule it is rapid, exceptionally it may be slow. Generally the patient appears to be quite well and suffers no inconvenience or distress on account of the heart failure.

Dropsy[15] has been described but it must be of very rare occurrence now, whatever it was formerly when these patients were allowed to get up.

With regard to the association of irregularity of the pulse with paralysis, it is not surprising to find that when paralysis comes on in the acute stage it is usually preceded by such irregularity because the latter is so common in this stage. During the convalescent stage paralysis may also be preceded by an irregular pulse which is often determined by vomiting, or the irregularity may occur after the paralysis is established. Tachycardia is sometimes seen during convalescence. When death occurs from heart failure during the paralytic stage it is usually the result of vomiting and wasting or is secondary to paralysis of the respiratory muscles. From the pathological aspect of the subject ample evidence is forthcoming that death in acute diphtheria results from a direct action of the toxin upon the neuromuscular mechanism of the heart.

As soon as the importance of heart failure in diphtheria had become established a pathological cause was sought for. As early as 1842 Werner[16] described cardiac thrombosis and associated it with death in this disease. This theory was strongly supported at the time but was soon abandoned and it is now known that cardiac thrombosis is a rare complication of diphtheria and that when it occurs it is probably the result of a secondary infection, as shown by Woollacott[17] in three cases. Barbier and Alquier,[18] however, still adhere to it and state that cardiac thrombosis is the most frequent cause of death in diphtheria from an investigation of 45 necropsies. In 1864 John Bridger[19] at the thirty-second meeting of the British Medical Association described endocarditis in diphtheria and regarded it as the cause of death in his cases. Bouchut and Labadie-Lagrave[20] also maintained that endocarditis occurred in diphtheria. This theory also was soon given up. With regard to changes in the myocardium, it has been recognised that fatty degeneration of the muscular fibres is of common occurrence, since Bristowe[21] in 1859 described this lesion in a case of diphtheria.

Space does not permit me to mention here the numerous observers who have confirmed this. One of the best series of cases, as yet unpublished, has recently been worked out by D. Brewer at the Homerton Fever Hospital. Out of 39 consecutive cases dying from acute diphtheritic poisoning he has found excessive fatty degeneration of the heart in every one. He has also examined eight cases which died later in the disease and his results show that fatty degeneration is much less likely to be seen and that it is less extensive than in the acute stage, but that interstitial changes, as described by Leyden and others, are liable to be found.

Sidney Martin[22] proved experimentally that fatty degeneration and cloudy swelling of the heart muscle were the results of poisoning by diphtheria toxin and he concluded that they were the cause of death. Various continental observers, notably Leyden[23] in 1882 who gives accounts of three cases, and Rabot and Phillippe[24] in 1891 who examined five cases, on the other hand, whilst allowing that fatty degeneration occurs in the acute stage of the disease deny that it produces recognisable heart symptoms. They state that any signs which might perhaps depend upon degeneration of the myocardium are confounded with the symptoms of general infection, and they further maintain that heart failure occurring during the convalescent stage is the result of an interstitial myocarditis of a patchy distribution. In 1900 Thomas and Hibbard[25] communicated a paper on Heart Failure in Diphtheria. Their results are based upon 14 post-mortem examinations and they conclude that there is gradual degeneration of the heart muscle accompanied by œdema and interstitial infiltration; on analysing their cases, however, I can only find descriptions of the microscopical examination of the hearts of five of them. In all the 14 cases degenerative changes were found in the vagus, whereas Leyden states that he found no changes in this nerve. Rabot and Phillippe state that they have found the central and peripheral portions of the nervous system normal in several cases.

I shall next consider the evidence in favour of the view that acute degenerative changes occur in the central nervous system in diphtheria, including the motor nucleus of the vagus. Vulpian[26] in 1876 and Déjerine[27] in 1878 described changes in the anterior cornual cells and since their time numerous papers have been written on the subject, some observers finding changes whilst others have found none. I should like to draw especial attention to the fact that much of this work has been done on cases of diphtheritic paralysis and many observers have found the central nervous system to be normal in this condition.

All these negative observations are of value in confirming the point to which I now wish to refer—namely, that it is in the *acute stage* of diphtheria that degenerative changes occur in the central nervous system as a result of the action of toxin and not in the paralytic stage, the symptoms of which are referable to the action of toxone. If the patient has lived to become paralysed his dose of toxin has been only moderate or it has been neutralised by antitoxin, and, therefore, any changes in the central nervous system would be relatively slight or the cells would have recovered. This is exactly analogous to fatty degeneration of the heart, w[illegible] is most extensive in fatal cases in the acute stage, but is [illegible] the relatively slight or absent in cases surviving this st[illegible] an Mouravieff[28] in 1897 investigated the subject experimentally and found that in the acute stage there were marked degenerative changes in the motor cells of the spinal cord and that in animals surviving this stage degeneration was unlikely to be seen. Crocq[29] had previously in 1895 found similar changes. Rainy[30] in 1900 also found experimentally acute changes in the spinal motor cells. In 1902 I examined[31] the neuro-muscular mechanism of the heart in 11 cases of acute diphtheria in Dr. F. W. Mott's laboratory at Claybury. In all 11 cases I found acute degenerative changes in the medulla oblongata, the motor nucleus of the vagus being affected, and in all the 11 cases there was extensive fatty degeneration of the heart. The vagus nerve was normal in every case. In two cases which died from asphyxia and showed practically no symptoms of systemic intoxication I found only occasional and slight changes in the central nervous system and cloudy swelling of the heart muscle. In conjunction with Dr. S. H. Bown, resident medical officer at University College Hospital, London, I am now repeating this piece of work experimentally and so far our results confirm those of Crocq, Mouravieff, Rainy, and others. [illegible] it does not occur [illegible] in the paralytic [illegible] Schech.[32]

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[14] Bolton: The Heart in Diphtheria, Edinburgh Medical Journal, April, 1902, p. 341.

[15] Rabot et Phillippe: De la Myocardite Diphtéritique aigué, Archives de Médecine Expérimentale, vol. iii., p. 647. Also cases in the Report of the Medical Officer of the Privy Council, 1859.

[16] Werner and others, quoted by Leyden: Ueber die Herzaffectionen bei der Diphtherie, Zeitschrift fur Klinische Medicin, 1882, p. 334.

[17] Woollacott. THE LANCET, May 6th, 1899, p. 1217.

[18] Barbier et Alquie [illegible] 2, p. 595.

[19] Bridger: Medical Ti [illegible] ii., p. 201.

[20] Labadie-Lagrave: Des [illegible] du Croup, &c. Thèse de Paris, 1873, No. 117.

[21] Bristowe: Cases of Diphtheria, &c., Medical Times, 1859, August 20th, pp. 180, 210, 227.

[22] Martin: Loc. cit.

[23] Leyden: Loc. cit.

[24] Rabot et Phillippe: Loc. cit.

[25] Thomas and Hibbard: Boston City Hospital's Reports (eleventh series), 1900, p. 204.

[26] Vulpian; Leçons sur les Maladies du Système Nerveux, 1876.

[27] Déjerine: Recherches sur les Lésions du Système Nerveux dans la Paralysie Diphthéritique, Archives de Physiologie, 1878.

To sum up the present state of our knowledge with regard to the chief pathological changes in diphtheria it appears that as a result of the action of toxin there are produced fatty degeneration and cloudy swelling of various organs of the body, especially of the heart, and acute degeneration of the cells of the lower nerve centres; that after the acute stage of the disease has passed degeneration in the peripheral nerves occurs as a result of the action of toxone; and at this stage fatty degeneration of the heart and degeneration of the nerve cells are less likely to be prominent features but that interstitial changes are liable to be found in the heart.

In conclusion, it is seen from the clinical aspect that death in acute diphtheritic toxæmia is due to primary heart failure and to account for this extensive fatty degeneration is found in the heart and acute degeneration in the motor nucleus of the vagus. It cannot be definitely stated whether the acute changes in the vagus nucleus would produce irritation or paralysis of the vagus. It is, however, quite likely, as all stages of degeneration are found at the same time, that both irritative and paralytic effects may be felt by different portions of the heart at the same time and that in some cases an irritative effect may preponderate whilst in others a paralytic effect may be chiefly evident. The probability is that irregularity of action would be the prominent feature, that this irregularity would be subject to great variations in degree, and that in some cases a slowing of the pulse might be expected and in others an increased frequency. Such a lesion would also be quite likely to lead to vomiting. The cardiac dilatation is the result of weakness of the heart wall. The irregular pulse and fatal syncope of acute diphtheritic toxæmia are therefore due to the disturbed innervation of an acutely degenerate heart. The heart failure exhibited in the acute stage by patients who recover is probably the result of similar though less extensive changes. At a later stage of the disease the results of these changes, together with interstitial cellular infiltration, are sufficient to produce a latent weakness of the heart which can be brought into evidence by some strain and in this stage, also, degeneration of the vagus nerve probably plays a not unimportant part.

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THE CANCER PROBLEM.[1]

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IN the following simple story the correctness will be assumed of all the conclusions as to the etiology and nature of cancer which were advanced in, for example, the abstract of my lecture on the Problems of Cancer published in THE LANCET of Oct. 29th, 1904. The appended classification of neoplasms, an extension and inclusion of the "embryomata" of Wilms, may serve to make clear what in this paper a malignant tumour is defined to be.

1. *Embryomata.*—Benign neoplasms. Pathological manifestations of some greater or less portion of an embryo. They are composed of real tissues—that is, normal or somatic ("embryonic") cells or tissues. At its basis each is a greater or less portion of *a twin, triplet, quadruplet, &c.*, identical with the individual containing it. They are not endowed with indefinite powers of growth and they nourish themselves like other normal tissues.

2. *Amphimixomata.*—Malignant neoplasms. Combinations of embryomata and trophoblastomata. Pathological manifestations or attempts to reproduce the whole life-cycle including trophoblast and embryo. They are transitional forms. (The mixed tumours of Wilms are not all malignant, some being merely embryomata.)

3. *Trophoblastomata.*—Malignant neoplasms. Pathological manifestations of the asexual portion (trophoblast) of the life-cycle and sometimes, whether or not always is not at present known, attempting to repeat the germ-cell portion of the life-cycle, as shown by the researches of Farmer, Moore, and Walker. They are not known to differentiate actual functional gametes, eggs and sperms. They never include or repeat any part of an embryo. They are never composed of somatic ("embryonic") cells, though they may mimic such or even resemble no other cells in the body. As Sir James Paget pointed out long ago,[2] they are "imitation issues." They exhibit powers of unlimited growth and increase and they nourish themselves by eroding and destroying normal cells and tissues in a manner exactly like that of the trophoblast of normal development.

To illustrate the points to be considered I have put out certain microscopical preparations of transient ganglion cells, parts of the asexual generation of a dogfish. These may be taken to typify the trophoblast of a mammal or the cells of a malignant tumour. The preparations show: (*a*) cells in full functional activity prior to the critical period, and (*b*) cells which with the passing of the critical phase have entered upon their long, slow course of degeneration [illegible]

[illegible] renewed since that time, [illegible] drawn by Fleischmann 90 (!) years [illegible] aware, by any living pathologist.

by simple atrophy. It would have been preferable exhibit preparations of trophoblast, but those made a. this method some years ago are now faded. The facts in two cases, the mammal (sheep, pig, and others) and the fish (scyllium, raja, and others), are, however, quite similar. There is, indeed, only one mode of development in vertebrate animals. Freshly made preparations of human trophoblast of, say, the fifth and ninth weeks of gestation would display the like bloom on the one side of the critical period and the same decay on the other. Such figures of mammalian trophoblast have, indeed, already been published in the writings of my friend Dr. J. P. Hill.

The question which I wish to discuss is one which interested me exceedingly some years ago, long before its significant bearings upon the cancer problem were obvious. In a nutshell it is this: Why do these and certain other cells of a fish development, like those of the mammalian trophoblast, go on flourishing for a certain definite portion of the early development, whilst the parts of the sexual generation, "the embryo," are unfolding, and then with an almost tragic suddenness commence to degenerate and die? What brings this remarkable change to pass, one which in human development is lacking, if "the embryo" be absent or very abnormal?

Cancer is an irresponsible trophoblast. The unfolding of an embryo would stay its growth just as the formation of the sexual generation ends the growth of a shoot of a flowering plant. How does "the embryo" bring about this result? It does not devour the trophoblast but it must produce something which, as was pointed out two years ago,[3] brings the degeneration to pass. Only in ordinary chorio-epithelioma is the malignant neoplasm a persisting portion and derivative of the trophoblast of the immediately previous gestation. Any ordinary cancer or sarcoma is a new development of trophoblast, due to the attempt of a germ cell to start the cycle anew. Except in mode of nutrition this irresponsible trophoblast does not resemble normal trophoblast, but it often mimics the structure in which it lies or it is like no other organ or tissue in the body. In any and every mammalian (Eutherian) development there is the potentiality of a malignant tumour,[4] chorio-epithelioma, and this danger exists until the degeneration of the trophoblast is an assured but not completed fact. As researches made some years ago, but never published, demonstrated, in the pre-critical period the staining of the trophoblast cells resembled that of the functional transient ganglion cells—with methyl-blue eosin they took on an exquisite blue stain. With the passing of the critical period the cells of the trophoblast, as Hill has shown for the bandicoot (perameles), no longer took on the blue stain but absorbed ever more and more the red eosin. The like change will be noticed in the transient ganglion cells of the fish; it is also seen in the merocytes of the yelk.

Rather less than two years ago I really commenced to work at the problems of malignant neoplasms from their embryological aspects. The starting point for research here was obtained from certain results of prolonged investigations into the mode of vertebrate development. From these it had been established beyond question that in the normal life-cycle of development in any of the higher animals there were two generations—an asexual one, the "larva" or phorozoon, and a sexual one, "the embryo"—that the former was mainly, if not entirely, represented in mammalian development by the trophoblast, and that in every normal development the trophoblast was suppressed by the sexual generation, its degeneration commencing at the critical period with the completion of all the parts of the embryo. For the past eight years it had been recognised that at the critical period a change in nutrition always occurred. In 1902[5] the conclusion was advanced that cancer was an irresponsible trophoblast, the continued and unbounded growth of which to it favoured by the absence of an "embryo" or sexual causeration.

"At that time there appeared to be one hopeful outlook for cancer research along the lines of embryology. It was that in every normal development the trophoblast, which in the absence of a completed embryo might become a malignant tumour, chorio-epithelioma, was invariably suppressed and degenerated. The task was to find out how this came about. For there appeared to be good reason for the hope, if not for the sure belief, that the factor or factors which brought about this result in normal development might also be potent when directed against an irresponsible trophoblast or cancer. To find these factors would be the solution of a general scientific problem of which apparently cancer was but a special case. These factors have now been found and in consequence cancer ceases to be a problem for the embryologist. A scientific solution of a certain problem has been obtained; whether or not this be at the same time a solution of the cancer problem in its medical aspects would not be for the embryologist to predict. He can only guarantee the truth of the embryological findings and conclusions and maintain that these would remain, even though they should utterly fail when applied in the treatment of malignant tumours.

The change in nutrition initiated at the critical period in vertebrate animals, from fishes to man, is based in the commencing functional activities of the pancreas. This introduces an alkaline digestion by means of the pancreatic juice with its various ferments. But what of the pre-critical nutrition? There are many ways in which this might be investigated. One might examine normal trophoblast, cancer or sarcoma, blastoderm of a fish, such as the skate, cleaved eggs of an amphibian, or blastoderm of a bird, all these being in the main homologous structures or asexual generations. What is found to obtain in the one must hold good in the others, for there is but one mode of vertebrate development. In this direction, when dealing with the yelk and merocytes of fish development and with the mammalian trophoblast in past years, some results had already been obtained; and in taking up the thread anew one's thoughts naturally reverted to the chick blastoderm as a readily obtainable material. Then came the recollection that the work had already been done for the chick and frog. In a recent publication Professor M. M. Hartog[6] writes (p. 587): "One thing is clear as the result of this; all probability henceforward is in favour of the view that in the animal, as in the plant, a cell can only utilise its reserves secondarily and mediately—by the internal secretion of an enzyme." The author commences his paper by commenting upon the known facts that it has been shown in every case examined that in the utilisation of reserves in plants a ferment or enzyme is always present, which in suitable circumstances can effect *in vitro* the same process, usually of hydrolysis, which the living organism performs. He next proceeds to demonstrate that in the early development of animals, in the cells of the frog's egg in which cleavage is ended but no embryo yet present, and in the blastoderm of the three to four days' chick, there is a proteolytic ferment present. Under proper precautions this in acidulated solution (from 0·3 to 0·7 per cent. hydrochloric acid) gives the biuret reaction showing the presence of peptone. The reaction is absent in neutral or slightly alkaline solution. On p. 587 he arrives at the important conclusion that the digestion in the frog's egg (prior to the appearance of an embryo) and in the blastoderm of the chick (with the embryo removed) must be a purely intracellular acid one. For comparative and other reasons I now apply this conclusion to the trophoblast of a mammal and to the cells of a malignant neoplasm. No more than those of the trophoblast do the cells of a cancer contain yelk. None the less, in both the digestion must be the "ancestral" acid peptic (intracellular) one, characteristic of the asexual generation of a vertebrate, for this has been handed down as an unconscious memory from the time when the mammalian yelk sac contained food material. Recent researches, especially those of Vernon, have revealed the presence of traces of trypsin in many organs of the body. But this enzyme has never been, and cannot be, demonstrated in any malignant tumour. On the contrary, the work of Petry[7] on many carcinomata and sarcomata has proved the occurrence in these of a proteolytic ferment From the author's account of his researches this is evidently of an (? intracellular) acid nature, like that recorded by Hartog for the chick blastoderm, &c Petry's work is cited in the latest edition (1903) of Hoppe Seyler's "Handbuch der Chemischen Analyse" (p 387) as proving the presence of enzymes in malignant tumours

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[3] THE LANCET, June 21st, 1902, p. 1758.

[4] So far as is at present known chorio-epithelioma does not occur in any mammal except man. The multiplicity of embryos in most other cases is against its happening. In almost every gestation in the pig, and often in the rabbit, there are abortive embryos from the trophoblast of which a malignant tumour might arise but for the presence and influence of the other embryos. In the course of the discussion the case of a full-time anencephalic human fœtus was cited as against the validity of the conclusions advanced. In this the entire alimentary canal and pancreas were absent. A little cross-examination elicited the information that nothing was known as to its fœtal membranes and that it was one of twins. The latter point is decisive in explaining how this monster had escaped *the weeding out of the critical period*. Had it been a single embryo, not a twin, it would undoubtedly have been aborted at the critical period and, moreover, hydatid mole or chorio-epithelioma would very possibly have followed.

[5] THE LANCET, June 21st, 1902, p. 1758.

[6] M. M. Hartog: Some Problems of Reproduction, II., Quarterly Journal of Microscopical Science, vol. xlvii., pp. 583–608, 1904.

[7] Eugen Petry: Ein Beitrag zur Chemie Maligner Geschwuelste, Zeitschrift fur Physiologische, Chemie, vol. xxvii., 1899, p. 398.

In this connexion it would be of interest to cite some of the discussions upon "Extrazelluläre und Intrazelluläre Verdauung" and upon the enzymes or ferments in Verworn's "Allgemeine Physiologie" (p 161 *et seq*) In studying the history of the yelk sac of fishes I made many observations upon this question some years ago At times one meets with cases in the yelk sac which are more "extracellular" than "intracellular" Ultimately, indeed, the latter passes into the former In the sequel, therefore, the term "intracellular" will be used within brackets to indicate not so much its actual nature nowadays as its origin in past times from a real intracellular digestion occurring in the presence of yelk In the chick or skate the yelk is contained in a yelk sac, in a frog within the cells of the cleavage None the less, the ferment is the like one [8] The trophoblast of normal development, like the trophoblastoma of chorio epithelioma, nourishes itself by an (intracellular) acid digestion A malignant tumour, a cancer or sarcoma, nourishes itself in exactly the like manner Like the trophoblast, it eats and erodes its way, destroying tissues by an (intracellular) acid digestion Only by such could a cancer erode bone To describe in detail what should follow would be to recite much of two papers [9] published long ago as well as some other points noted since that time The solution of the question is possibly the resolution of the problem of cancer The mammalian embryo solved this ages ago, indeed, it "inherited" the solution from "ancestors" much lower down in the scale The very existence of "the embryo" throughout the higher animals is dependent upon the suppression, the degeneration and death, of the asexual foundation upon which it came into being In many invertebrata the sexual generation eats up (often by phagocytes) the asexual foundation or "larva", and it must be recognised that in the higher forms it practically digests it On the present occasion no account of the work required to establish it need be given much, not all, of it is contained in my published memoirs The fact may be stated briefly that in fish and mammal alike it is the commencing functional activity of the pancreas which initiates the degenerative changes in the asexual generation At this epoch the critical period, the fish commences to feed itself on yelk, not by an (intracellular) acid peptic digestion but by an alkaline pancreatic one In some of the text books of physiology stands the statement that the human pancreas at birth "contains trypsin and the fat-decomposing ferment but not the diastatic one (Zweifel)", but, as I know from my comparative observations of years past, its activities really commence at the time the anus is formed, early in the seventh week of gestation, at a period when in the days of long ago the organism would have begun to digest the yelk of its now empty yelk sac The pancreas functions throughout fœtal life in a mammal though it has nothing to digest except the trophoblast

During fœtal life the pancreas is pouring out its secretion into an intestine which at the present day contains no food to be digested, for the food of the fœtus has been prepared by the pancreatic digestion of the mother To the fœtus in utero this alkaline digestion is of no direct use but it has an indirect import in acting upon the trophoblast The commencing activities of the pancreas during fœtal life initiate an alkaline digestion by means of the most powerful and important of all the digestive juices, the pancreas To which of its ferments the observed results be due does not concern us If the secretion be absent, neither the asexual structures of a fish development nor the cells of chorio epithelioma do, or can, degenerate

Under the conclusions already advanced regarding the nature of cancer as an irresponsible trophoblast, in consideration of the facts regarding the acid and eroding action of the trophoblast and of carcinoma and in respect of the fact that in the absence of a completed embryo or fœtus and its pancreatic secretion the trophoblast may become one of the most deadly of malignant tumours, chorio epithelioma, it must be clear that nature itself has possibly provided a remedy for cancer and the pernicious (intracellular) cancerous digestion of the trophoblast in the secretion of that important digestive gland, the pancreas This structure, I understand, is very rarely the seat of a primary carcinoma, and almost never of a sarcoma [10] Moreover, it is very important to note, that just as cancer is found everywhere in the vertebrata just as there is one mode and one only of vertebrate development, so the pancreas and its secretion are a common heritage of vertebrate animals

Briefly, as I conceive it, in normal development and in a malignant tumour the matter is simply a question of the victory of a stronger enzyme over a weaker one In view of all this the events in a malignant tumour, such as, for example, the "heterotype" mitoses, lose much of their importance They may still possess an interest for the cytologist and embryologist and even a passing one for the pathologist But to the physician and surgeon these abortive attempts to form gametes cease in treatment to have any import whatsoever

Practically all that was sought after from my own researches regarding cancer has now come to light Embryologically, the problem of cancer has been to discover the antithesis of two enzymes and in particular to find out the enzyme capable of destroying a weaker one and thus of leading to the degeneration of the tumour by simple atrophy The whole story is but another example of that antithetic alternation which underlies all the phenomena of living things The solution of the problem of the functional relation of embryo and trophoblast how the latter nourishes itself by an (intracellular) acid peptic digestion and degenerates slowly by a pancreatic digestion, becomes at the same time the embryological, if not the medical resolution of the problems of malignant neoplasms as well as of chorio epithelioma As an embryologist who is not a physician or surgeon my task is ended The further applications of the scientific and theoretical solution of the problem may safely be left in the hands of those who know far better how to employ it But they may not forget that in nature the degeneration and disappearance of these asexual structures sometimes quick, are often exceedingly slow though sure Not that it is likely that the surgeon ha … tumour but that, as one of the … more than 16 years ago the … forged for him a light and not dangerous weapon, only second, if not equal, in potency to the surgeon's knife

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[8] It should not be forgotten that as Verworn remarks (op cit p 171) there exists a ganze erdrueckende Fuelle von Enzymen Hartog would seem to assume that the one discovered by him in the cleaved frog's egg and in the blastoderm of the chick which must be … vertebrates is the same as for … stomach It may be but for … ist upon this Here it will be … that this enzyme of the blastoderm trophoblast or malignant tumour can only act in a slightly acid medium and that … iat characteristic of … io and of the sexual … a gastric and an later origin in time … und up with that of … elopment, 1885 and both published by

1 Two recently recorded case of tumours of the pancreas may be cited. In the Berliner Klini … berichtet ueber einen Fall … welche durch Darreichun … wurden and in the Journa … 1902, pp 385-95 A G Nic … pancreas The first shows that the pancreas was not properly functioning while the second in which the tumour was not larger than a marrow fat pea illustrates the difficulties encountered by tumours in this organ

[11] Most of the work has been carried out in the University of Edinburgh latterly with grants from the Moray Research Fund and the Carnegie Trustees

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INTERNATIONAL SOCIETY OF TUBERCULOSIS —A new scientific society has just been founded in Paris under the name of "Société Internationale de la Tuberculose" Its office is in Paris Meetings are held monthly on notice from the general secretary The scope of this association is the study of all questions concerning tuberculosis and the centralisation of means of defence Its work will be published … or men of science … or foreign univer … tained by applica … st be accepted by a committee elected at a general meeting The annual subscription is 10 francs (9s) For further particulars and for applications address M le Docteur Georges Petit, general secretary 51, Rue du Rocher, Paris France

THE CHARACTERS OF THE BACILLUS COLI AS AN INDICATOR OF EXCRETAL CONTAMINATION.

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The fundamental importance of this organism as a test for excretal contamination need not be insisted upon here; it is fairly generally recognised. Also most observers are in accord as to what are the essential characters of a quite typical bacillus coli. The main point which is still unsettled is how far can an organism deviate from this typical bacillus coli communis and still have an equal significance as a test for excretal contamination. This is a very important practical question. At present much confusion prevails and the bacillus coli of one observer would not be accepted by another as an organism of equal significance. In giving the results of investigations with this organism it is usually advisable to specify exactly what is meant and to indicate all the tests employed and the results obtained. On the other hand, although a multiplicity of tests may make for increased accuracy, yet it is desirable in the interests of routine work to have a minimum number of tests which can be made and yet which will be sufficient to determine accurately whether or no any given organism can be classed as a bacillus coli, an indicator of fæcal contamination. It is from this point of view that this paper is written. The various characteristics generally employed will now be considered, only the ones in dispute being discussed in detail.

Morphology and tinctorial characters.—All observers agree that this organism is a short bacillus with rounded ends and showing no spores. It stains readily with ordinary aniline dyes but is decoloured by Gram's method of staining.

Motility.—The typical bacillus coli communis is described as a motile organism. Is it essential that each organism isolated should exhibit motility and if it does not are we to reject it as not being a true bacillus coli?

My experience of motility is that its exhibition by different races of bacillus coli is very variable. Among organisms otherwise giving in every respect all the characters of the typical bacillus coli some will be found to be sluggishly motile, some very actively motile, others exhibiting no motility at all. The methods used to examine for motility were either, or both, of the following: examination in hanging-drop preparation of a not greater than 24 hours' old broth culture or examination of young gelatin-slope cultures (after less than 24 hours' incubation at from 20° to 22° C.) in a hanging drop of sterile broth. Occasionally an organism non-motile by one method would be distinctly motile by the other. How far is this motility or non-motility a stable character and how far is it a question of environment? Gilbert and Lion divided the varieties of bacillus coli found in the stools of 60 healthy men into two groups: (1) motile and (2) non-motile. Other observers describe their results as variable.

Motility is a fundamental character and too important to be used as a mere variety differentiator. It must, I think, be accepted that all true bacilli coli are motile. The *exhibition* of motility is, on the other hand, largely a question of environment. If this is so the apparently non-motile bacilli coli should all be made to exhibit motility under suitable environment. I have made a considerable number of experiments in this direction from time to time and have in almost all cases been able definitely to show true motility in organisms otherwise quite typical but, when isolated, non-motile, sometimes by prolonged growth on artificial media, at others by varying the method of examination. My conclusions are that all true bacilli coli are motile but that when isolated many of them do not exhibit any motility. These on prolonged subcultivation or other appropriate means can usually be made to show motility. From this it follows that as a practical test for the diagnosis of this organism the presence of motility when isolated is of little or no value.

Liquefaction of gelatin.—It is usually accepted that the true bacillus coli does not liquefy gelatin, although some observers have described liquefying forms as members of this group. All liquefiers of gelatin should be excluded as not true organisms in my opinion. The cultivations should be kept in the incubator for at least two weeks.

Gelatin slope growth.—Rapid growth should take place at from 20° to 22° C., visible within 24 hours, and yielding within 48 hours a bluish, smooth, translucent growth which remains unaltered after two weeks' incubation. Slight variations are sometimes met with, the growth being in some races thicker and whiter than the typical bluish translucent variety. The variations in my experience are but slight and this is a most valuable culture test.

Gelatin surface colonies.—My experience of gelatin surface colonies is that while the majority are perfectly typical there are other types which are not uncommon and which are given by organisms typical in all other respects. The typical colonies are well developed after from 40 to 48 hours in the cool incubator, and under a low power of the microscope appear as flat colourless or pale brown colonies with an irregular outline and wavy indented margin. Over the surface and extending in from the margin, and particularly observable away from the centre, are a number of wavy lines (marmoration). Sometimes the colonies are uniformly granular and without these lines.

Next most frequently met with after the above (type A) is what I have called type B. These colonies are to the naked eye somewhat raised and circular, while they are whiter and more opaque than type A and generally somewhat smaller. Under a low power they appear as well-defined colonies, nearly circular, and with well-defined slightly wavy borders. They are brown, uniformly and finely granular all over, and without wavy lines. The colonies from bacillus coli when growing in unfavourable circumstances are sometimes still smaller and perfectly circular, with quite smooth well-defined margins. Under a low power they are brown and uniformly granular (type C). A small number of colonies of this bacillus are when isolated quite abnormal. These characters are independent of whether the organism is perfectly typical in other ways or slightly removed from the typical.[1]

These variations in the types of the colonies are mainly no doubt due to immediate environment, but also partly to acquired characters and the influence of more remote environment. As a rule, an organism giving atypical colonies can be induced by artificial cultivation subsequently to exhibit typical colonies. For practical purposes it will be found that frequently, indeed usually, the colonies are almost or quite typical particularly when the organism has been isolated from drinking water, yet the fact that they are not typical does not exclude them of necessity from being true bacilli coli.

Agar slope.—This is an abundant rapid growth but of no diagnostic significance. The uniform turbidity produced in *broth* is also of no diagnostic significance since it is given by so many organisms.

Indol production.—This is one of the classical characters of the bacillus coli. It may be shown in broth (sugar free) but is most reliably demonstrated in peptone-water cultures

Table I.

Source.	Number of bacillus coli examined.	Indol produced.	No indol produced.	Percentage giving indol reaction.
Water-supplies	135	127	8	94
Human excreta (healthy)	19	18	1	95
" " (infantile diarrhœa)	10	10	0	100
Animal excreta	18	14	4	78
Sewage	5	5	0	100
Soil	12	12	0	100
Tidal river mud	38	34	4	89
Sea water and tidal river water	13	13	0	100
Shell-fish (all but one from cockles)	22	16	6	73
Flies	18	17	1	94
Totals	290	266	24	91·7

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[1] For further details see paper by the writer in the Journal of Pathology and Bacteriology, March, 1904.

(from 7 to 10 days old). Is this an essential character, and is an organism typical in every other way, but which does not produce indol, to be considered not a true bacillus coli communis?

The results of a number of bacilli coli recently worked out by me and isolated from various sources are given as regards indol production in Table I. In this table are only enumerated organisms [illegible] other characters, such as acid [illegible] lactose and glucose, coagulati[illegible]ral red reaction, typical growth on gelatin slope and without any liquefaction of the medium. The formation of indol was tested for in peptone-water (from 7 to 10 days' incubation at 37° C.) in every case, except for a few of the bacilli coli isolated from drinking waters, which were tested in ordinary broth. In these if a negative result was obtained with broth a further examination was made in peptone water cultivations.

From Table I. it will be seen that 8·3 per cent. of bacillus coli, otherwise typical, gave no indol when isolated. The percentage of negative results varied considerably with the sources of the organisms, being lowest (73 per cent.) for bacillus coli isolated from cockles. Are these 24 organisms, otherwise quite typical, to be rejected from the fold of the elect bacillus coli? It seems to me that the question turns upon the variability of this character.

I have from time to time re-tested a number of the above organisms which, when first isolated, showed no indol production, and in most of them I have been able to demonstrate subsequently true indol production in peptone-water cultivations after one week's growth at 37° C. In every case the method of indol testing has been to add from 0·5 to 1·0 cubic centimetre of 0·02 per cent. potassium nitrite solution and then six drops of pure sulphuric acid. The tubes were then either left for one hour at room temperatures, or for my later work kept for ten minutes at about 60° C. in a water bath.

I believe that under unfavourable conditions the power of indol production may be lost, to be subsequently often reacquired if the conditions are more suitable. Many workers, however, do not recognise the possible variability of this character and Horrocks[2] states: "I have never been able by any treatment whatsoever to cause an organism, which when first isolated from *dejecta* showed no signs of indol formation, to assume that faculty." The italics are mine. That may well be so for dejecta but I believe that with less favourable environment this property may be lost.

For practical working purposes I would only reject an organism typical in all respects, except that no indol was formed, as not a true bacillus coli when after several weeks' growth in the laboratory and again testing in fresh peptone water it still failed to produce indol. That is, I should reject it as not having the full significance as an indicator of fairly recent excretal contamination which attaches to typical bacilli coli.

Production of acid.—Production of acid in litmus milk or in litmus whey is a constantly present character of bacillus coli communis. The formation of acid must be permanent since some allied organisms (bacillus enteritidis group) are [illegible] hundreds of bacilli coli isolated I have never found this character variable or absent.

Milk coagulation.—This is due in practically all cases to the formation of acid and in my experience commences when 32 per cent. of acid has been produced and is usually complete when about, or rather under, 40 per cent. has been produced.[3] It usually takes place within three days but the tubes should be incubated for at least two weeks at 37° C. before being rejected. Is this an essential character? Out of 250 bacilli coli isolated from different sources and which were typical as regards all the ordinary characters of this organism (this does not include gelatin surface colony characters or the possession of motility) only ten failed to coagulate milk. These ten all pr[illegible] in milk but failed to clot it even [illegible] for as long as one month. Is this [illegible] My experience is that it is st[illegible] variable. I have made extended [illegible] non-coagulating bacilli to coagulate milk by artificial means but without success. The methods used included growing in milk containing calcium chloride, soluble phosphates, prolonged artificial incubation in milk, frequent subcultivations from one milk tube to another, &c., but none induced clotting. I do not think these experiments need be detailed further.

In a few cases I have found no coagulation in the first milk tube and subsequent clotting when at once reinoculated into fresh milk tubes, but these are not included in the above and were probably due to some peculiarity in the milk media tubes. For *practical* purposes, in my opinion, organisms which do not coagulate milk within 14 days should not be considered as true bacilli coli. On the other hand, I think it highly probable that these [illegible] but typical in all other [illegible] bacilli coli but have los[illegible] sufficient quantity of acid to coagulate the milk, presumably from adverse environment. Taking this view, I would provisionally regard them as of less significance than quite typical bacilli coli, since the fæcal contamination may have been more remote, but if they can be shown to be prevalent in large numbers in excrement and absent, or relatively absent, in unbefouled materials, then, of course, they would have a significance of their own. The origin of these ten organisms does not negative this view, since one was derived from "made soil," one from horse manure, and one from tidal river mud containing at the same time perfectly typical bacillus coli communis, while the remaining seven were from water-supplies in all of which the quite typical organism was isolated from time to time, frequently at the same time. It is noteworthy that out of the large number of different sources of water-supply examined two should have been derived from the same source (one six months later than the other) and two from another source (but with a year's interval). Of course organisms only superficially resembling the bacillus coli but differing in several characters as well as non-coagulation of milk are not infrequently met with but these are not included in the above.

[illegible] distinctive characteristic.

Lactose fermentation.—This is, perhaps, the most important differentiating character. All true bacilli coli ferment lactose with production of acid and gas. Extended experience has convinced me of its fundamental importance and I would reject all organisms as not true bacillus coli communis if they did not ferment lactose with production of acid and gas. In this way a number of rather closely allied organisms can be excluded, which no doubt have a significance and importance of their own, but which cannot be classed as having the same significance as typical bacillus coli. In this connexion a number of organisms which I have isolated from time to time, and which all have the common property that they ferment lactose much less than the typical organism, are of interest. The characters of 12 such organisms fairly recently isolated and from a variety of sources are given in Table II.

All lactose fermentations were tested in Durham tubes in media consisting of 1 per cent. lactose and 1 per cent. peptone in water tinted blue with litmus solution. When the amount of gas produced is mentioned it is to be understood as being the height of the gas in the inner tube. The tubes were of approximately the same diameter but the [illegible]ery rough one, [illegible] as true bacillus [illegible]ther points from [illegible] No. 1 when first [illegible] after ten days' [illegible] actively motile. [illegible]ose-peptone solution but only two or three bubbles of gas. After being kept in the laboratory a week or two it produced [illegible]n inch of gas in the inner tube after [illegible]ation. Kept from four to five months [illegible] and again tested in lactose-peptone [illegible]roduced gas—i.e., two-thirds of an inch in two days. Also with fresh litmus milk the milk was coagulated after six days' incubation. No. 2 was typical in every way except the slight production of gas in the lactose tube. Re-examined after six months and after rejuvenation

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[illegible]

TABLE II.—SHOWING THE CHARACTERS OF THE ORGANISMS WHEN ISOLATED.

No. of organism.	Source.	Gelatin surface colonies.	Gelatin slope.	Liquefaction of gelatin (2 weeks).	Litmus milk.			Indol production.	Neutral red reaction.	Glucose fermentation.	Motility.	Lactose fermentation.			Starch fermentation.	Saccharose fermentation.	Dulcitol fermentation.	Raffinose fermentation.
					Acid.	Coagulation.	Time to coagulate.					If acid.	If gas.	Amount of gas (1 week).				
1	River mud after being kept in laboratory three weeks.	Quite typical.	Bluish trans-lucent growth.	−	+	+	10 days.	+	+	+	+ Very active.	+	2-3 bubbles only (1 week).		−	+	−	Very little
2	River mud.	"	"	−	+	+	2 days.	+	+	+	+ Active.	+	+	¼ inch.	−	−	−	
3	River water.	Not quite typical.	"	−	+	+	4 days.	+	−	+	−	+	+	Very slow; ⅓ inch.	−	+	−	
4	Cockles.	Quite typical.	"	−	+	+	10 days.	+	−	+	−	+	+	Slow; ¼ inch.	−			
5	Healthy stool.	Not examined.	"	−	+	+	2 days.	+	−	+	−	+	+	¼ inch.	−	+	−	+
6	River mud after being kept one month in laboratory.	Atypical.	"	−	+	+	6 days.	+	+	+	+ Very active	+	−	−	−	+ +	−	+
7	River mud one week after being collected.	Quite typical.	"	−	+	+	2 days.	−	+	+	+ Active.	+	1 bubble.		−	+ Little.	+	−
8	Stool, child, case of epidemic diarrhœa.	"	"	−	+	+	4 days.	+	+	+	−	+	+	¼ inch.	−	−	+	−
9	Fly.	Typical.	"	−	+	+	12 days.	+	+	+	+ Active	+	1 bubble.		−	+	+	Acid only
10	River mud, same as No. 7 but when collected.	Quite typical.	"	−	+	−	2 weeks.	+	−	−	−	+	+	Slow; ⅓ inch.	−	+		
11	Fly.	More circumscribed and smaller than typical.	"	−	+	+	7 days.	+	Partial.	+	+ Very active.	+	2 bubbles.		−	−	−	−
12	Tidal mud kept in tank in laboratory.	Typical.	"	−	+	+	2 days.	Traces	+	+	+ Slight.	+	1 bubble only.		−	+	+	+

by growing first in broth, then on gelatin plate, then in litmus milk, it gave the same results. Here the slow and little lactose fermentation was constant. In the same way No. 3 when isolated gave no neutral red reaction and the gelatin surface colonies were not perfectly typical. After some months in the laboratory, the gelatin colonies were quite typical but no neutral red reaction as before. The repetition of the lactose fermentation was also very similar in both, yielding after four days' incubation only acid and one bubble of gas, but after six days as much as one inch of gas in the inner tube. For No. 4 apart from slow and slight production of gas in lactose-peptone water, milk was coagulated only on the tenth day (repeated with same result on several occasions) and no neutral red reaction was obtained. It then died out, so that fresh examinations could not be made. No. 5 was very similar except that it clotted milk rapidly. Unlike most bacilli coli it only fermented mannite slowly and not well. It died out so could not be re-examined. No. 6 is included here because at first sight it belongs to this group. It is, I believe, however, quite a different organism and mainly characterised by its fermenting saccharose and mannite with extreme production of gas. Maltose and galactose, as well as glucose, are all rapidly fermented. Repeated growth in fresh lactose-peptone tubes gave always acid, but never more than one bubble of gas. The gelatin surface colonies, examined on several occasions and after long intervals of time, never became typical, being always smaller and less inclined to spread than the common type of bacillus coli. This organism is certainly not a bacillus coli. No. 7 when isolated produced no indol and only gave one bubble of gas in the lactose tube. Re-examined one month later and after being kept on artificial media for that time it gave the same results with the lactose tube and still gave no indol. I hope to re-examine again after some months' growth in the laboratory. No. 8 when isolated fermented lactose with but little production of gas. Re-examined two months after isolation it fermented lactose still slowly but with production of more gas (from one-third to one-half of an inch). No. 9 was re-examined two months after isolation, when one-fifth of an inch of gas was produced in the inner tube of the lactose medium after three days' incubation. When isolated, milk was coagulated in 12 days but two months later in from five to six days. With No. 10, when isolated, milk was not coagulated in two weeks but on inoculation from this into fresh litmus milk tubes gave complete clotting in three days, so this may have been due to some abnormal condition of the first milk tube. Fresh lactose inoculations after six weeks in the laboratory gave now typical and rapid gas production. When isolated no gas was formed in neutral red glucose agar shake preparation and no neutral red reaction. This was repeated with exactly similar results on several occasions soon after isolation. After six weeks in the laboratory there was fairly abundant gas production in freshly made shake preparations but still no neutral red reaction. The latter was also absent in neutral red broth cultures. After two months on a gelatin slope in the laboratory a complete neutral red reaction was easily obtained with No. 11, but the lactose fermentation was still but slightly marked as regards the production of gas (one-quarter of an inch in five days). No. 12 has not as yet been re-examined, except that the lactose fermentation results have been repeated several times with identical results and as recorded.

These organisms have been described in considerable detail because they, in part at least, illustrate, I believe, the effects of unfavourable environment. Excluding No. 6, I believe that the others are true bacilli coli altered by environment. No less than five were from mud from tidal waters kept for considerable periods in the laboratory. Under laboratory conditions, with abundant nutriment, in most cases some return to the normal was witnessed and with further investigation would probably be still more pronounced. Their practical significance is, however, debateable, since it may be argued that even if they are altered bacilli coli they do not point to recent pollution. They are not infrequently met with but provisionally I do not rely on, or consider, them as indicators of *recent* pollution, *Saccharose fermentation.*—All workers are in accord that this cannot be considered an essential character of bacillus coli. Escherich's bacillus coli communis does not ferment saccharose. Some typical bacilli coli, as usually defined, ferment cane sugar; others, probably the majority, do not. Some [illegible] fermentation of [illegible]

Star[illegible] does not ferment starch. Organisms are occasionally met with which resemble the bacillus coli closely but which ferment starch with the production of acid and gas. Apart from their gelatin surface colonies which are usually more compact, they may be suspected by the fact that their gelatin surface growth is thicker and whiter than the typical appearance. They are non-motile. I have isolated such organisms from as little as $\frac{1}{1000}$th of a cubic centimetre of sewage, but in my experience they are not abundant in sewage or excreta. I have not tested their growth on potato but, as a practical measure, if an organism gives a whiter and thicker growth on a gelatin slope than the typical appearance, it is advisable to test if it ferments starch (e.g., 1 per cent. starch peptone litmus water). Lactose and glucose are fermented, milk is acidified and coagulated, and indol is produced. Of two such organisms recently isolated one fermented saccharose, the other did not.

In regard to the fermentation of maltose, galactose, lævulose, mannitol, glycerine, &c., I have not found that specially testing for such fermentation has up to the present yielded results worth the trouble or of value in the differentiation of this organism.

Potato.—In my opinion to grow this organism on potato serves no useful purposes, apart from the possible differentiation of a bacillus lactis aerogenes organism, and can be omitted without loss. In the same way the reduction of *nitrates to nitrites is caused by bacillus coli, but this* property is one common to so many other bacteria that it is valueless as a routine test.

Neutral red reaction.—This is a very useful test but the reaction is one given by a n[illegible] I have found the reaction to b[illegible] variable and from time to time [illegible] typical in all other ways which when isolated gave no neutral red reaction (in glucose neutral-red agar shake preparations) but which after a short period of artificial subcultivation in the laboratory gave the reaction. If no neutral red reaction is obtained usually the organism isolated also deviates in one or other property from the typical bacillus coli.

Pathogenicity.—Most bacteriologists, at least in this country, have not found that the pathogenicity of isolated bacillus coli is of any help in determining the potency for evil of the material (soil, water, &c.) under investigation. As a routine test it is not to be commended.

In regard to the different methods for isolating and indicating the presence of bacillus coli such as MacConkey's medium, neutral red, &c., none of them can be relied upon to indicate by themselves with certainty the presence of bacillus coli. They are invaluable as an aid to isolation but in every case the bacterium must be separated in pure culture and its characters worked out. This is apparently accepted by all workers at this subject. While it is of advantage to employ as large a number of tests as possible, yet for routine work, when the labour involved is considerable, it becomes of great practical importance to have a minimum number of tests to use and yet tests which will give a sufficiently reliable means of indicating if any organism is a true bacillus coli or not. The work done on the characters of this organism is so large and on some points the unanimity is so considerable that it should not be difficult to fix a minimum number of tests to do and a minimum number of positive results to obtain.

The *report of the committee appointed at the 1903 Congress* of the Royal Institute of Public Health to consider [illegible] although personally I have foun[illegible] not exhibited, on isolation, by bacillus coli quite typical in [illegible] other respects. Put another way, I believe it would be [illegible] *great benefit to public health bacteriology if bacteriologi*[illegible] would agree as to the essential subcultivations to perform. *The six tests of the committee, in my opinion, might be even* reduced to five, omitting growth on agar slope, and the following would give all the essential tests—i.e., (*a*) growth on gelatin slope; (*b*) litmus milk at 37° C.; (*c*) lactose-peptone litmus solution (in a Durham tube); (*d*) peptone water; and (*e*) glucose neutral red agar shake preparation. Growth in glucose-peptone litmus solution in a Durham tube and another in neutral red broth can be substituted for this. From this the following results should be recorded. 1. Morphology and motility. These can be conveniently investigated from (*a*)—e.g., a hanging-drop preparation in broth after 20 hours' incubation. I do not think it essential to stain by Gram's method as a routine practice. 2. Translucent non-corrugated appearance on gelatin slope. 3. Non-liquefaction of the gelatin (two weeks). 4. Permanent—i.e., two weeks—acid production in litmus milk. 5. Milk clotting (within two weeks). 6. Lactose fermentation with the production of acid and gas. 7. Glucose fermentation (production of gas in glucose neutral red agar shake preparation). 8. Neutral red reaction; fluorescence and reduction to yellow. 9. Production of indol in (seven to ten days at 37° C.) peptone water. I believe that these tests are for all practical purposes quite sufficient reliably to indicate the bacilli coli which indicate excretal contamination. They require only five tubes of media and they are quickly performed.

I would suggest the use of the term *excretal* bacillus coli, and that an organism giving all these characters (whether motile or not) *should be definitely implied when the term excretal bacillus coli* is used. My experience is that the majority of organisms isolated in routine work as suspected bacillus coli from fluids such as neutral red broth or MacConkey's medium will give characteristic results with all these media. Bacillus-coli-like organisms, however, do not, as every worker *at this subject is well aware, always yield all positive* results with the above tests, and one or other of them may not be obtained. From the literature of the subject two rather opposite views seem to be held. On the one hand, the advocates of the one view draw the line strictly and say that an organism which does not give all the above, and perhaps *other* tests also, is *not* a bacillus coli indicating excretal contamination; on the other hand, others include bacteria lacking one or more of the above—e.g., milk clotting, indol production—and still include as bacillus coli indicating excretal contamination. The first view may, I believe, exclude organisms which are true indicators of excretal contamination but which have lost one or other of their original characters from unfavourable environment; the latter view is still less satisfactory since it may undoubtedly include organisms found in unpolluted sources and which do not indicate excretal pollution. The key to the question appears to turn upon the variability of these characters and from that point of view I have carried out a large number of experiments during the past three years. My personal opinion in the matter is that the following characters should be considered [illegible] motility is exhibited or not. Indol reaction is a most important test but I do not regard it as so quite essential as the above and should only reject when no indol could be obtained after laboratory subcultivation for some time and then fresh tests made. The neutral red reaction is also of great im[illegible] that its [illegible]

I am [illegible] ot give all the above tests (e.g., organisms which fail to clot milk otherwise positive in their characters) are of necessity not indicators of fæcal contamination. They very possibly may be but the position in regard to them is not so sound as for those which I have ventured to call excretal bacilli coli—meaning by the term not that they are the only bacilli coli [illegible]d in excreta, for they are not, but that they are trust[illegible]thy indicators of excretal contamination. For this group [illegible] do know that they are abundant in fæces and in sewage, [illegible] we do know that they are absent or relatively absent [illegible] mud, and soil not recently polluted. [illegible] a strong one. For the less typical [illegible]gnificance of their own but it has not been so accurately gauged and so more care is required in drawing conclusions. I do not believe, however, that such organisms can be passed by as of no significance.

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[3] See Journal of State Medicine August, 1904.

The main object of this paper has been to indicate the tests which, in my opinion, are the least which should be done but which yield all the evidence necessary to enable us to gauge whether or no the organism found is one not met with in pure sources but found abundantly in contaminated sources and to urge the need for uniformity.[4]

It must not be supposed, however, that all organisms marked off by the above tests are identical even if the differences of gelatin surface colonies, presence or absence of motility, be neglected. If such organisms be further examined to determine their power of fermenting different sugars and allied bodies it will be found that many further divisions can be made. Thus, some will ferment saccharose, others not, some dulcitol (dulcite), others not, &c.

I have been for some time now engaged in work having for its object the differentiation of bacilli coli from different sources, in particular from human and from animal sources, and for this purpose have made use of different sugars. The details which follow can only be considered as a preliminary note. Dealing only with bacilli coli which exhibit all the characters described above — morphology, characteristic gelatin-slope growth, no liquefaction of gelatin, fermentation of glucose and lactose, acid production, milk clotting, neutral red reaction, indol production,—these can be separated into quite a number of varieties and, as far as I have re-tested their characters, stable varieties.

The following classification of organisms isolated has no significance other than practical convenience and the dulcitol fermentation might equally well be used as a group differentiator before saccharose.

Group I.—Saccharose fermenters. Sub-group (*a*) dulcitol fermented and sub-group (*b*) dulcitol not fermented. A large number of both sub-groups were met with. They could be further differentiated by their action on other substances. Thus some fermented salicin; others did not break up this substance. Some split up glycerine with gas production, others had no obvious action. So far all the bacilli coli of this group which fermented saccharose have fermented raffinose also. I have not found the converse true, however, since all raffinose fermenters do not also ferment saccharose.

Group II.—Dulcitol fermenters but not saccharose. Sub-group (*a*) raffinose fermented; and sub-group (*b*) raffinose not fermented. A large number of organisms belonging to both sub-groups were isolated and could again be further differentiated by salicin and other substances.

Group III.—Maltose fermenters but not saccharose or dulcitol.

These have been rather less numerous than either Groups I. or II. in the results so far obtained. Most have fermented salicin but a few not. The majority have not fermented raffinose but a few have to a slight extent. In this way a very considerable differentiation into groups and sub-groups can be made out but at present I am not in a position to say whether there is any trustworthy differential distribution of these different sub-groups in excreta from different sources or any difference in their relative significance. That these differences exist indicates, however, the complexity of the subject.

Colchester.

A CASE OF TYPHOID FEVER PRESENTING SOME UNUSUAL FEATURES.

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ALTHOUGH the symptomatology of typhoid fever is notoriously subject to the greatest variations the following case seems to me to have an unusual share of atypical features and on that account may be of interest to the profession.

A woman, aged 30 years, was admitted into the Weston-super-Mare Hospital on March 6th, 1903, for severe pain in the left loin. On March 1st she had had a "shivering fit" followed by pain. Previously to this she had felt quite well. During the next few days she was feverish and the pain was more or less continuous. She had noticed nothing unusual in her urine. Dr. G. H. Temple, who had been called in and found her surroundings unsuitable, advised her removal to the hospital. She was admitted as a surgical case under the care of Dr. G. F. Rossiter. On admission the temperature was 101·4° F., the pulse was 104, and the respirations were 26. The patient was not in actual pain. The abdomen was moving fairly well and was not distended; it was supple in most parts except in the left hypochondrium, which was rigid and extremely tender, and there was slight rigidity of the recti; palpation in the left loin caused much pain and the skin over the region of the kidney was hyperæsthetic. The patient had been sick and was constipated; the tongue was clean but rather dry; a few sibilant rhonchi were heard over both upper lobes, more especially on the right side. The urine was acid and contained a small amount of pus; the patient afterwards told us that she had had cystitis two years ago. On the 8th, at 10 P.M., the temperature was 103·2°; tenderness in the loin was less; the bowels were relieved by calomel. The temperature gradually fell during the next few days and the pain and tenderness in the loin entirely disappeared; the recti, however, remained rigid. There was now some impaired resonance at the left base, with slight harshness of the expiratory sound; rhonchi were still heard over the right upper lobe. The pulse was soft but not dicrotic and during this period of pyrexia never exceeded 100 after the 10th. The temperature oscillated irregularly from the 11th to the 15th and was normal on the evening of the latter day; the tongue was moister and the patient now felt fairly well. The only treatment adopted beyond purgatives was the application of turpentine fomentations to the abdomen. The case was regarded by Dr. Rossiter and also by Dr. R. Roxburgh, who was thenceforth in charge of it as a medical case, as one of perinephritic inflammation which had subsided. The question of renal tuberculosis was considered, but the specimen of urine submitted to the Clinical Research Association was free from tubercle bacilli.

The patient now seemed to be on the road to recovery; the temperature kept subnormal for four days; the diet was increased gradually, but on the evening of the fifth day of apyrexia (the 20th) the temperature suddenly rose to 102·8°, a rub was heard at the right base, and an occasional crepitation in the lungs. The temperature became distinctly oscillating but seldom reached normal even in the mornings, and in the evenings was generally 102° or 103°; the pulse kept about 100 and the respirations 24. A hæmorrhagic vaginal discharge, which was at first taken to be a menstrual period, began on March 21st, the period being a month overdue. From the 28th to the 31st the fever was much less and the patient seemed better; during this time there was no pain or abdominal tenderness but the recti were always rigid. Sibilant rhonchi persisted at the right apex but otherwise there were no definite physical signs pointing to pulmonary disease. The urine still contained a little pus. By the evening of the 31st the temperature was 101·2°; it kept at this level next day, the pulse being 96; the tongue was dry and slightly furred. The patient was looking ill and rather lethargic. On April 2nd a report of Widal's reaction given by the patient's blood was received from the Clinical Research Association. The blood gave a good reaction with dilutions 1 in 10 and 1 in 25, and a slight reaction with dilution 1 in 50. There being no history of a previous attack of typhoid fever this was regarded as conclusive. That night her temperature reached 104·8°, it fell quickly but at 4 A.M. she had a rigor and the temperature being 104° she was sponged with water at 80°. For the next four days the pyrexia continued without marked diurnal variations and she was twice sponged on the temperature reaching 103°. The pulse remained steady, about 96 to 100 She took milk well and enemata were given daily to relieve the bowels, the motions now being typically "pea-soupy." The liver dulness reached an inch below the costal margin; the spleen could not be felt but the splenic dulness extended nearly to the nipple line; the recti muscles remained rigid. The vaginal discharge, which had continued since March 21st, now became very foul, and boric douches were given night and morning. On April 7th the temperature ranged a good deal lower, the maximum being 100·2°. On the 8th while micturating she passed, without pain, a small pear-shaped body per *vaginam*; this was very foul and consisted of a membranous bag containing fibrous tissue and blood clot and was considered to be a carneous mole. The os uteri was patulous, admitting the tip of the index finger (the patient was a nullipara), but the abdominal rigidity prevented the uterus being examined bimanually. The vaginal discharge was much increased for some hours after this and soon became sweeter; ergot was administered. The temperature fell to normal, and remained so, on the morning of the 10th, and the discharge ceased on the 11th. As constipation was still very troublesome half-grain doses of calomel were given thrice daily. A few typical spots were now seen for the first time, mostly on the back. For the next three days the temperature remained subnormal and the pulse improved in quality and at times was very slow (60). On the 15th, however, the temperature went steadily up to 102° and remained at, or above, this level till the evening of the 18th, during which time she was sponged six times. The pulse now became rapid (120 or more) and very feeble, the heart sounds were short and weak, and the patient seemed desperately ill. Brandy was increased to half an ounce every two hours and a mixture containing seven minims of tincture of digitalis and three minims of liquor strychninæ was given every four hours, together with half a drachm of aromatic spirit of ammonia. The rhonchi persisted in the right lung and the liver enlargement was unaltered. The bowels, under the influence of small doses of calomel, were now acting of themselves. On April 19th the temperature became normal, the pulse-rate fell to 88 and its quality improved, the heart sounds also becoming more distinct. The digitalis had to be omitted owing to vomiting which it caused. From the 22nd to the 24th there was another slight recrudescence of fever but it caused no trouble and from that time the temperature remained subnormal. About this period the gums became sore and spongy; this was attributed to the calomel, which was stopped, and the condition was treated with mouth washes of potassium chlorate and alum, and soon passed off. Convalescence was uneventful; solid food was allowed on the tenth day of apyrexia and the patient regained her strength wonderfully soon and was discharged to the West of England Sanatorium on May 25th.

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[4] Since writing this paper in [illegible] *contribution to the subject by Dr.* [illegible] the report of the medical officer to [illegible] This should be consulted for a [illegible] characters of bacillus coli from normal stools.

The course of the temperature was as follows. On admission on March 6th it was 101·4°. On the 8th in the morning it was 100·4° and in the evening 103°. After this date until the 15th the temperature fell on the whole, although it oscillated, and by the evening of the 15th it was 98·6°. It remained subnormal until the evening of the 20th when it shot up to 102·8°. On the evening of the 21st the vaginal discharge began. Between this date and April 2nd the temperature oscillated but always kept above normal, the evening temperature being between 101° and 103°. On the 27th it reached 103·2°, after which more oscillations occurred until the evening of April 2nd, when the reading was 104·8°. On the 8th the carneous mole came away and on the morning of the 10th the reading was 97°. The vaginal discharge ceased on the following day and the temperature remained subnormal until the evening of the 15th, when it rose to 102·6°. Thence it rapidly fell, except for an evening rise on the 17th to 103·2°, until on the evening of the 19th the reading was 97°. From the 22nd to the 24th there was a slight recrudescence of fever, but from the last-named date the temperature was either normal or subnormal until the patient was discharged.

The chief points of interest in the case seem to be as follows:—

1. *The difficulty in diagnosis.*—The onset with a rigor and acute localised abdominal pain seemed to point to some nephritic or perinephritic suppuration and the presence of pus in the urine was at first regarded as confirmatory of this till the history of cystitis was obtained. The rapid amelioration of the pain and tenderness at the end of a week, however, was a contra-indication, while the temperature, the pyuria, and the pulmonary signs suggested the possibility of tuberculous mischief somewhere, but the character of the pyrexia was hardly that of tubercle and the signs in the lungs were not conclusive. The persistence of sibilant rhonchi over the right upper lobe throughout the whole illness is interesting and their presence led us to think of typhoid fever fairly early in the case, though it was much too slender a basis for a diagnosis The absence of any cardiac murmurs, of sweats, and of hæmaturia was against infective endocarditis with embolism in the kidney. The value of Widal's reaction in these cases is clearly proved, confirmed as it was later by the spots, the enlarged spleen, and the character of the stools. The absence throughout of cerebral symptoms, even such as headache, of dicrotism in the pulse, of any marked tympanites and, for a time, of spots, which were constantly watched for but which only appeared late in the case and were limited to about half a dozen on the back, all these negative features are worthy of notice.

2. *The course of the disease.*—Assuming that the onset was really on March 1st, and the patient said she felt quite well up to then, the original fever was short, for the temperature was normal on the evening of the fifteenth day and remained so for some time. There were then three relapses, separated by short apyrexial intervals, and a fourth slight recrudescence of fever later; each relapse, however, was of short duration. In the second relapse the spots appeared for the first time. During the second and third relapses the patient was much more seriously ill than she was during the initial fever and in the latter most grave symptoms of cardiac failure occurred.

3. *The occurrence of abortion.*—We had no idea that the patient was pregnant until after the discharge of the carneous mole. A previous vaginal examination had not detected the slight enlargement of the uterus which must have been present, bimanual examination being hindered by the rigid recti. According to Osler, 65 per cent. of pregnant women abort during an attack of enteric fever. No doubt the foul condition of the uterine contents was a factor in the pyrexia of the second relapse.

4. *Other points of interest* are—1. The inability to continue the administration of digitalis by the mouth, owing to gastric irritation so produced. Fortunately, the cardiac condition improved at this time; had it not done so we were prepared to give the drug per rectum. 2. The occurrence of stomatitis after the administration of mercury in small doses for about three weeks. 3. The enlargement of the liver, which was present when the patient left the hospital. 4. The absence of any sequelæ. The case is a good example of the protean variability with which enteric fever may present itself and a reminder that in all imperfectly explained pyrexias the idea of typhoid fever should be ever present in the practitioner's mind.

I am indebted to Dr. Roxburgh, honorary physician to the hospital, for permission to publish this case.

Banwell, Somerset.

HYDATID CYST SIMULATING SUBPHRENIC ABSCESS.

By J. PORTER PARKINSON, M.D. Lond.,
M.R.C.P. Lond.,

PHYSICIAN TO THE LONDON TEMPERANCE HOSPITAL AND TO THE NORTH-EASTERN HOSPITAL FOR CHILDREN.

THE following case presents certain points of interest from the position of the cyst which was that of the most usual variety of subphrenic abscess, and also from the gastric symptoms which were no doubt produced by the displacement of the stomach.

A woman, aged 27 years, had suffered for two years from weakness and malaise, with frequent pains in the region of the left hypochondrium. These pains, attributed to indigestion, were often accompanied by vomiting and also by attacks of faintness. The pains appeared to have relation to the taking of food and at times were so severe and long-continued that she remained in bed for days at a time. There was no history of the passage of blood by the mouth or the bowel. About nine months before I saw her a tumour had been discovered in the abdomen and was said to be an enlarged spleen.

When I was called to see her in consultation with her medical attendant she was thin but not emaciated. The tongue was slightly furred and the bowels were very constipated. There was some bulging of the lower part of the chest in front on the left side and above this the cardiac impulse could be seen in the third intercostal space. A swelling with a rounded limit below could be felt extending from beneath the costal margin on the left side for a distance of three fingers' breadth; it was smooth, tense, and felt semi-solid. It extended from a point about one and a half inches to the right of the middle line to the left mid-axillary region, ascending beneath the costal margin at each extremity. The lower limits distinctly descended with a deep inspiration. It was dull all over except for a small portion beneath the ensiform cartilage, where it was moderately resonant, and the dulness was continued into the chest obliquely to join the cardiac dulness in front; so that almost the whole of the chest in front below the second rib cartilage was dull. The upper part of this was obviously due to the displacement upwards of the heart. Behind there was dulness on the left side of the chest as high as the angle of the scapula, bounded above by a curved line with its convexity upwards, descending towards the spine and towards the axillary region. It was noted that the upper limit of this dulness descended slightly with a deep inspiration. Over the dull area the vocal fremitus and resonance and breath sounds were absent. There were no other abnormal physical signs discovered in the chest or the abdomen. The liver appeared to be of normal size and there was no albuminuria. The spleen could not be made out. The blood examination showed slight anæmia but no leucocytosis. The temperature was normal.

It was obvious that we had to deal with a tumour below the left wing of the diaphragm which, unlike an enlarged spleen, exerted its chief pressure upwards. A subphrenic abscess seemed unlikely owing to the long duration, the absence of fever, and of any symptoms pointing to a previous perforation of the stomach, which is far the most common cause of subphrenic abscess on the left side. The possibility of the tumour being a pancreatic cyst was discussed, but these tumours do not, as a rule, move with respiration and they are situated more in the median line; the fæces also were normal in colour and consistency. A portion of the tumour was resonant, which is often the case in a pancreatic cyst owing to the stomach lying above it, but this was found at the operation to be due to the thin edge of the left lobe of the liver overlying the displaced stomach. Eventually by exclusion we arrived at a hydatid cyst as the most probable diagnosis.

Mr. Bilton Pollard arranged to perform abdominal section and discovered a hydatid cyst situated in the posterior part of the left lobe of the liver, pushing the anterior part of that lobe forwards. He evacuated five pints of a brownish fluid which microscopically contained red blood corpuscles, granular cells, crystals of cholesterin and débris. No hooklets were seen but a portion of the cyst wall showed the structure characteristic of hydatid. The cyst wall was stitched to the wall of the abdomen and drained. The patient's further progress was uneventful; she was out of bed in a month after the operation, though the fistula continued to discharge for some weeks longer. She finally recovered perfect health and all signs of the tumour have now disappeared.

At the operation it was seen that the stomach was displaced downwards and towards the mid-line and lay beneath the displaced left lobe of the liver, thus producing resonance over the right limit of the tumour.

It would appear that in this patient the ovum having perforated the stomach wall and the capsule of the liver developed in the nearest part of the liver which it reached and was not carried away in the portal circulation as usually is the case when it develops in the right lobe of the liver. Such a condition appears to happen in more than a solitary instance, for shortly after seeing the above case I saw at the necropsy of a patient who died from heart disease in the London Temperance Hospital a hydatid cyst of about the size of an orange in almost exactly the same situation, being adherent on the one hand to the posterior wall of the stomach near its cardiac end and also to the posterior part of the left lobe of the liver. This cyst was evidently in active growth and contained the usual hydatid contents, including hooklets, and if the patient had lived till it had grown to a larger size it would doubtless have produced similar symptoms and signs to those which I have mentioned.

Wimpole-street, W.

THE PROGNOSTIC VALUE OF THE DIAZO-REACTION IN ENTERIC FEVER.

BY J. D. ROLLESTON, M.A., M.D. OXON.,

ASSISTANT MEDICAL OFFICER AT THE GROVE FEVER HOSPITAL OF THE METROPOLITAN ASYLUMS BOARD, TOOTING.

THE prognostic value of the diazo-reaction in enteric fever was originally described by Ehrlich in 1882[1] and has subsequently been confirmed by several German, French, and American observers,[2] but hitherto has received little recognition in this country. The greater certainty attaching to Widal's test from a diagnostic standpoint has tended to throw Ehrlich's reaction into the shade, the use of the latter in prognosis being disregarded. The present paper, which is based on observations made on 65 cases of enteric fever in which the diazo-reaction was employed, offers confirmatory evidence of its prognostic value. A positive reaction in enteric fever is first obtained about the fourth day of the disease and tends to disappear by the end of the second or in the course of the third week. Its persistence beyond that period only occurs in severe cases and in spite of a fall of the temperature indicates that the infectious process is still active and that a recrudescence or relapse is imminent.

The following shows the diazo-reaction in 65 cases of enteric fever admitted at various stages of the disease: Cases admitted in the first week: 9 positive, none negative; second week, 24 positive, 9 negative; third week, 9 positive, 8 negative; fourth week, 2 positive, 2 negative; and fifth week, 1 positive, 1 negative. In 27 of these cases in which the test was employed throughout the disease the diazo-reaction became finally negative at the following dates: first week, 0; second week, 6; third week, 12; fourth week, 3; fifth week, 4; sixth week, 1; and seventh week, 1.

My own experience coincides with that of Oppenheim and Loeper who hold in opposition to Rivier[3] that an intense reaction is by no means the appanage of severe forms of the disease as it is found in the immense majority of cases in which the urine is examined during the first fortnight. It is only the persistence of a positive reaction that characterises a severe attack. Daily examination of the urine shows that the commencement of lysis occurs either simultaneously with the disappearance of a positive reaction or succeeds it by an interval of varying duration.[4] Thus out of 27 cases in 22 these two events occurred in the same week, in four cases lysis began in the week following, and in one instance there was an interval of 12 days between the two. Before the reaction disappears entirely there is usually a gradual diminution in its intensity, the successive grades being designated by Ehrlich R++, R+, R−, R−−, which correspond with shades of colour varying from a deep purple or carmine to a pale yellow. Not infrequently before the reaction becomes finally negative it may be occasionally positive. Generally speaking, so exceptional is it for the disappearance of the reaction not to be followed at a short interval by a decided fall in the temperature that a persistent pyrexia with a negative reaction indicates a secondary infection or impermeability of the kidney to the colouring matter, the latter, according to Ehrlich, constituting a grave sign. Thus, in seven of my cases in which aggravation of the general condition occurred after disappearance of the reaction three died from toxæmia, two from hæmorrhage, one from perforative peritonitis, and one from lobar pneumonia. Knowledge of the duration of the diazo-reaction is useful as a means of checking the history, which is often notoriously misleading, and in conjunction with the other symptoms helps one to arrive at a more accurate estimate of the length of the illness. As a rule there is a tendency to under-estimate the duration of the illness. A decidedly negative reaction (R−−) in an undoubted case of enteric fever indicates that the patient has in all probability been ill for at least 14 days. A positive reaction, on the other hand, in the absence of a relapse or recrudescence shows that the illness has lasted little more than a fortnight at the most.

The reappearance of the reaction after a period in which it has been negative indicates the imminence of a recrudescence of the disease if the temperature is not already settled or of a relapse if apyrexia has been established. On the other hand, a persistently negative reaction with a rise of temperature excludes the possibility of recrudescence or relapse. In certain cases of complications due to the specific bacillus the reaction hitherto negative may become positive again. Thus Lainois and Loeper record its presence in a case of typhoidal orchitis occurring in convalescence. It is, therefore, advisable to employ the test at frequent intervals for at least one month after the evening temperature has reached normal and not only to use the test throughout the febrile period. It is interesting to note that in diseases in which the reaction is rarely found—e.g., in tuberculosis, pneumonia, and diphtheria—a positive result is of still graver omen than in enteric fever (Ehrlich). In measles in which the reaction is as constant as in typhoid fever no prognostic value attaches to its presence or persistence.

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[1] Ehrlich: Zeitschrift fur Klinische Medicin, 1882, Band v., S. 285.

[2] Escheri[illegible] No. 7, 1883. Krokiewicz [illegible] Michaelis: Deutsche [illegible] Traité de Médecine [illegible] typhoïde, 1899. Brannan: Twentieth Century Practice of Medicine, 1899. Oppenheim et Loeper: Gazette des Hôpitaux, May 25th, 1901.

[3] Thèse de Paris, 1898.

[4] Chantemesse (loc. cit.) says that the disappearance of the reaction may follow the fall of the temperature.

Summary.—(1) In all but severe attacks the diazo-reaction tends to disappear in the course of the second or third week, this disappearance shortly preceding, or coinciding with, the commencement of lysis; (2) its reappearance during or after the completion of lysis is a warning of recrudescence or relapse, or of complications directly due to the specific bacillus; [illegible] f the reaction associated [illegible] condition is of bad omen, [illegible] ction is a useful check to the history.

Tooting.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NON-TRAUMATIC CEREBRAL HÆMORRHAGE IN A CHILD, AGED TEN YEARS.

BY HUGH TAYLOR, M.A. CANTAB., M.A., M.D. DUB.

THE following brief note of an extensive cerebral hæmorrhage without any traumatic origin occurring at such an early age is, I have ventured to think, worth recording.

About 10 o'clock on the evening of Dec. 31st, 1904, a little girl, aged ten years, who had "never been really ill in her life" and who had been playing about all day with her companions apparently quite in her usual health, suddenly put her hand to her head exclaiming "Oh, my head!" gave a cry, fell down, and was in a minute or so very sick. The parents were at first inclined to ascribe the attack to a Christmas surfeit but on raising her into a chair they discovered that "she had lost the use of her limbs." I saw her about an hour afterwards. She had been very sick and was still inclined to retch. She was reclining in an armchair in a semi-comatose condition, her pupils were dilated and fixed, her temperature was 97·8° F., and her pulse was uncountable. The mouth was drawn over to the right side of the face, the head was inclined to the right shoulder, and her left leg was quite paralysed, but the left arm, so far as I could make out in a somewhat hasty examination in unfavourable circumstances—an ill-lighted crowded hut—was not so much implicated. About 4 A.M. on Jan. 1st she tried to "turn over" in bed, made an abortive attempt at vomiting, and quietly died. The father is a strongly built "ganger"; the mother is a weakly anæmic rheumatic woman, has a large family, and one sister suffers from constantly recurring tonsillitis.

A necropsy made on Jan. 4th disclosed a hæmorrhage which, starting from some vessel in the corpus striatum or optic thalamus, had literally ploughed its way into the right lateral ventricle, the resulting clot completely filling the cavity.

Though the diagnosis was confirmed I am quite at a loss to account for the condition revealed. My colleague, who kindly assisted me at the necropsy, and myself do not profess to be expert pathologists but we could find absolutely nothing to account for the attack, all the other organs being, macroscopically at any rate, quite healthy.

London

A CASE OF EXTRACTION OF A COIN FROM THE ŒSOPHAGUS.

BY JAMES LINTON BOGLE, M.D. EDIN.

IN connexion with the case of extraction of coins from the gullet published in THE LANCET of Dec. 10th, 1904, p. 1641, the following one may be of interest as occurring about the same time in my own household.

The patient was a boy, aged five years, who on Dec. 9th whilst playing with a 10-centesimi piece (being 1·2 inches in diameter and much the same size as a penny) put it into his mouth and accidentally swallowed it. He complained of pain at the back of his throat and in the stomach and was repeatedly sick, vomiting the food last taken. There was no interference with breathing and he readily swallowed liquids. Nothing could be seen or felt on careful examination of the throat and gullet save some slight reddening of the fauces. He was held up by the feet and well shaken without result. The vomiting continued for 24 hours, when the gastric pain became less. He had regular action of the bowels and took liquids and semi solid food without difficulty. On the 14th—i.e., five days afterwards—the coin had not been voided per rectum, there was still some irritation in the throat, the boy's voice was somewhat weak, and he still could not take solid food. He was therefore on that day taken to San Remo, where, through the kindness of one of my medical *confrères*, an excellent skiagram was taken by the x rays, showing very clearly the coin impacted in the gullet just above the sternal notch, being two-thirds above and one-third below the sternum. Under chloroform attempts were then made to remove it, either by bringing it up or pushing it downwards but unsuccessfully, mainly owing to the want of suitable instruments. As the x ray apparatus still showed clearly the shadow of the coin in the same position I telegraphed to Dr. J. A. Macdougall of Cannes, who kindly came next day to our assistance. Chloroform having again been administered a long flexible coin catcher was passed and at the first attempt this brought up the coin to the rima glottidis. There it was nearly lost again, falling forwards, but it was successfully removed by forceps. The coin had already much changed in appearance, being dark green and somewhat roughened at the edges. The little patient was sick for 24 hours but was in his usual health in three or four days' time. The feature of the case was the smallness of the disturbance caused by the presen [illegible] boy easily swallowed [illegible] dings with fluids and [illegible] the first.

Bordighera, North Italy

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

SOUTH WIMBLEDON AND MERTON COTTAGE HOSPITAL.

A CASE OF RUPTURE OF THE PANCREAS; OPERATION; RECOVERY.

(Under the care of Dr. A. H. GERRARD, Dr. MARTIN RANDALL, and Dr. PATTISON ARMSTRONG.)

FOR the notes of the case we are indebted to Dr. Randall.

The patient was a man, aged 42 years, a carman. On May 13th, 1904, at 9 A.M., he was walking backwards, leading a pair of horses in a loaded van. He went too far and got jammed between his own van and a stationary laden wagon. The pole of his van hit him in the epigastrium. He had violent pain, became faint and collapsed, and vomited. There was no history of blood in the vomit. He was taken to hospital and seen at 10 A.M. by Dr Gerrard who found him collapsed, ashen in colour, with a weak, small pulse of 90, a temperature of 95° F., and in great pain. He at once ordered stimulants, warmth, and a hypodermic injection of half a grain of morphine. It was ascertained that the patient had had breakfast at 8 A.M. and had passed urine at 8.30. Dr. Randall saw the patient with Dr. Gerrard at 11.30. He was still collapsed and in pain. Midway between the ensiform process and the umbilicus was a bruise nearly two inches in diameter and very tender to the touch. The skin was not broken. The abdomen moved but was very tender, especially above the navel. Liver dulness was normal. There was marked dulness in the right flank. From the gravity of the collapse, the site of injury, and the dulness it was concluded that the patient had some serious visceral lesion with internal hæmorrhage, and it was decided to operate if his condition seemed to warrant it in two or three hours.

Operation was performed at 3 P.M. by Dr. Randall with the help of Dr. Gerrard. Dr. T. Brice Poole gave the ether. A catheter was passed and drew off normal urine. A median incision was made above the navel. There was no gas in the peritoneum but much effused clotted and fluid blood. No lesion of the stomach, the liver, or the bowel could be found. A large tear directed vertically was then seen running from the stomach to the liver in the gastro-hepatic omentum and there was a tear in the peritoneum over the pancreas. Under this was a tear two inches long in the body of the pancreas, running from the right and below, upwards and to the left, leaving a loose tongue-like process of the gland, the base of which was half the width of the organ. On passing the finger through the tear it came directly on to the aorta. Oozing was free but no large bleeding vessel could be found. The rent in the pancreas was sewn up by four silk stitches passed by means of a curved needle in a holder. The smaller peritoneal sac having been cleansed the greater part of the tear in the gastro-hepatic omentum was sewn up with a continuous catgut suture, leaving a space above for drainage. The abdomen having been thoroughly flushed with hot saline solution an iodoform gauze packing was inserted down to the pancreas and the rest of the abdominal wound was closed. The operation was fairly well borne.

For the first three days the patient was constantly sick and in much pain. Morphine was used. Champagne stopped the vomiting on the evening of the third day. After this he was able to take small quantities of peptonised milk and panopeptone by the mouth. On this day he began to get delusions, thinking the medical attendants were going to poison or to injure him. He jumped out of bed, got the matron on the floor, and did the same the next night to a male attendant. At this time he seemed likely to die. The pulse rose to 150 and he became so collapsed that on May 20th he had $\frac{1}{30}$th of a grain of strychnine injected four times in nine hours, besides hot brandy and saline rectal injections. Bromides, sulphonal, and hyoscine had no effect in quieting him. Meanwhile the wound was healing and discharging abundantly a viscid, slightly turbid fluid which caused excoriation of the margins of the wound, rendering soothing ointments necessary. The patient was now extremely emaciated and had much bronchitis, with severe cough and much muco-purulent expectoration. The stitches were all removed on the 23rd, the lower part of the incision being healed. On the 26th the patient was sent to Kingston Infirmary as he was so noisy as to make the rest of the small building at disposal intolerable for other patients. His highest temperature was 100·2° on the 18th and the 24th. His pulse varied from 100 to 150. During his stay at the South Wimbledon Hospital no sugar was found in his urine and no special features were noticed about the motions.

Notes on the patient's history at Kingston, by Dr. ARMSTRONG.—On admission there was an incision about two inches long in the epigastrium, to the edges of which a piece of omentum was adherent, leaving two small openings near the upper angle of the wound. From these openings there was a profuse discharge of a whitish viscid fluid. The condition of the skin of the abdomen and the lower part of the thorax resembled that produced by an extensive burn of the first and third degrees. The patient was nervous, depressed, and suspicious, was very emaciated, and had a troublesome cough. Mucous râles could be heard over both lungs but were most pronounced at the left apex. His temperature was 100° F. The abdomen was dressed with boric ointment. Chloralamide (30 grains) was given and the patient slept for several hours.

With regard to the subsequent history, the wound gradually contracted, so that at the end of June there was only a sinus admitting a probe. Under the application of silver nitrate this soon closed. Two sutures presented in the wound on June 3rd and were removed. The bronchial trouble was gone by about June 6th. Examination of the sputum for tubercle bacilli gave a negative result but pneumococci were present. The fluid from the wound was at first viscid, mucoid, and alkaline in reaction and sufficient in quantity to soak the dressings in a few hours. Its irritant character was shown by its effect on the skin. It oozed continuously from the wound whilst the patient lay still but spurted out when he coughed. Later it got more watery. In one and a half hours a fluid ounce of it was collected. It had a slight digestive action on albumin. Its action on carbohydrates was not tried owing to difficulty in collecting fluid without causing discomfort to the patient. The quantity diminished as the sinus contracted and the flow had ceased a few days before the sinus was quite closed. There was very obstinate constipation until the patient was able to take ordinary diet. There was nothing peculiar in the motions. On June 8th the urine contained a small quantity of sugar. No sugar was present a week later. There was complete absence of chlorides. As to his mental condition, depression and anxiety were marked during the first three weeks. Narcotics were used for the first five nights to induce sleep. With regard to feeding, during the first fortnight peptonised fluids only were given and were well retained. Then, as the patient's condition had improved and he craved for solid food, a small quantity of pounded fish was given and was retained for about five hours. Violent vomiting accompanied by epigastric pain then set in and continued during the night, necessitating hypodermic injection of morphine. Peptonised diet was resumed for a week, then ordinary milk, peptonised farinaceous foods, &c., were given in succession, and on July 4th the patient was on a full diet. The changes of diet were accompanied by discomfort at first but no further vomiting occurred. The patient gained in weight and strength rapidly and left the infirmary on July 28th, the wound having been quite healed for nearly a fortnight.

Remarks by Dr. RANDALL.—The patient has now (Jan. 15th, 1905) been at work since the beginning of October as a carman, having to move and to lift heavy weights. He has some trouble with digestion. The scar bulges a good deal. The case appears worthy of recording because we have found no record of an analogous case successfully treated by operation. Dr. W. Hale White[1] refers to a similar case where no operation was performed. The patient died after a week with extensive fat necrosis. Another fatal case is referred to by Dr. R. Salusbury Trevor,[2] in which the patient died with fat necrosis and other lesions following injury to the pancreas by a kick from a horse. In the same article a successful case of operation for stab wound of the pancreas is mentioned. Injuries in this region are usually complicated, but the above two cases show that a severe uncomplicated trauma of the gland is not unlikely to be fatal. Hence there is some reason to think that the line of treatment adopted in this case was correct. For some days recovery was not expected. The vomiting and difficulty with the bowels were in all likelihood connected with some bruising of the sympathetic nerve plexuses behind the pancreas and it was not until several weeks after the accident that he was able to take anything except peptonised foods. The delusions were not, in our opinion, connected directly with the fact that the pancreas was injured but were the result of the severe shock on one with a history of mental trouble in the family. The violent outbreaks resulting would certainly have destroyed his life, apart from the prompt treatment of the ensuing collapse by strychnine and other stimulants. It seems difficult to imagine that recovery could have occurred in this case apart from operation when we consider the nature of the lesion and the amount of blood effused. If decomposition had not occurred fat necrosis would have been practically sure to follow and there was nothing to limit the action of the fluid to even the lesser peritoneal sac. From the physiological point of view there is not much to be said. Dr. Armstrong found sugar in the urine once, but it was tested on various occasions besides by all of us with a negative result. The motions showed no special features. That the discharge from the wound was largely pancreatic juice is evident from the condition of the skin and the tests used by Dr. Armstrong.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.

A CASE OF ANTHRAX (MALIGNANT PUSTULE) TREATED WITH PROFESSOR SCLAVO'S SERUM.

(Under the care of Mr. J. LIONEL STRETTON.)

A MARRIED woman, aged 35 years, was sent to the Kidderminster Infirmary and Children's Hospital by Mr. H. L. Miles on Dec. 23rd, 1904. On admission there was a well-marked malignant pustule situated on the chin just below the right angle of the mouth. Serum from the vesicles showed anthrax like bacilli. The history was that she had a small inflamed pimple in the same situation and she distinctly remembered rubbing the head off it on the 18th, it commenced to swell on the 20th and was well developed by the 22nd. Her husband was a wool sorter and had been working on Persian wool. He had a moustache and it was his custom each time he came home to kiss his wife. This made the source of infection tolerably clear. The pustule was freely excised and the wound was left to granulate. 80 cubic centimetres of Professor Sclavo's serum, divided into four portions, were injected into the subcutaneous tissue covering the abdomen at four different points. The after progress was satisfactory. Locally there was more suppuration than is usual. There was no considerable rise of temperature, the highest record being 99 2° F on the second and third days. On the fifth day she was able to be up and was discharged on the eighth day with a healthy granulating wound.

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[1] Encyclopædia Medica, vol. ix., p. 89.

[2] Practitioner, April, 1904.

The excised pustule was forwarded to Dr C Duncan, analyst to the Worcester county council, and he reported as follows "The centre of the pustule was removed and teased up in distilled water. A few anthrax like bacilli were detected when the material was stained by the methods of Loffler and Gram. Three agar cultures of the material at blood heat developed a few typical anthrax colonies and many other colonies of cocci and bacilli. The material therefore contained living anthrax bacilli."

Remarks by Mr STRETTON —Although the successful issue cannot entirely be attributed to the use of the serum this case deserves to be put on record as one of the earliest treated with it in this country. From the history of the case it is probable that more than three days elapsed before the pustule was excised and from a considerable experience I have learnt that the chances of recovery are very slight if excision is delayed beyond 48 hours. Even within that time death has occurred in many cases so treated. I am not prepared at present to sanction the use of the serum without excision of the pustule as practised by Professor Sclavo. His results are so striking that it is probable future experience will prove this to be justifiable.

For the supply of serum I am indebted to Dr T M Legge, His Majesty's Medical Inspector of Factories, who has spared no pains in bringing this method of treatment before us.

Medical Societies.

CLINICAL SOCIETY OF LONDON

Exhibition of Cases

A MEETING of this society was held on Jan 27th, Dr FREDERICK TAYLOR, the President being in the chair.

Mr J P LOCKHART MUMMERY showed an Instrument for Examining the Rectum and the Sigmoid Flexure. The instrument was a slightly modified Strauss's sigmoidoscope by which a diagnosis might be made, thus avoiding exploratory laparotomy.

Mr J HUTCHINSON jun showed a case of Extensive Syphilitic Necrosis of the Skull causing an Intracranial Abscess but without any Cerebral Symptoms. The man contracted syphilis at the age of 18 years and was treated for a short while. Four years later he had rupia with severe pain in the joints, iritis, and posterior synechia in the left eye. Treatment was resumed. He remained free from symptoms for ten years until September 1904 when a lump formed on the vertex followed by sloughing of a circular patch of scalp then by necrosis of the skull beneath until the cerebral pulsations appeared but the man was meanwhile able to work, not suffering from headache, giddiness, or other cerebral symptoms until his admission to hospital. There the dead bone was removed by trephining and a large subcranial collection of pus was found between the skull and the dura mater.

Mr C H FAGGE showed a case of Uretero lithotomy for Calculus in a young girl. A girl, aged seven years had in 1901 pain in the right loin with hæmaturia. In 1903 the same symptoms returned and she was operated upon for an umbilical hernia. In September, 1904, she had a return of the pain, with a *tender spot two inches to the right of the* umbilicus and under an anæsthetic a small hard mass could be felt. A calculus was found in the ureter about one inch below the kidney which appeared to be normal. The calculus was removed and the ureter and abdominal wall were sutured. Healing followed and the urine became normal a week after the operation.—Mr DOUGLAS DREW suggested that it was important in such cases to examine the kidney, since a second stone might be present, and also to exclude the possibility of a suppurative pyelitis being present.

Dr F PARKES WEBER showed a case of Localised Flushing and Sweating on Eating, which, together with "Striæ Patellares," followed appendicitis ten years ago. The symptoms had persisted since *the former exhibition of the* patient in October, 1897. When he began to chew solids a patch of redness immediately appeared on the *left* cheek and the skin sweated. When this was at its maximum a smaller and less marked patch might appear in front of the *right* ear. Vinegar and water in the mouth also mastication movements of the jaws called forth the appearance to a *less marked degree. Swallowing did not produce the* phenomenon. After ceasing to chew, the sweating and then the redness slowly disappeared. The striæ patellares were well marked, like the lineæ albicantes gravidarum, and were attributable to the flexed position of the knees when suffering from appendicitis.

Mr CHARLES R KEYSER showed 1 A case of Goitre in a *boy, aged five years. A lump appeared in the neck in* September 1904 with anorexia, occasional vomiting and malaise. The swelling appeared to be a parenchymatous goitre and increased to the size of a hen's egg. The boy had always lived in London and no other member of the family had been similarly affected. The tumour had rapidly diminished under treatment by iodine and iodide internally and mercury iodide externally. 2 A case of Recklinghausen's Disease. A man, aged 38 years, had had all his life a number of small rounded subcutaneous tumours which were steadily increasing in number. He said that one brother was similarly affected and that his mother died from the disease. The tumours were all soft and absolutely painless, there were two *areas of pigmentation but there were no* signs of malignancy or of nervous disease. The patient was very deaf following scarlet fever in childhood, and suffered from chronic bronchitis and emphysema.

Dr H BATTY SHAW showed 1 A case of Acromegaly in a man, aged 36 years. Enlargement of the fingers and hands had been noticed for four or five years and numbness and tingling for three years. A radiogram of the hand showed the changes in the phalanges. Eight or nine years ago the patient wore No 6 boots, now No 8, the great toe was markedly enlarged and the skin was thicker. The skull had enlarged, the eyelids were thickened, the nose was broadened, the wrinkles on the face were deepened, and the voice was hoarse but the eyes and vision were normal and there was no kyphosis. The patient was sometimes troubled by headache and by drowsiness. 2 A case of Acromegaly occurring in a woman *the subject of Chronic Disease of the* Chest. The patient was now in the Brompton Hospital for Consumption under Dr S H Habershon with disease of the left chest. The hands and fingers had enlarged and also the feet, the malar eminences were prominent, the lower lip was protruded as were the eyelids giving a heavy dull expression. The tongue was enlarged. The patient suffered from headache, insomnia and morning vomiting but there were no eye symptoms. Photographs and radiographs further illustrated the case and distinguished it from pulmonary hypertrophic osteo arthropathy. 3 A case of Bilateral Wasting of the Subcutaneous *Tissues of the Face in a boy, aged 10* years. This commenced after the age of two and a half years. Three years ago he attended the Victoria Hospital for Children and the wasting *became more marked after measles* two years ago. The wasting appeared to affect the subcutaneous tissues but not the skin, muscles or bone. The condition was bilateral. There was no muscular paralysis or wasting in any other part. The patient had had no illness except some slight rheumatic symptoms and choreic movements.

Mr W G SPENCER showed the case of a boy three years after Removal *of a Large Cystic Adenoma of the Left Kidney*. In the summer of 1901 when the boy was aged 12 years the mother first noticed the swelling but she said that he had always had a "big stomach". In January, 1902 the boy was first taken to Dr Redmond Roche who diagnosed the case

Abdominal nephrectomy was performed by a T-shaped incision; some vascular adhesions of the diaphragm caused a temporary disturbance of respiration. The half of the specimen in the Westminster Hospital Museum was shown and Mr. S. G. Shattock's description of the other half in the Museum of the Royal College of Surgeons of England was appended.—Mr. HUTCHINSON, jun., suggested that as only part of the kidney was affected a partial nephrectomy was all that was necessary and he had in one case removed half the kidney for such a condition.

Mr. SPENCER also showed a child after recovery from Infantile Paralysis of the Deltoid. He said that when the subject of nerve-grafting for such cases was before the society in October last the girl was in Dr. F. de Havilland Hall's ward and could not then raise the arm from the side at all. The child had been kept under Dr. Hall's observation and had had the arm rubbed and electricity used. She could now raise it easily above the head and seemed to be recovering well.

Dr. F. E. BATTEN showed a child with Graves's Disease and Myxœdema at the age of ten years. She was a fat child, with a pale puffy face and hands, squeaky voice, and placid slow manner, and had considerable thyroid enlargement and a pulse-rate between 118 and 140. She had a waddling gait. Other signs of nervous or visceral disease were absent. 13 weeks ago the child fell downstairs; 11 weeks ago headache came on with such severity that the child had to be kept in bed; and six weeks ago the enlargement of the neck and puffiness of the face were first noted.

Sir DYCE DUCKWORTH showed a case of Xanthoma Diabeticorum. The patient, a man, aged 23 years, had diabetes in September, 1904. A sister died from the disease at the age of 31 years. He was first of all treated privately, then at St. Thomas's Hospital, and was admitted to St. Bartholomew's Hospital in December. On Dec. 24th a large number of small papules appeared over both elbows. The papules were hard, shotty, and a small amount of yellowish material could be pressed out. On the 31st the papules had increased in size and fresh ones appeared symmetrically over the back, the buttocks, the knees, and scantily on the face. On Jan. 25th the papules were increasing in size and number. The amount of urine averaged 100 ounces per diem and was of specific gravity 1034. Perchloride of iron reaction was present. The sugar on admission was 25 grains per ounce and on Jan. 25th it was 12 grains per ounce. The body-weight on admission was 8 stones 6 pounds; on Jan. 25th it was 7 stones 8 pounds.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.—Milk-supply of Edinburgh.—Friedreich's Ataxia.

A MEETING of this society was held on Jan. 18th, Professor JOHN CHIENE, the President, being in the chair.

Dr. W. ALLAN JAMIESON exhibited a case of Psoriasis which illustrated the effect of oxidised pyrogallic acid in treatment. The patient was a man, aged 31 years, who exhibited the gyrate form of the disease. Treatment was commenced on Nov. 7th, 1904. An ointment of chrysarobin, salicylic acid, and ichthyol was applied and caused the characteristic erythema and considerable improvement. The outer margins of the eruption remained, however, red and raised. In place of the chrysarobin, oxidised pyrogallic acid was added to the ointment which was rubbed in twice daily after a bath containing fluid superfatted potash soap. The skin became very dark brown and assumed a silky smoothness in contrast to the desquamation which followed the use of the chrysarobin. Owing to the improvement produced the treatment was discontinued on Jan. 7th, 1905. Dr. Jamieson also showed a case of Lupus treated by the x rays after a prolonged period of rest. The patient was a girl, aged 15 years. The disease commenced in 1899 on the right cheek in several patches. Various remedies were employed but no improvement resulted. She had been treated partly with the Marshall and Wood's lamp and partly, and more particularly, with the x rays between September, 1902, and February, 1904. A few nodules which remained were treated with fused chromic acid. Nothing had been done since September, 1904, and the lupus seemed to be cured.

Dr. W. G. AITCHISON ROBERTSON read a paper on the Milk-supply of Edinburgh, with Suggestions for its more stringent Control. After mentioning the closeness of the relation between the milk-supply and the hygiene of infancy he referred to the great frequency of infantile diarrhœa caused by the presence of "dairy bacteria" in milk. He said that the amount of lactic acid present in milk might be taken as a very fair standard of the degree of putrefaction present and it was his custom to determine the freshness or staleness of milk by the percentage of lactic acid present. Applying this test to milk as sold in some of the shops in the poorer districts of Edinburgh, Dr. Robertson found that during the summer in 54·8 per cent. of these dairies the acidity of reputedly fresh milk was above 0·181 per cent. If lactic acid were given even in minute amounts to infants it produced gastric and intestinal catarrh, and if tubercle bacilli of bovine origin were introduced into an intestine with a mucous membrane already weakened by the ingestion of such acid milk all the conditions were present for the easy passage of such tuberculous organisms into, and through, the mucosa. He believed it was in this way that abdominal tuberculosis was developed. He then proceeded to discuss the reasons for tuberculosis being so common amongst dairy cows. At present there were in Edinburgh 115 cowsheds licensed to contain 3417 cows. In many cases byres containing from 20 to 40 cows were situated in densely populated localities, often behind lofty tenements and approached by narrow lanes or alleys. From the time when the cows were bought until they were again sold they were never allowed out from such byres; this might mean a period of close confinement lasting from nine to 15 months and occasionally for much longer periods. The cows were also greatly overcrowded. The cubic space recommended by the Local Government Board for each animal was 800 cubic feet, but in many of the older cowsheds in Edinburgh only 600 cubic feet were allowed to each cow and yet on measurement of the available air space to each animal he had found in many instances only from 370 to 450 cubic feet. He was of opinion that at least 1000 cubic feet should be allowed to each cow and that this should be distributed over a far wider floor-space than was customary. After all, however, the amount of cubic space was not to be compared in importance to the amount of fresh air which ought to be supplied to each animal. As a rule the dairy-keeper objected to too free a ventilation as it lowered the temperature of the byre and so the yield of milk became lessened. In consequence of the insufficient amount of cubic space and the totally inadequate supply of fresh air the air in cowsheds was apt to be much vitiated. He was thoroughly convinced that the extreme prevalence of tuberculosis in dairy cattle was due entirely to these factors—namely, overcrowding, insufficient ventilation, and want of sunlight and exercise. Tuberculosis in cows had made an immense advance during the past few decades and this corresponded to the period during which prolonged detention of animals in cowsheds had been the custom. He affirmed that every one of the city cowsheds ought to be abolished and that every dairy farm should be in the country in order that the cows might live healthy lives and so yield healthy milk. In order that this might be attained the animals must be allowed to graze in meadows during the entire day and should, if necessary, only be confined in freely ventilated and roomy sheds during the cold nights of winter. The yield of milk would be smaller but the quality would be superior to that of stall-fed cattle. Maternal nursing ought to be encouraged and he alluded to the inducements in this respect held out to mothers in many towns of France and recently introduced into Huddersfield by the mayor. If this were unattainable then all milk destined for the use of infants and children ought to be pasteurised, and thus "prepared milk depôts" were a necessity in towns and such must be controlled by the local authorities and supervised by medical men.—Dr. G. H. MELVILLE DUNLOP said that Edinburgh was behind continental and other cities as regarded the proper control of the milk-supply. He proposed that a committee of medical men should be appointed to inquire into the milk-supply of the city.—Dr. JAMES CARMICHAEL said that Dr. Robertson had wisely laid emphasis on the necessity of medical men advising mothers to nurse their children but he had not alluded to the fact, too evident in the present day, that unfortunately in town communities the proportion of mothers able to do so was diminishing. Sterilisation of milk, he thought, was not now necessary; pasteurisation had largely taken its place and was [illegible] purc [illegible] of a [illegible] of h [illegible] authorities at present had in regard to the control of cowsheds and dairies. Special by-laws would be necessary to enable the changes indicated to be made.—The following gentlemen were nominated to serve on the committee: Dr. Dunlop, Dr. Carmichael, Dr. J. S. Fowler, Dr. William Robertson, Dr. H. Harvey Littlejohn, and Professor Chiene, with Dr. Aitchison Robertson as convener.

Dr. **HARRY RAINY** read a paper on the Nature of Friedreich's Ataxia. In it he gave an account of the lesions found in a case which he had investigated and the pathological conclusions which these observations appeared to warrant were that (1) the nature of the degeneration was uniform; (2) the distribution of the degeneration (as observed in the posterior columns of the cord) indicated that the lesion followed the course of the individual nerve roots; (3) the primary lesion seemed to be a premature dis- [illegible] elements, either from deficient [illegible] -elopmental defect perhaps associ- [illegible] production; and (4) the degenerated nerve elements were replaced by interstitial tissue which by degrees cicatrised and so formed at first whorls, then later a felted mass of fibres. This process might gradually encroach on healthy areas. There was probably a marked increase in the number of mesoglial cells.—Dr. **ALEXANDER BRUCE** and Dr. **D. CHALMERS WATSON** took part in the discussion which followed.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Cholecystotomy.—Prostatectomy.—Exhibition of Patient.

A MEETING of this section was held on Jan. 13th, Mr. G. **JAMESON JOHNSTON** being in the chair.

Mr. **R. C. B. MAUNSELL** read a paper entitled "Cholecystotomy for Acute Cholecystitis following Typhoid Fever." The cholecystitis manifested itself on the twenty-seventh day after the patient's admission to Mercer's Hospital, Dublin. The muco-pus removed from the gall-bladder contained a pure culture of Eberth's bacillus. Mr. Maunsell briefly described the affections of the gall-bladder which might complicate enteric fever and he strongly advocated operative treatment. In looking up the literature of the subj [illegible] com- plications arising 14½ yea [illegible] some of these cases pure cult [illegible] were obtained.—Mr. JAMESON [illegible] es of typhoid fever in which [illegible] ng for surgical intervention. [illegible] f the laryngeal cartilages and in the other there was a chronic abscess of bone and in both of them typhoid bacilli were found in the pus.—Sir **CHARLES BALL** said that he had [illegible] ny [illegible] ch, [illegible] ed [illegible] hat in his opinion the question of interest in Mr. Maunsell's case was whether the acute cholecystitis was a complication of the acute fever or a sequela. These complications were to be expected [illegible] the patient [illegible] think typhoid [illegible] in the prese [illegible] numbers in the gall-bladder without any results, locally or otherwise, in the neighbourhood.

Mr. **C. A. K. BALL** introduced a discussion on Con- [illegible] patient without inflicting permanent injury to important to explain Dr. Young's operation of conservative perineal prostatectomy, showing that the lateral and median portions of the prostate could be removed without injuring the mucous membrane of the bladder or the urethra and ejaculatory ducts, a matter of some importance now that prostatectomy was being done in younger men. The mortality after the perineal operation was less than half the mortality after the suprapubic operation.—Mr. **JAMESON JOHNSTON** stated that he had always performed the suprapubic operation and still thought it the right one. He did not think that there were such things as lobes in the enlarged prostate; the prostate was simply adenomatous and there was no definite lobar arrangement. The ingenious idea of Lane's operation was to be admired—namely, the preservation of the ejaculatory ducts.—Mr. **EDWARD H. TAYLOR** stated that he had been present at Mr. Ball's prostatectomy operations and was impressed by the ease with which the prostate could be exposed by means of a curved incision in front of the anus and the facility with which the capsule could be peeled off the lateral lobes and the large veins of the vesico-prostatic plexus avoided. Against the operation was the fact that it entailed an extensive dissection and division of the compressor urethræ muscle. There was considerable risk therefore of injuring the sphincteric apparatus of the bladder and of subsequent incontinence of urine. There was much less risk of incontinence with the suprapubic operation.—Mr. **JOHN LENTAIGNE**, Mr. **STONEY**, and Sir **THOMAS MYLES** also took part in the discussion.

Mr. **MAUNSELL** showed a patient upon whom he had operated for Acute Cholecystitis and subsequently for Gangrenous Appendicitis.

EPIDEMIOLOGICAL SOCIETY.—A meeting of this society was held on Jan. 20th, Dr. B. A. Whitelegge, the President, being in the chair.—Dr. G. B. Longstaff read a paper on the Etiology of Rheumatic Fever, beginning with [illegible] before the society in [illegible] tly published in his [illegible] paper he had called [illegible] of a relation between erysipelas, puerperal fever, scarlet fever, and rheumatism, the graphic curves of the first two being practically identical. He had found no connexion whatever between cold and the prevalence of rheumatism but a sort of inverse relation with the rainfall nearly as close as that between diarrhœa and hot weather. Dr. A. L. Galabin in 1902 having pursued the same line of investigation into another 20 years confirmed the identity of the curves of erysipelas and puerperal fever even in years when these were most [illegible] from those [illegible] all septic [illegible] e puerperal [illegible] hich scarlet fever was most frequently attended by septic complications streptococci were most widely diffused, the streptococcus pyogenes being the cause of septic and purulent complications in all specific and non-specific diseases. The new classification of rheumatoid diseases by the Registrar-General removing ulcerative endocarditis from valvular diseases had lessened the similarity of the curves of rheumatic fever and erysipelas and given the former a very characteristic one of its own. In opposition to the teaching of Dr. Charles Murchison, Dr. J. S. Bristowe, and Dr. F. T. Roberts the present school represented by Professor William Osler and Dr. I. Burney Yeo had transferred acute rheumatism to the class of acute infective, though non-contagious, diseases of microbial origin and placed ulcerative endocarditis among the septic. Dr. A. Newsholme's exhaustive examination of the prevalence and fatality of rheumatic fever in many countries and its association with dry seasons had contributed greatly to this change of opinion. The error of ascribing the disease to "chills" had, like all errors in etiology, an influence for evil on therapeutics. Under the new classification rheumatic fever and rheumatic affections of the heart and pericardium, excluding chronic valvular diseases and ulcerative endocarditis, were classed as rheumatic fever and rheumatism of the heart and pericardium. Rheumatoid arthritis was rightly transferred to other constitutional diseases as unwisely was rheumatic gout, which was gout pure and simple, the few remaining causes of death in rheumatic persons being provisionally entered as residual rheumatism. Many deaths, however, from chronic valvular disease of the heart were due to previous attacks of rheumatic fever. After noting the numerical changes consequent on the re-arrangements of the classification Dr. Longstaff proceeded to discuss the geographical distribution of the deaths from rheumatic fever and rheumatism of the heart and pericardium. The death-rate in the period 1891 to 1900 was everywhere except in Wales notably less than it had been in 1881–90, but in each the London and north-western districts stood highest and the east and northern midland lowest, Wales, however, mounting from next the lowest to a place between Yorkshire and London. In all this there was not the smallest indication of a connexion with temperature or humidity. Curves representing the death-rates at each age in the former period, in which acute and subacute rheumatisms were relegated to the miscellaneous group of what he would call residual rheumatism, showed the former more fatal in early life and the latter after middle age. But while the transfer of acute and subacute rheumatism and its inclusion under rheumatic fever and rheumatism of the heart had had no effect on the curve, which still had its maximum between the ages of from 5 to 15 years, it had converted the curve of the residual group from one in which the deaths from the acute forms neutralised the effect of those from the chronic into one in which they saw a regular ascent from childhood to old age, culminating between the sixty-fifth and seventy-fifth years, a character further emphasised by the removal of rheumatoid arthritis and of rheumatic gout. The causes of rheumatic fever seemed to be gathering strength during the latter months of summer, the maximum intensity of the disease being in November.—Sir W. S. Church expressed his distrust of statistics, especially international, in which the fallacy of differing nomenclatures was added to that of doubtful diagnosis. For instance, the *rheumatisme grave* of the French in which empyema was an occasional complication could not be the same as the disease called acute rheumatism in England. What, he asked, were the causes of death in the group of so-called residual rheumatism since the chronic disease was not itself fatal? The prevalence and mortality of rheumatic fever in London and Yorkshire were explained by the fact of its being an urban disease as was its recent increase in South Wales. All army statistics opposed the climatic theory of its causation. Ulcerative endocarditis was set up by a totally different microbe.—Dr. Newsholme said that the mortality of a disease like rheumatic fever with a fatality of less than 2 per cent. gave a very imperfect index of its prevalence and that, as with diphtheria, the great importance of local conditions was concealed in statistics drawn from the whole country or from large districts which effaced the peaks and depressions of the curves indicating local epidemics or their absence. However their curves might resemble one another the smallest prevalence of erysipelas corresponded with the greatest of rheumatic fever. The idea of a relation between rheumatism and the specific infective fevers was not new, having been indicated by Prout, Trousseau, Farr, and others according to their lights. He maintained the influence of subsoil, even in London, and remarked that rheumatic fever was epidemic after very dry years.

Harveian Society.—A clinical meeting of this society was held at the Stafford Rooms, Tichborne-street, Edgware-road, London, W., on Jan. 26th.—Dr. J. J. Perkins showed a man suffering from Addison's Disease. There were pigmented spots on the skin and in the mouth. There had been faintness on micturition but no attacks of vomiting. Dr. Perkins also showed a young man suffering from Bronchiectasis who had been much improved by tracheal injection of creasote in oil. He had gained in weight.—Dr. H. Batty Shaw showed a patient with Recklinghausen's Disease associated with Dilated and Dropped Stomach. The patient was admitted to University College Hospital in February, 1904, under the care of Dr. Sidney H. C. Martin. Mr. R. J. Godlee also saw the patient and discovered on the body and head from twenty to thirty small subcutaneous masses which caused pain on pressure; two were excised and found to be fibromata lying in close relation to nerves. A few days ago the patient was again examined; the pigmentation and flat warts had increased. In addition the stomach was found to be lying in the suprapubic region; it was greatly distended and when in peristalsis caused severe colicky pains. No tumour could be felt.—Mr. E. Laming Evans showed a case of Severe Multiple Deformity in a girl, aged 14 years, following infantile paralysis at 14 months which had received no treatment. Besides a severe lateral deviation with rotation of the spine, a bulging of the anterior abdominal muscles, and a double calcaneo-cavus, all of paralytic origin, there was a contracture at the hip-joints of 135 degrees. As a compensatory curve, the degree of lordosis was extreme.—Dr. Maurice F. Squire showed a man, aged 31 years, with a history of Right Otorrhœa all his life, Gonorrhœa, and Sores, but no Secondary Symptoms. Two weeks before Christmas, 1904, he commenced vomiting, which had continued intermittently ever since with headache. He complained of frontal headache of variable intensity. Vomiting was occasional and with a little preceding nausea. Mentally the patient was rather dull. There were no alteration of sensation or movement, no incoördination, and no localised tenderness. There was doubtful flattening of the left face. Movements of the eye were normal but there was marked right optic neuritis. With regard to the ears, there was an old dry perforation in the left ear and a large polypus was removed from the right ear where there was a slight discharge. A few days ago he had some retraction of the head. The patient was rather improved since the removal of the polypus but the symptoms and physical signs suggested the question of cerebral or cerebellar abscess. As there was no localising symptom he proposed to wait and to watch events.—Mr. E. Percy Paton showed a man, aged 55 years, who first began to notice a swelling on the right side of his neck nine months ago which had increased in size. He thought there could be no doubt that the mass was malignant and inoperable and also that the growth was primary in the neck, either being sarcomatous and commencing in the glands or carotid body or possibly epitheliomatous in connexion wtih the remains of one of the branchial clefts. His impression was that it was an endothelioma beginning in the lymphatic glands or the carotid body.—Dr. Leonard G. Guthrie showed a man, aged 52 years, who had for seven or eight years complained of increasing difficulty in walking. There was no history of syphilis. The condition was probably one of steady progressive degeneration in the neighbourhood of the corpora quadrigemina and perhaps of the left cerebellum or its peduncles. It would probably result in paralytic dementia or tabetic general paralysis.—Dr. Alexander Morison showed a case of Bilharzia Hæmatobia in a man, aged about 30 years, who had been a cavalry soldier in the South African war. Hæmaturia was first noticed after bathing in the Blood river.

Society for the Study of Disease in Children.—A clinical meeting of this society was held on Jan. 20th at Chandos-street, W., Dr. Percy G. Lewis being in the chair.—Mr. F. Jaffrey showed two cases of Volkmann's Contracture which had occurred in the right forearms of two girls, aged two and seven years respectively, as a result of fractures.—Dr. W. H. Kelson showed a boy, 12 years of age, whom he had treated by the galvano-cautery for Lupus of the Epiglottis and Left Vocal Cord, the voice returning. The upper part of the epiglottis was wanting and the stump had been covered with red papules. The ventricular bands, the left vocal cord, and the anterior commissure were similarly affected. There were no history of syphilis, no evidence of lung disease, and no tubercle bacilli in the sputa.—Dr. L. G. Guthrie showed a girl, aged 12 years, whom he brought before the society in December, 1903, as a case of Aortic Stenosis. He was still of the opinion that the physical signs indicated aortic disease and thought that there might be some congenital malformation in the neighbourhood of the aortic valves. The girl was highly rheumatic. As on the former occasion, various opinions were expressed on the physical signs and the conclusions to be drawn from them.—Dr. A. Morison showed a boy, ten years of age, with marked Double Aortic Disease and Mitral Regurgitation. There was an indefinite history of rheumatism.—Dr. G. Carpenter showed a child with Congenital Pulmonary Stenosis and probably a Patent Septum Ventriculorum.—Mr. Donald J. Armour brought forward a boy, aged four years, with a Peno-scrotal Form of Hyposadias with a view to elicit the opinion of members of the society as to the best kind of operative treatment and the best age at which to carry it out.—Dr. G. E. C. Pritchard showed a girl, six years of age, to illustrate Hæmophilia, hereditary in the male line for two generations and evidenced in the third in a severe form in a female. The child had suffered from severe attacks of epistaxis since babyhood. Her father and grandfather were affected but no other members of the family.—Mr. G. Pernet showed a case of Generalised Lichen Planus of three month's duration in a boy aged six years. The boy had a "tower skull," ptosis, with absence of the upward movements of the eyes, and a highly arched palate. He also showed a child, aged four months, recently vaccinated, with a Circinate Gyrate Erythema Multiforme.—Dr. J. G. Emanuel (Birmingham) showed a most remarkable specimen of Congenital Multiple Occlusions of the Small Intestines from a seven months' infant who died nine days after birth. The child had vomited since birth but no stool had been passed. As the result of an enema a large motion of meconium was passed. There was complete atresia of the bowel at the duodeno-jejunal juncture, the duodenum being much hypertrophied and dilated, being larger even than the stomach. In two other places the jejunum was completely absent for about half an inch. In five other places, in the jejunum and upper part of the ileum, the gut was completely occluded by annular constrictions. There were no signs of intra-uterine peritonitis.—Mr. A. T. Marshall showed a specimen of a Collar Stud impacted in the Œsophagus and Perforating the Trachea. It was removed post mortem from a female infant, aged seven months. It had produced consolidation of the right lung, ulceration into the trachea an inch above the bifurcation, and pus in the trachea and the œsophagus.

HUNTERIAN SOCIETY.—A pathological meeting of this society was held on Jan. 25th, Mr. John Poland being in the chair.—Mr. Poland showed a Fallopian Tube removed from a Femoral Hernia; the ovary was not seen.—Mr. W. H. Kelson showed a very extensive Carcinoma of the Larynx obtained from a patient shown at the society a year ago. Tracheotomy had been performed and later, when the growth spread back to the œsophagus, nasal feeding was resorted to. The patient suffered very little pain and died from asthenia.—Mr. Hugh M. Rigby showed a specimen of a Tuberculous Stricture about the middle of the jejunum. Just above the stricture there was an ulcer which had perforated and produced general peritonitis. The perforation was sutured and invaginated. A lateral anastomosis had been performed four inches above the stricture. The patient had experienced no symptoms from the stricture until perforation occurred. He died the day after the operation from the peritonitis due to the perforation.—Mr Harry Overy (introduced by Dr. W. Langdon Brown) exhibited a very well-marked example of Congenital Syphilitic Liver cleft into many Lobules by Deep Fissures. Several large gummata were also present in the liver. The microscopical sections showed perilobular and intercellular cirrhosis. The spleen was much enlarged and cirrhosed. The kidneys were lardaceous. Mr. Overy also showed Two Kidneys taken from the same patient. The one was small and studded with many cysts of the size of hazel nuts. The other was large and fibrous. Sections of the two kidneys were identical in showing chronic interstitial nephritis. The patient was 53 years of age.—Mr. J. H. Targett took the view that this was a case of congenital cystic kidney.—Mr. H. L. Barnard thought that these kidneys showed an intermediate stage in the formation of acquired general cystic disease of the kidneys. He did not think the adult form was in any way congenital or connected with the Wolffian body but was simply an exaggerated form of the small cysts so generally seen in granular kidneys.—Dr. H. Russell Andrews exhibited a specimen of Fibroids of a Double Uterus which he had removed by abdominal hysterectomy.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 20th, Dr. David Newman, the President, being in the chair.—Dr. Alfred A. Young showed two patients who had been operated upon for Ruptured Gastric Ulcer and he read the notes of two other cases. The two patients were operated on within six hours of the rupture. In both cases the stomach was empty at the time of the perforation. The ulcers were situated about the middle of the lesser curvature, one on the posterior and the other on the anterior surface. In neither case was there much fluid in the peritoneal cavity at the time of the operation and this was washed out and the abdomen was closed without drainage. In neither case was the ulcer excised. The patients made a good recovery. A third case was operated upon 24 hours after perforation when the whole of the abdomen was distended and full of brownish septic fluid. There was a history of an attack six days previously which seemed to point to a perforation which had been recovered from. At the operation a large perforation was present on the anterior wall with adhesions around it and a smaller one a little distance off. The peritoneum was much inflamed. The perforations were closed and the abdomen was washed out as well as possible. The abdominal wound was stitched without leaving any opening for drainage. The patient went on very [illegible] was f[illegible] diapl[illegible] patient died on the fifth day after the second operation. A fourth case was that of a [illegible] who was suddenly seized [illegible] with great collapse an[illegible] there was no general [illegible] feeding the patient made a good recovery. This was taken to be a case of perforation limited in its effects by adhesions.—Dr. MacLennan showed two patients upon whom he had performed Riedel's Operation for Chronic Osteo-myelitis of the Tibia. A number of x ray plates were shown to illustrate the regeneration of bone. The operation consisted in chiselling, gouging, or scraping the anterior part of the tibia away till only a strip connected the cancellous ends. If the disease started originally in the epiphysis it was cleared out, the epiphyseal cartilage being carefully protected. After some months the adherent scar was excised and a linear cicatrix moveable upon the tibia resulted. Dr. MacLennan was strongly of the opinion that more bone lesions which resisted less drastic treatment ought to be treated as if the medulla were infected and the shaft mostly removed. The method was applicable to other bones. The results v[illegible] ought to be treated by the [illegible] it to separate.—Dr. Willi[illegible] Etiology and Pathology of Scarlet Fever.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held on Jan. 18th, Dr. W. V. Snow being in the chair.—Dr. C. W. Buckley read a paper entitled "Climatology from a Medical Standpoint." Dr. Buckley said that the study of climatology from a medical standpoint must be subjective rather than objective. Meteorological observations were only of value as interpreting our sensations of weather which were composed of a very complex association of climatic factors and had not been sufficiently studied from that aspect. Even the subjective sense of atmospheric temperature was a complex of temperature, humidity and wind, while such climatic characters as bracingness were made up of these factors, together with pressure and, to a less extent, sunshine. He discussed in detail the effect of each factor on the system and briefly indicated the combinations which they entered into in producing their conjoint effects. Reference was made to a series of observations taken in Shanghai, under the direction of Mr. W. F. Tyler, and by means of charts the important influence of the absolute humidity on the bracingness of a climate was indicated and also the fact that the readings of the wet bulb thermometer were a more trustworthy guide to the subjective temperature than of the dry bulb. In conclusion [illegible] desirability of the society undertaking the [illegible] limates from the subjective [illegible] o discover definite relations [illegible] meteorological readings.—Dr. F. Bagshawe said that in some municipalities provided with a staff of official observers meteorological records were looked for from that source only and thus individual observers were few. In the study of local climates the influence of some winds formed a leading factor in determining the climate of a place. Warmth and absence of fog were promoted by hills screening from northern currents while free exposure to southern breezes freshened the air. Relaxing places were often surrounded by hills.—Dr. W. Ewart, Dr. F. Rufenacht Walters, Dr. F Parkes Weber, Dr. W. J. Tyson and Dr. S. D. Clippingdale also discussed the paper.—Dr. Buckley, in reply, quite agreed that meteorological statistics of rainfall and rainy days were no indication of the number of days fine enough for an invalid to go out and said that although the subjective method of recording variations of weather was open to fallacy, [illegible]acies arose from the present method of [illegible] from records of one or two meteorological factors. He w[illegible] absolute humidity was of more [illegible] a medical standpoint had received so much support.

ROYAL MEDICAL SOCIETY, EDINBURGH.—A meeting of this society was held on Jan. 20th.—Dr. J. M. Beattie read a paper on the Pathology of Rheumatism. In the course of his remarks he discussed the bacterial theory of the disease, giving a detailed account of its history and the evidence upon which it rested. In three fatal cases of rheumatism he had been successful in obtaining from the knee a micrococcus similar to the organism found by Poynton and Paine. In one of these cases he had obtained this micrococcus in pure culture from the spleen and in impure culture from the urine. The organism was a small diplococcus sometimes arranged in short chains. On inoculating rabbits with this micrococcus he was able to recover it from the urine, knee, heart blood, and brain. After considering the theories which suggested that the condition was really due to an attenuated pyæmia or streptococcal septicæmia he concluded by stating that the micrococcus was plainly the specific organism and the cause of rheumatic fever.—Mr. T. Graham Brown read a paper on Brown-Séquard Epilepsy.—Dr. Wilson-Smith read notes of two cases of Acute Nephritis in which the capsule of the kidney was stripped.——At a meeting of the society held on Jan. 27th Mr. N. C. Forsyth read a dissertation by Dr. C. R. T. Mitchell on Head Injuries. He first briefly discussed the anatomy of the scalp and went into the subject of scalp wounds, dividing them into those which penetrated and those which did not penetrate the aponeurosis of the occipito-frontalis muscle. He continued by giving the various lines of treatment for each class. The next subject to be taken up was that of facial wounds and Dr. Mitchell treated this part of his subject more especially from the standpoint of facial disfigurement. He then went on to define the term concussion and discussed the diagnosis, treatment, and complications of the condition, giving a full description of the operations practised when the middle meningeal artery was severed and favouring Chiene's met[illegible]site for trephining. He then took up [illegible] of the head, balancing the various theories of causation and adopting the view that the site of the fracture was determined by the bursting of the skull at its weakest point. Dr. Mitchell also discussed the various methods of treatment and concluded by touching lightly on fractures of the bones of the face and on intracranial suppuration.—Dr. V. T. Carruthers showed two cases of Tumours.—Dr. Chambers showed a case of Addison's Disease.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held at the Royal Infirmary, Bradford, on Jan. 17th, Mr. C. F. M. Althorp, the President, being in the chair.—Mr. Vaughan Bateson showed some photographs of a case of Sarcoma of the Scapula and Magnified Finger-prints as used for personal identification under the new system of classification adopted by the Government. He then read a paper on a case of Granuloma Fungoides. The clinical history was given and the remarkable deformity produced was well illustrated by photographs, the great changes of the facial condition at different stages of the disease being well shown. The details of the history and the report of the pathologist were of an interesting nature and especially the connexion, causative or otherwise, of a flagellated bacillus found in the tumour masses. Its rarity and the obscure pathology made the subject one for a brisk discussion which followed the paper, Mr. J. Basil Hall, the President, and Dr. F. W. Eurich taking part therein.—Dr. A. Bronner read a paper on the Local Use of Orthoform in the Treatment of Painful Ulcers, with special reference to tuberculous laryngitis. Used with boric acid powder, 1 in 10, in these cases, it was surprising how complete and immediate the relief was. Dr. Bronner also said that its use was equally beneficial in cases of burns, fissure of the anus, and gastric ulcer.—The President, Dr. Campbell, Dr. W. E. Heilborn, and Mr. Hall took part in the discussion.—Dr. Bronner replied.

NEWPORT MEDICAL SOCIETY.—A meeting of this society was held on Jan. 25th, Dr. T. Morrell Thomas, the President, being in the chair.—Several interesting cases were exhibited and discussed.—Dr. T. G. Lewis read notes on a Case of Intestinal Hæmorrhage.—Mr. J. McGinn read notes on a Case of General Tuberculosis with Unsatisfactory Result from Surgical Interference and Decisive Improvement under Open-air Treatment.—Mr. C. Brooke Gratte read notes on a Case of Post-partum Hæmorrhage treated with Adrenalin Chloride.

Reviews and Notices of Books.

A Treatise on Applied Anatomy. By EDWARD H. TAYLOR, M.D. Dub., F.R.C.S. Irel., Surgeon to Sir Patrick Dun's Hospital; University Examiner in Anatomy and late Lecturer in Applied Anatomy, Trinity College, Dublin; Member of the Council and late Examiner in Surgery, Royal College of Surgeons, Ireland. Illustrated with 178 figures and plates from original drawings, many printed in colours. London: Charles Griffin and Co., Limited. 1904. Pp. 738. Price 30*s.* net.

WE have perused this work with considerable satisfaction. The author states that his object has been to provide an account of the regional anatomy of the human body in its more important applications to medicine and surgery. He, like most others of practical experience, is an advocate of the teaching of anatomy to students of medicine from the applied standpoint. This method was some years ago instituted in the medical school of Trinity College, Dublin, and also by one, if not more, of the larger London hospitals. The arrangement adopted by Dr. Taylor appears to us an excellent one. A concise but not sketchy account of the anatomy of each region is given in small type and the practical bearing of anatomical facts on the diseases and the injuries of the region in question is then discussed. Embryology and its influence on congenital malformations come in for a due share of the author's attention. The main scope of the book, as would be expected from the author's proclivities, is surgical; medicine receives a certain amount of attention but nothing like that devoted to surgery. In fact, the author admits that the title of "Surgery from an Anatomical Standpoint" would well describe his book. The treatise differs from the majority of the English text-books which deal with the same subject in the amount of anatomy which it contains. This feature will render the book particularly useful to those who are preparing for the final surgical examinations as well as to those whose anatomy is getting rusty from lapse of time. The anatomical descriptions, as we have already indicated, are concise, but, what is more important, they are essentially in accordance with modern teaching and methods of description. The surgical bearings are in every instance fully considered and afford a useful and interesting commentary on the anatomical facts.

A regional arrangement has been adopted under the following main headings: Head and Neck, Upper Extremity, Thorax, Abdomen and Pelvis, and Lower Extremity. In the section on the Brain the author explains and illustrates his own method of determining the topography of the principal fissures and convolutions on the outer surface of the cerebral hemisphere. A review is not the place in which to describe the method but when compared with those at present in vogue it most resembles that of Anderson and Makins and, like this method, is said by its author to be elastic and applicable to skulls of varying size and contour, contrasting in this respect with the methods of Reid and of Hare. We miss any representations of the segmental nerve areas of the body. This is surely an oversight. The illustrations are deserving of great praise. Most of them are original, being drawn from specimens in the medical school of Trinity College, Dublin, by Mr. James T. Murray of Edinburgh. They have been chosen with care and discrimination and really illustrate the points *under* discussion. For commendation we especially single out those devoted to visceral topography and the anatomy of hernia. We predict that this treatise will take a prominent place amongst the many books dealing with the same subject. It has obviously cost its author much time and labour and we unreservedly congratulate him on the great measure of success which he has achieved.

A Manual of Surgical Diagnosis. By JAMES BERRY, B.S. Lond., F.R.C.S. Eng., Surgeon to, and Lecturer on Surgery at, the Royal Free Hospital; formerly Surgical Registrar and Demonstrator of Anatomy, of Operative Surgery, and of Practical Surgery at St. Bartholomew's Hospital. London: J. and A. Churchill. 1904. Pp. 363. Price 6*s.* net.

DIAGNOSIS is probably the most difficult part of surgery to the student. He can learn and repeat glibly the causes, signs, symptoms, and treatment of a disease or injury but he is often completely at a loss when confronted with a case. This book will help the student in the difficult task of distinguishing between various conditions which have signs in common. Of course, diagnosis is not to be learnt from books but in the out-patient room and in the ward, and there the student must go to learn it, but a book like this may be of much service to the diligent and careful student who is anxious to advance in his work; it will show him how to apply in practice the knowledge he has already acquired in theory. The author has, we think, acted wisely in limiting the scope of the work to the more common conditions, for it is these which will especially be encountered both by the student and the practitioner. It is not possible to include in a volume intended for the student the whole of surgical diagnosis. The book is well and carefully written and is a reflex of the author's surgical experience. To one point we should like to call attention. On p. 305 the term melæna is apparently used as synonymous with "blood in the motions"; this is a pity, for both etymologically and by usage it should be restricted to the dark tarry stools which owe their colour to altered blood.

Light Energy: Its Physics, Physiological Action, and Therapeutic Applications. By MARGARET A. CLEAVES, M.D., Fellow of the New York Academy of Medicine; Fellow of the American Electro-Therapeutic Association; Professor of Light Energy in the New York School of Physical Therapeutics, &c. London: Rebman, Limited. 1904. Royal 8vo, pp. 827. Price 21*s.* net.

THIS book is sure to be welcomed by those members of the profession who are directly or indirectly interested in the therapeutic application of the various forms of light energy. The subject is treated from the basis of the modern theory that light is energy in the form of waves of a certain length and direction, with a slight reservation in favour of the emission theory in view of the peculiar behaviour of some of the recently discovered radio-active substances—notably radium. About 130 pages are devoted to a description of the various kinds of rays, their origin and physical properties. The part dealing with the electric arc is very complete and clear and embraces all that is requisite to insure an intelligent application of the arc lamp in the treatment of disease. Then follows a series of chapters on the action of light on the various forms of life from the most elementary to the highly complex human subject. In this section the action of light of different kinds from both natural and artificial sources is treated in a very thorough manner. It is quite evident that the author has devoted herself to a large amount of painstaking experiment, the valuable results of which are recorded in the present volume. In her experience the mercury vapour lamp has not justified the expectations regarding it as a therapeutic agent.

The second half of the book is taken up with the therapeutic applications of light in its varied forms. Sun, arc, and incandescent baths are fully dealt with and also their use in those diseases in which the author has found them respectively of service. The indications are in every instance based on spectroscopic analysis and full details of the proper technique are given for every variety of application. Several forms of bath cabinet are described as well as arc and other lamps for local treatment with concentrated light. While the author is emphatic on the necessity of employing lamps of large amperage—quantity being as essential as quality—yet she speaks highly of certain small lamps the efficiency of which was so low as to necessitate their replacement by lamps of greater power in the light department of the London Hospital. The reason is seen later to be related to the comparative cost of the lamps, the smaller being sold and maintained at a fraction of the cost of the Finsen lamp and their efficiency is at least in proportion to this cost. According to this author the great advantage of a lamp of high amperage, like the Finsen, is that we get not only the short and high frequencies of intense chemical activity but also the frequencies of long wave-lengths having great amplitude and penetrability—a combination which is essential to insure the best success. In the smaller lamps these long wave-lengths of great amplitude are not present in such abundance because of the lesser amperage and smaller carbons.

The results which the author has obtained in many diseases not generally subjected to light treatment will come as a surprise to those who have not kept closely in touch with modern light therapeutics. The applications of light of various colours, as also those of the invisible spectrum rays, are fully discussed. A short chapter is given to the consideration of "n" rays and one to the alpha, beta, and gamma rays of radio-active substances, their physical properties, actions, and therapeutic uses. An interesting chapter is that on fluorescence, fluorescent stimulation, and sensitisation of tissues, and the book closes with a chapter on the occasionally injurious effect of sunlight and the pathological effects of electric lighting. The x rays have not been included in the volume since that subject is so extensive and has been so ably dealt with by others.

Leadless Decorative Tiles, Faience, and Mosaic. By WILLIAM JAMES FURNIVAL. Stone, Staffordshire: William J. Furnival. Pp. 852. 1904.

AS medical journalists our interest in the ceramic art is centred in the question of the effects of the industrial operations concerned upon the health of the workers. Foremost amongst the proposals to improve the sanitary conditions of those engaged in the pottery trade has been that of dispensing with as far as may be practicable, raw lead or even "fritted" compounds used in glazing and substituting glazes entirely free from lead. No one has contributed more usefully and more energetically to the advancement of this subject than has the author of the interesting and handsome volume before us. Mr. Furnival has attacked the question in a very practical way: he has given to the world a number of formulæ for the preparation of leadless glazes and these formulæ, we are assured, give satisfactory results. At any rate, in a report published in 1899, Professor T. Oliver and Professor T. E. Thorpe, as specially appointed commissioners for the Government, wrote: "We have no doubt whatever that leadless glazes of sufficient brilliancy, covering power, and durability and adapted to all kinds of table, domestic, and sanitary ware are now within the reach of the manufacturer, and we have reason to believe that this fact is now more generally admitted by the trade itself than it was six months ago. ...... Leadless glazes are equally applicable to white, cream, buff, and printed tiles. We have seen excellent examples of tiles so glazed." In 1898 Mr. Furnival published a book entitled "Researches on Leadless Glazes" which was reviewed in THE LANCET of Nov. 19th, 1898.

This book, as was then pointed out, contained the important results of a great number of laborious experiments directed to the practicability of producing leadless glazes and employing them in pottery. The work before us, whilst dealing with further researches of this kind, covers much wider ground, including such interesting subjects as a historical review of decorative tile work, the rise of the modern industry, the sources and preparation of clays, materials, and colourants, ceramic pyrometry, mosaic pavements and mural decoration, and so forth. When we add that there is scattered throughout the pages a series of admirable plates illustrating both ancient and modern tile work it will readily be conceded that the work is not only technically but æsthetically interesting also. Some of the photo-blocks illustrating Babylonian clay tablets, Assyrian enamelled bricks, Syrian and Turkish tiles, Indian enamelled tile work, and mosaic turrets are cases in point. Many of the blocks are three-coloured and others are monochrome and lithograph. The historical treatment of the subject has induced Mr. Furnival to seek the assistance of certain well-known authorities. Thus the work includes the following interesting and well-written contributions:—Notes on the Decorative and Architectural Use of Glazed Tiles and Faience in China, by Dr. Stephen W. Bushell, for over 30 years resident physician to H.M. Embassy at Peking, author of "Oriental Ceramics"; A List of the Principal Existing Monuments in India upon which Tile Work Decoration appears, by Mr. C. Stanley Clarke, of the Indian Section, Victoria and Albert Museum; Notes on the Tile Decoration found on Buildings in Punjab and Bengal, by Mr. J. H. Marshall, Director-General of Archæology, India; and Designing for Ornamental Tile Work and Faience, by Mr. Ambrose Wood, Hanley, Staffordshire. Altogether it is a very interesting and attractive volume which is sure to be consulted by all those who are engaged in the technical matters of the ceramic art, who are concerned with it in its relations to the use of deleterious materials, and who make the application of art to decorative work a serious study. We congratulate Mr. Furnival on the completion of what must have been a big task. Finally it may be pointed out that according to the returns of cases of lead-poisoning in the potteries for 1904 there is a decided increase. Whereas there were 87 cases in 1902, 97 cases in 1903, the number has reached 106 for 1904. These facts furnish an excellent *raison d'être* for the publication of this volume.

LIBRARY TABLE.

Examination Questions. Edinburgh: E. and S. Livingstone. Pp. 283. Price 2*s.*—This is a collection of questions set for some years past at the various medical examinations held by the University of Edinburgh, the Royal Colleges of Physicians and Surgeons of the same place, and the examiners for the qualification of the Triple Board. They are brought down to July, 1904. The collection should certainly be useful to those preparing for examinations as showing them the class of questions which they may expect to meet.

A Star Calendar for 1905. London: Hirschfeld Bros. 1904.—This calendar consists of four sheets containing the calendar for three months on a sheet, together with a star chart for the same three months showing the appearance of the sky between 7 P.M. and 10.30 P.M. To those who live in the country this chart will be found of great interest but the dweller in London or other large town will find it of but little use, for even on a clear night, which is rare, he can only see the stars in the zenith or near it on account of the smoky air. Moreover, his horizon is contracted by houses and the light from street lamps seriously interferes with his view of the stars.

Vegetarian and Simple Diet. By Colonel A. R. KENNEY-HERBERT. London: Swan Sonnenschein and Co. 1904. Pp. 450. Price 3*s.* 6*d.* net.—While fully convinced of the general advantages of a mixed diet, we think it probable that many people, especially those who live a sedentary life, eat too much meat. This being so we are glad to welcome the appearance of a book which will teach householders that appetising dishes can be made from vegetables with the aid of eggs and milk products. Of course there is one great difficulty in the case of town dwellers (and they are just the class of persons whom a superfluity of meat harms)—namely, that it is almost impossible to get fresh vegetables. The difference between a cabbage or a cauliflower cooked when just cut and those which have been packed for days in a market cart or have been imported from Brittany or even the Channel Islands is enormous. But even London vegetables are better than none and Colonel Kenney-Herbert's book gives admirable recipes for cooking and serving the same. We are particularly glad to see his anathema of the ordinary English "melted butter," that abominable compound of "corn-flour' and water with possibly a little butter or milk. His directions for cooking rice are altogether admirable but we are rather surprised that he has omitted any reference to garlic as a vegetable, although he mentions it as a flavouring. Garlic which has been blanched in three or four waters and finally gently stewed in a little stock makes a delicious dish and the garlic flavour is by this treatment so attenuated that nine people out of ten who partake of it do not know what they are eating.

Vegetables and their Cultivation. By T. W. SANDERS, F.L.S. London: W. H. and L. Collingridge. Pp. 463. Price 5*s.* net.—This little book gives a description of vegetables used for cookery, salads, and flavouring, together with directions for their cultivation and an account of garden friends and foes. Of course its main value will be to dwellers in the country but we wish that Mr. Sanders had laid more stress than he has upon the custom which every gardener follows of refusing to cut vegetables until they are fully grown. Globe artichokes in particular can be nearly all eaten if they are cut young enough; no gardener, moreover, will ever pull either beans or peas until they are far too old to be at their best for eating. Horticultural shows have a great deal to answer for and are mainly responsible for "mammoth peas" and "giant potatoes." The small early grey-green pea is of far finer flavour than the great hulking marrowfat which is the joy of the London greengrocer but of course it takes a great many more small peas to make up a pint or a pound than it does big ones, hence from the commercial point of view growing small peas is unprofitable.

The Crusade against Phthisis. By A. B. DE GUERVILLE. London: Hugh Rees, Limited. 1904. Pp. 34. Price 6*d.* net.—This is a brightly written description of the treatment carried on at Dr. Otto Walther's sanatorium at Nordrach-Colonie. It is from the pen of a layman and the pamphlet does not contain any point which is not well known and understood by the members of our profession. It is a tribute by a sufferer who has recovered to the physician who has done so much for him.

I. I-Em-Hotep and Ancient Egyptian Medicine. II. Prevention of Valvular Disease. The Harveian Oration, 1904. By RICHARD CATON, M.D. Edin., F.R.C.P. Lond., Consulting Physician, Royal Infirmary, Liverpool. London: C. J. Clay and Sons. 1904. Pp. 34.—The first part of this oration is archæological, dealing with Egyptian medicine, the medicine god, and the earliest inquiries known to have been made concerning the circulation and circulatory diseases. The information gathered concerning the line of study to which Harvey devoted his attention is of a most interesting nature and is presented by the orator in a charming manner. The text is illustrated by various views of temples either built by, or in the days of, I-Em-Hotep, who was distinguished as a "physician, a minister of the king, a priest, a writer, an architect, an alchemist, and as an astronomer—great in all, but greatest in medicine." In the second part of his oration Dr. Caton presses on the attention of the profession the necessity for the special treatment of recent valvulitis. The treatment advocated is to secure the most absolute quiet and rest for many weeks; to administer sodium or potassium iodide, partly to help in the absorption of morbid exudations but chiefly to lower vascular tension; and lastly, to endeavour to influence the cardiac vaso-motor and trophic nerves reflexly by gentle and almost painless stimulation of those cutaneous nerves which we know to be in close relation with the heart—viz., the first four dorsal nerves.

Materia Medica of Vegetable and Animal Origin. By JOHN HUMPHREY. With an Introduction by E. M. HOLMES, F.L.S. (Kimpton's Pocket Text-book Series.) London: John Kimpton. 1905. Pp. 495. Price 5*s.* net.—This is a well-arranged little book which will be valuable both to students of pharmacology and to pharmacists. It contains all that it is necessary to know about crude drugs of vegetable and animal origin. The uses of the drugs are dealt with concisely, the chemistry is brought up to date, and the book is well indexed. All the unofficial drugs in common use, as well as those which are official, are dealt with. It is a handy pocket volume but it will naturally be of more service to the druggist than to members of the medical profession. The drugs are dealt with in alphabetical order. The author is a practical pharmacist.

Familiar London. By ROSE BARTON. London: A. and C. Black. 1904. Pp. 208. Price 20*s.* net.—London for many of us has the extraordinary fascination that alcoholic drinks have for the dipsomaniac. We would fain get away from it but we cannot. And in this book we find Miss Rose Barton confessing with her pen, "I never leave London without a pang," and when we look at the reproductions of the charming drawings from her brush with which the book is illustrated we do not wonder at her confession. All those who live in London will be delighted with the book, for besides the illustrations, many of which will be familiar to those of our readers who visit the exhibitions of the Royal Water Colour Society, Miss Barton has written a gossiping account of various London localities, scenes, and celebrities which will give many a Londoner information which will be new to him. How many, for instance, of the thousands who go up and down the Strand every day know the meaning of the heads on the keystones of the arches supporting the basement of Somerset House?

Hazell's Annual for 1905. Edited by W. PALMER. London: Hazell, Watson, and Viney. Price 3*s.* 6*d.* net. Pp. 756.—The 1905 issue of this valuable Annual is in no way inferior to any of the foregoing. It is impossible really to review a work of this kind but we may say that the Annual before us gives information upon all kinds of matters with which the ordinary educated British subject should be familiar. One pleasing feature of the work is the absolutely impartial manner in which such burning questions as education and religious matters are treated. It is extremely difficult for anyone who cares at all seriously about such subjects to write impartially upon them. It is also equally difficult for anybody who does not care to write intelligently and with knowledge but "Hazell's Annual" seems to have overcome these difficulties. The Annual is a worthy pendant and complement to "Whitaker."

Diaries.—We have received from Messrs. Bemrose and Sons, Limited, 4, Snow-hill, London, E.C., and Derby, twelve little books, each measuring about three and a half inches by two and a quarter inches, with pleasing dark-green paper covers, one for each month of the year. They are known as Bemrose's Monthly Diary and are of a most convenient size to go into the waistcoat pocket. Each day of the month has a page allotted to it and at the back of the diary is a page for memoranda and a folio for a cash account. On the second page of the cover is a calendar for the year and on the third page is a list of some inland postal regulations. There are only two little things to which we take exception —the odd appearance of "Whitsun Day" for Whit-Sunday or Whitsunday and the popular error of "Parcels" Post for Parcel Post.

JOURNALS AND MAGAZINES.

Edinburgh Medical Journal.—With the year 1905 this journal celebrates its centenary, as it was founded in 1805 under the title of the *Edinburgh Medical and Surgical Journal*, appearing quarterly under the editorship of the younger Andrew Duncan. In 1855 it was amalgamated with a younger contemporary, the *Monthly Journal of Medical Science*, and has appeared ever since under the title which it then assumed as a monthly magazine. It has been presided over by a series of distinguished medical luminaries and owing to the high position which it has always occupied it has been the medium for the publication of papers from many notable representatives of medicine. Hence its pages afford material for an almost continuous history of the advances which have been made since its foundation. The January number is devoted to a retrospect of its past achievements in the form of a series of articles dealing with notable contributions to medicine, surgery, obstetrics, and the allied sciences which are to be found in its back numbers. The result is a most interesting and instructive chapter of medical history. Some excellent portraits of past editors are included.

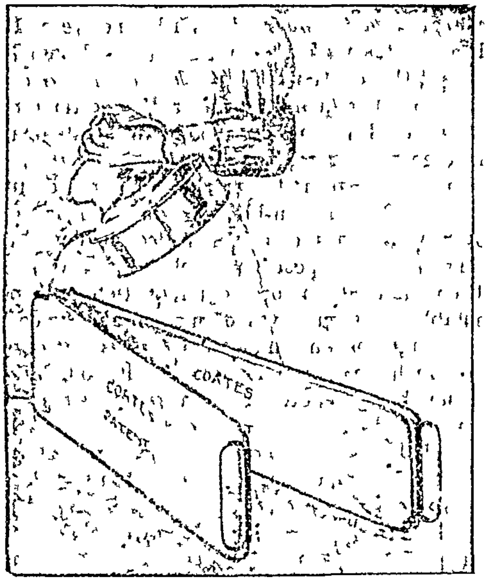
Dublin Journal of Medical Science.—The January number of this periodical opens with an article by Sir William Thomson on Operative Methods, New and Old, in Tuberculosis of the Knee-joint, which is practically devoted to a vindication of excision of the articulation. The author records a series of 78 cases in which this operation was performed, with two deaths, and quotes very satisfactory results obtained by Sir Thornley Stoker and Sir Thomas Myles. Sir Arthur V. Macan deals at considerable length with Accidental Hæmorrhage and sums up his experience in a number of propositions, from among which we will only quote the opinion that rupture of the membranes is not good treatment for ordinary cases of this nature unless it causes rapid expulsion of the child. Mr. E. F. Stephenson reports a case of glanders in a human subject, the site of infection being apparently the mucosa of the mouth; the facts recorded tend to show that the bacillus mallei can exist for so long as two years in a virulent condition in stable manure.

West London Medical Journal.—To the current number of this magazine Dr. A. E. Russell contributes an interesting paper on the Diagnosis of Acute Abdominal Disease. He quotes statistics showing that of all such cases no less than 37 per cent. are due to affections of the appendix vermiformis, whereas only 6 per cent. are due to pelvic conditions. Dr. C. H. Fennell writes on Mental Deficiency in Children in regard to Prognosis, and Mr. Stephen Paget contributes an interesting lecture upon Head Injuries, in which he alludes to the benefit derived by a certain number of patients suffering from such conditions from venesection—a practice which in these days has fallen into perhaps undeserved disrepute—and discusses the indications for trephining. Among the Society Proceedings is recorded and illustrated a case of unilateral lesion of the tenth, eleventh, and twelfth cranial nerves with resulting paralysis of the sterno-mastoid and trapezius muscles, as well as of the soft palate, the vocal cord, and half of the tongue on the same side.

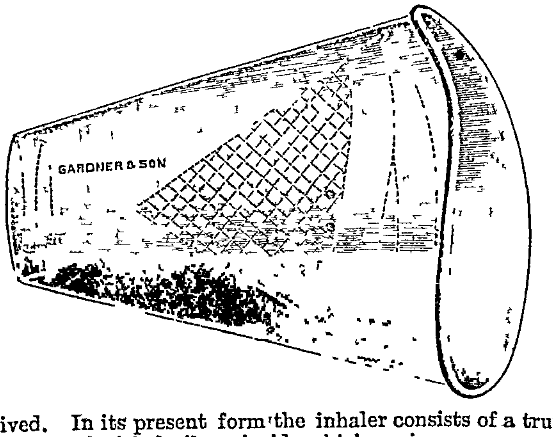
New Inventions.

A NEW BED AND FOOT WARMER.

THE accompanying illustration shows an ingeniously designed bed and foot warmer which will probably be found useful in hospital and nursing-home work. It is made in two portions hinged together at the ends by a removeable pin, so that when opened it is four feet long—i.e., large enough to warm the whole length of a bed or the whole width of a double bed. When closed it measures two feet long and forms an excellent foot warmer. Each half can be used separately for different beds if required. In the illustration the warmer is represented partly open and the method of filling it is shown. It is solidly and neatly made in block-tin and also in copper, the price being 7*s.* 6*d.* in the former material and £1 2*s.* 6*d.* in the latter. It holds six pints and weighs about eight pounds when filled. The patentee and maker is Mr. F. Coates, 14, Thavies Inn, Holborn-circus, London, E.C.



A STERILISABLE INHALER FOR ANÆSTHETIC MIXTURES.



THE accompanying figure represents an inhaler which has been made to my order by Messrs. Gardner and Son, Forrest-road, Edinburgh. I wish to draw attention to this apparatus because it is not an addition to the great number of inhalers already on the market but merely an improvement on one which was introduced several years ago by Mr. Clarence Blake of Boston and which deserved more favour than it received. In its present form the inhaler consists of a truncated cone of nickel silver, inside which a wire gauze cone is retained by a spring. The former has an opening at the top about one inch by two inches, the lower opening measuring five inches by three and a half inches. The whole inhaler, which weighs only six ounces, can be sterilised by boiling and in using it a piece of one and a half or two inch domette bandage about one and a half yards long is wrapped about the inner cone before each administration, rather more being needed if ether alone be employed. In certain cases a piece of sponge with large pores is placed in the upper aperture when a full vapour of ether is desired. The inhaler is intended chiefly for the administration of A.C.E. or C.E. mixture but ether alone can be conveniently administered by means of it as stated, or even ethyl chloride, but for this last a bag inhaler is preferable. From its simplicity, adaptability, and portability the apparatus may prove to be particularly useful to medical men whose work is in the country, who only occasionally are called upon to administer an anæsthetic, and who require an inhaler which will not spoil in keeping or readily get out of order.

T. D. LUKE, M.B., R.U.I., F.R.C.S. Edin.,
Lecturer in Anæsthetics at the University of Edinburgh.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Feb. 3, 1827.

The following WORKS[1] *have been received.*

L'Agent immediat du Mouvement Vital, devoilé dans sa nature, et dans son mode d'action chez les vegétaux, et chez les animaux. Par M. H. DUTROCHET, Correspondant de l'Institut, dans l'Academie Royale des Sciences, &c.

The author of the above work endeavours to elucidate the vital movement in the animal and vegetable kingdoms, by an explanation of the course that the juice takes in plants, and the causes of its propagation. M. Dutrochet thinks that the progression of liquids in vegetables, and in living bodies generally, is the result of a particular form, capable of accumulating them in a much greater quantity than could be done by simple capillary action. He establishes his opinion upon a series of experiments, in which, having placed in water a sac formed of an organic membrane, filled with very thick animal paste, he saw, after half an hour's immersion, the solid paste in great part driven from the sac by the water, which traversing its parietes, introduced itself into the cavity of the sac. Different experiments led the author to recognise that every time an organic membrane is interposed between two liquids of an equal density, a movement of one of those liquids takes place across the membrane; the movement being in general effected from the liquid possessing the least towards that possessing the greatest density. The power by which the liquid is pushed into the interior cavities, M. Dutrochet calls *endosmose*, and the contrary action *exosmose*.

The experiments of the author also show that alkalies placed in the interior of a membranous sac, always produce endosmose; while the acid under the same circumstances, produce exosmose, whatever may be the density of the liquids. This last circumstance leads the author to believe that the cause of such a phenomenon is purely electrical, and that the membrane in which it operates, holds the place of a permeable Leyden jar. In modifying his experiments according to this idea, M. Dutrochet placed an organic membrane in the inferior part of the tube, between two heterogeneous liquids, the one within the tube, the other without; by these means he succeeded in making the lowermost liquid pass into the tube, and in elevating it so as to make it pour over the sides. This effect is always maintained, up to the putrefaction of the membrane; all animal membranes, all vegetable textures have afforded the same result. The author also remarked, that in making the two extremities of a galvanic pile communicate with each side of the membrane, the liquid is always carried from the positive pole, or the least dense, towards the negative pole, or the most dense. The elevation of the temperature sensibly favours the endosmose, on which account the author thinks that inflammation in animals may be considered as a perendosmose. Whether the theory be correct or not, it is not our intention at present to discuss; we have seldom perused a work possessing so much valuable physiological knowledge, and we strongly recommend it to the attention of our readers.

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[1] The work reviewed above is the first of a list of seven received and summarised

THE LANCET.

LONDON: SATURDAY, FEBRUARY 4, 1905.

The Encouragement of Biological Research into the Nature of Disease.

THE importance of a sound biological training as a preliminary equipment for attacking some problems of disease is becoming more fully recognised. As proofs of this recognition we may cite the following instances. The knowledge of this necessity has determined some recent appointments in connexion with the London and Liverpool Schools of Tropical Medicine. There is talk of the University of London attempting to give concrete expression to the significant bearing of certain lines of zoological research on some of the pressing problems of disease. An influential body of men has founded a society for the encouragement of the study of economic zoology. The investigations of the Imperial Cancer Research Fund have been moulded on comparative biological lines, and we have reason to believe that a new director of the cancer investigations at Liverpool has not been appointed for the sole reason that it has not been possible to secure a candidate with the needful qualifications for biological and cytological work. The Carnegie trustees in Scotland have given grants in aid of biological inquiries into the nature of cancer and in a recent address Professor HEKTOEN has urged the importance of biology upon the medical profession in America. From all this it will be seen that the relation of biology to the elucidation of disease is very much in the air, and deservedly so.

The biological nature of some aspects of the cancer problem has been frequently urged in our columns, but with every desire to encourage the serious biological investigation of disease it is not always easy to discriminate between the essentially biological papers which possess the practical medical bearings claimed for them and those which do not. This is all the more difficult when the customary medical nomenclature is replaced by the technical terminology of the biologist and the familiar pathological problem is presented dressed up in biological phraseology. We publish to-day a paper on cancer by Dr. JOHN BEARD, lecturer on comparative embryology in the University of Edinburgh, which is the third of a series that has appeared in our columns. The writer states that it is based on work carried out with the support of the ample funds for research at the disposal of the Carnegie trustees and the Moray Research Fund of the University of Edinburgh. We have thought it well to find space for this paper, for it seems to us to be a serious matter that it has been produced with the countenance of the wealthiest endowment for research in this country. The present contribution is itself the best commentary and criticism upon the two previous articles and its character makes it incumbent upon us to state clearly the illogical reasoning upon which Dr. BEARD's conclusions are based, seeing that they have already received qualified acceptance from some pathologists who probably would not subscribe to a bald statement of the fundamental conceptions upon which a fantastic but seemingly logical superstructure has been raised.

This germ-cell hypothesis of cancer has been expounded in terms of the conception which its author entertains of the nature of vertebrate development. It must be clearly understood that the truth or the falsity of this hypothesis of cancer *is dependent on the truth or the falsity of the embryological* theories upon which it is based. These theories led Dr. BEARD to affirm in a former paper[1] that they necessitated the limitation of carcinoma to the mammalia in which division of the animal kingdom it was "a sequel to uterine gestation." This prophecy has not been fulfilled. The embryological views have not been modified but other investigators have shown that carcinoma is common to all vertebrates and the germ-cell hypothesis of cancer has quietly accommodated itself accordingly. Dr. BEARD never tires of reminding us that his embryological conclusions do not find general acceptance. After due inquiry into their nature we must confess that much of what is fact for Dr. BEARD remains very hypothetical to us. Our confidence in his conclusions is not restored by the assurance "that all the wonderful and infinite variety of animate nature" (including the neoplasms) "has its fount in *the unconscious memories of germ cells.*" Interpretation of all the facts of embryology in accordance with this view is without our province; but the "unconscious memory" of the germ cell—that it has had something to do with a chorion in past generations—leads us to recognise that for Dr. BEARD all malignant new growths are merely chorion (trophoblast, blastoderm, asexual generation of Dr BEARD), which masquerades as a squamous-celled epithelioma or in the guise of the columnar cells of a malignant adenoma, or, indeed, in the garb of any one of the many histological groups of the carcinomata and sarcomata. The chorion is alleged to have unlimited powers of growth and to take on the histological character of the tissue in which it is growing provided that it develops without an embryo. The cancerous chorion develops from a germ cell without an embryo by skipping the embryonic stage in the life-cycle which Dr. BEARD has laid down for the vertebrates. The cancerous chorion naturally arises anywhere in the body, for it is said that the germ cells do not all find their way into the sexual organs. They are scattered through the tissues, where they lie dormant or grow, and we are at once brought face to face with all the old difficulties associated with COHNHEIM'S "rests." The difficulties are but shifted back in the scale of development from the embryonic tissues to the germ cells. The "unconscious memory" of the germ cell is, however, elastic. It remembers that it has got to produce a chorion which has conveniently to mimic the tissues surrounding its nidus but the chorion breeds true to the character of the primary nidus in metastases. In assuming for the chorion unlimited powers of growth the germ cell—and Dr. BEARD with it—forgets that chorion does not possess such inherent powers of growth any more than does any other tissue of the embryo or the adult. On the contrary, the assumption of such unlimited powers of growth is contradicted by accumulated pathological and experimental experience. In this connexion it is only necessary to refer to the very recent work of Schmorl on the frequency with which chorionic villi become arrested in the vessels of the lungs during pregnancy without evincing any signs of growth. The "unconscious memory" of the germ cell is potent for evil. It conjures up "an ancestral acid peptic" digestion for the chorion and endows it with "an acid and eroding action," "for only by such could a cancer erode bone." We wonder if the aortic aneurysm which erodes its way through the sternum or the vertebral column owes this power to the same unconscious memory.

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[1] THE LANCET, June 21st, 1902, p. 1758.

In short, Dr. Beard passes from one conjecture to another. He begins by views on embryology which on his own showing are not generally accepted by embryologists. He goes on to express opinions on the histology and the pathology of cancer which are not in accordance with known truths and launches into the realm of therapeutics with assertions about the action of ferments which would inevitably cause the rejection of a candidate in physiology. We are anxious to encourage the serious biological investigation of cancer and we trust that we are doing so by eliminating from the hypotheses worthy of future consideration one characterised by more wild speculations in more fields of knowledge than any other with which we are acquainted. In the present chaotic state of the cancer problem there is much preliminary clearing up to be done and we can only regret that our opinions on the nature of those biological investigations of cancer which are worthy of financial support differ so essentially from those entertained apparently by the Carnegie trustees and the Moray Research Fund of the University of Edinburgh. In estimating the value of contributions such as that which we publish to-day much larger issues are raised than the mere scientific value of the paper itself. By the indiscriminate distribution of funds for research purposes proper support may be diverted from more important research in the true sense of the word and the question of the competence and the responsibilities of those administering funds for research purposes may obtain a prominence unfavourable to the reputation of British scientific medicine.

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Myelopathic Albumosuria.

In The Lancet of Jan. 28th we published an article by Dr. C. W. Paget Moffatt on Myelopathic Albumosuria. This is a condition which has received little attention in medical text-books but communications on the subject are to be found in medical journals and in the transactions of the learned societies. Dr. Moffatt remarks that myelopathic albumosuria is a new disease—new not in the sense of being the product of hitherto non-existent morbid processes but new by reason of its differentiation by careful clinical observation from other pathological conditions presenting a clinical picture similar in many respects to that of the disease in question. He further truly observes that the number of recorded cases is no trustworthy index of the frequency of its occurrence. When its indications are more generally recognised many more cases will probably be recorded. Such a series of events is by no means uncommon. Actinomycosis was for a long time considered a very rare disease but when the appearance of the pathogenic fungus became better known many cases were placed on record. The same remarks might also be applied to appendicitis and adenoids, conditions which have only been fully understood within comparatively recent years although doubtless they existed long before their true pathology became known.

Dr. Bence Jones was the first observer to draw attention to myelopathic albumosuria and his observations were supplemented by Dr. MacIntyre. Dr. T. R. Bradshaw, however, was the first to diagnose the condition correctly during life and he was the first also to give this name to the disease. The symptoms may be described very briefly. There are pains in the back and sides, increasing weakness, and anæmia, and though there may be temporary remission of the acute symptoms they infallibly recur and progress to a fatal termination. Spontaneous fractures of the ribs have been noted, as also have tumours growing from the ribs and deformity of the dorsal and lumbar vertebræ. Albumose is found in the urine. Of the etiology nothing is known and the chief interest of the disease lies in the pathology and the pathological chemistry. The pathological changes are practically confined to the skeleton, the ribs, the sternum, and the vertebral bodies being always affected. Sometimes alterations have been demonstrated in the pelvic bones and the skull. The long bones have only been found to be diseased in a few cases. The new growth is gelatinous, soft, and vascular. In structure and clinical progress the growth seems to be allied closely to sarcoma but certain differences have been described by Dr. Bradshaw. Particularly interesting is the examination of the urine, as it is only by the detection of "Bence Jones albumose" that the condition can be diagnosed accurately. It is, of course, important to distinguish this albumose from serum albumin and unless the differential analysis between the two is kept clearly in mind errors in diagnosis may easily be made. Dr. Moffatt gives a description of the tests which are to be applied and fortunately they are easy of application and include no elaborate chemical processes. We need not detail the methods here but will refer our readers to the original paper. The source of the proteid body called "Bence Jones albumose" has not yet been definitely ascertained. Three hypotheses have been advanced: (1) That it is derived from the proteid constituents of the food which for some reason fail to undergo normal metabolism; (2) that it is produced by some abnormal metabolism taking place in connexion with the new growth in the bones; and (3) that its production results from some loss of function through the destruction of the bone marrow. Dr. Moffatt quotes observations which have been made in support of the first and second of these propositions but he has not been able to find any record of investigations as to the probability of the third. The matter for the present must remain in abeyance until further work has been accomplished.

Dr. Moffatt has written a valuable *résumé* of what is at present known in regard to the disease. He gives a detailed account of a case which was admitted into Dr. James Barr's wards in the Liverpool

Royal Infirmary and which exhibited the characteristic symptoms and the post-mortem appearances described by other observers. Finally he adds a comprehensive bibliography containing a list (a very considerable one) of writings which have been published on the subject. The communication is thus a very complete one and will doubtless draw attention to a malady which has not been widely recognised. The diagnosis can only be assured by an examination of the urine for certain diseases present symptoms which closely resemble those of myelopathic albumosuria and unless albumose is recognised by the proper chemical tests the true state of affairs may be missed. Amongst such maladies are osteomalacia, muscular rheumatism, spondylitis deformans, and others which are mentioned by Dr. MOFFATT. Now that such a clear account has been given of the principal clinical features of the disease suspicion will be aroused when the symptoms to which we have referred present themselves and we shall await with interest the records of other cases which may from time to time come under observation.

Injuries of the Pancreas.

OF all the many viscera contained within the abdomen none is more securely placed than the pancreas. Although it has not the shelter of the ribs yet between it and the anterior surface of the abdominal wall intervene many important structures. In addition to the anterior wall of the abdomen, there lie in front of the pancreas the small intestine, the transverse colon, the stomach, and the omentum. Still more protected is it from external violence coming from behind, for even if we do not reckon the great vessels, the aorta and the inferior vena cava, there are the second lumbar vertebra with the adjoining portions of the first and third vertebræ in the middle line and the psoas and quadratus lumborum muscles and the thick mass of the erector spinæ laterally, with many fascial strata. The pancreas thus occupies almost the centre of the body and any harmful force coming from without must first encounter other more superficial structures. Yet in spite of its central situation and its very protected position the pancreas is not very rarely wounded. It is true that in a number of the instances which have been recorded the pancreas was only one of several organs which had suffered injury from a severe blow but even in some of these the injury to the pancreas had been greater than that inflicted on the other organs and had in all probability been the immediate cause of a fatal issue. Until comparatively recently it has only been in fatal cases that we have known of any injury to the pancreas, for our knowledge of the physiology of the organ was too rudimentary to enable us to recognise a lesion of the pancreas by the physiological disturbance produced. Even now, indeed, it cannot be said that we are able to recognise by any very definite symptoms that an injury has been inflicted on the pancreas.

When the surgeon's dread of causing peritonitis prevented his operating on the abdomen the only cases of injury to the pancreas recognisable during life were those in which the viscus presented itself at a wound. Thus KLEBURG of Odessa described in 1868 a remarkable case which he had treated. A man, 60 years old, while stooping was wounded in the abdomen with a knife. The wound was horizontal, an inch in length, and was placed midway between the umbilicus and the right costal margin. From it projected a body three inches long, two inches in width, and with a thick free border. It was smooth on the surface and firm in consistence. Percussion showed that the liver was one and a half inches away from the mass, a band of resonance intervening. It was clearly not liver, stomach, bowel, or omentum. As it appeared to be strangulated KLEBURG decided not to attempt to return it, so he fastened the mass to the edges of the wound with sutures and having placed a ligature round the protruded mass he removed it with a knife. On microscopical examination the histological structure was that of pancreatic tissue. Complete recovery followed. In this case a portion of the pancreas was removed without any manifest general disturbance. The whole of the human pancreas has never been removed but the operation has been many times performed on the lower animals and the chief among the effects produced is the appearance of sugar in the urine. There can be little doubt that the same effect would follow complete removal of the gland in man and therefore in this we have a definite sign of the cessation of the function of the pancreas due to injury. A case in many respects similar to that described above has been recorded by LABORDERIE. A little girl, ten years old, while running fell upon an open pocket-knife which inflicted a wound a little below the lower border of the ribs on the right side and the pancreas was found projecting from the wound. An attempt was made to replace the organ but it only succeeded in part and the remainder of the prolapsed viscus was tied and removed with a scalpel. The patient recovered. CALDWELL has also put on record a similar case. A negro was stabbed in the left side and a mass three or four inches long protruded through the wound. This mass became gangrenous and was removed with a knife and on examination it proved to be pancreas. DARGAU has published a case in which the pancreas protruded through a wound between the eleventh and twelfth ribs on the left side. The organ was replaced, the wound was closed, and the patient made a good recovery.

In a case which occurred during the war between the Northern and Southern States of the American Union the opening through which the pancreas protruded was situated on the right side below the ribs. It was encircled with a piece of silver wire which was tightened every day and at last the mass was removed; recovery followed. Many cases of bullet wound of the pancreas have been described and in one instance the patient lived 15 days; the bullet had passed right through the abdominal cavity and had pierced the pancreas but no other organ had been injured. A case of interest and importance is one in which pressure of a tourniquet caused severe bruising of the pancreas. The patient had an aneurysm of the abdominal aorta not far from its bifurcation and an attempt was made to treat this condition by instrumental pressure on the aorta nearer the heart by means of an aorta tourniquet. In the few hours during which the patient survived the application of the instrument no symptoms referable to the pancreas appeared but at the post-mortem examination this organ was found to be much bruised where it lay across the vertebral column. HADRA of San Antonio, Texas, records an interesting case. A boy, nine years old, was riding downhill on a bicycle and was struck in the epigastrium by the handle bar. Faintness and vomiting were present and some hours later he had abdominal pain which was relieved by opiates. Improvement occurred but it was slow and he did not regain his general health. The chief symptom present was an excessive and perverted appetite. About three weeks after the injury a definite swelling appeared in the epigastrium. There was evidently a collection of fluid behind the stomach which stood out in high relief with well-marked borders and the transverse colon could also be defined. The diagnosis made was rupture of the pancreas with leakage into the lesser peritoneal sac. The swelling was incised between the stomach and the transverse colon and about a quart of fluid was evacuated, alkaline in reaction and possessing amylolytic properties. This is probably the mode of origin of many so-called "pancreatic cysts" which follow injury and as the quoted case shows they may be operated on without much difficulty. Surgery, however, has done but little for injury of the pancreas and this is attributable mainly to the fact that it is rare for the pancreas alone to be injured but also to the great depth of the organ and to the usual absence of symptoms indicative of a lesion of the pancreas. So long ago as 1886 SENN prophesied that "the surgery of the future will undoubtedly deal with contusions and lacerations of the pancreas in connexion with visceral injury of some of its adjacent organs. If, in exploring for injuries in this region, the pancreas should be found extensively crushed it would be good surgery to remove the crushed portion after preliminary ligation of the organ on each side of the comminuted portion." In the present issue of THE LANCET is recorded a very noteworthy case in which a man was hit in the abdomen with the pole of a van and when the abdomen was opened by Dr. MARTIN RANDALL a tear of the peritoneum over the pancreas and also a laceration of the substance of the pancreas were found. The torn viscus and the peritoneum were sewn up and a gauze drain was left. After a lengthy convalescence complete recovery followed. Here we see a distinct advance in the surgery of injury of the pancreas. Previously replacement of a prolapsed pancreas or removal of a portion which could not be returned, or drainage of a traumatic cyst or pseudo-cyst, was all that surgery had done for a damaged pancreas. The case is important and marks the commencement of a new epoch in pancreatic surgery, though it is certain that the cases in which surgical intervention will be successful will be few and far between.

KING'S COLLEGE, LONDON.—With a view to prepare the way for the removal of the hospital to Camberwell and the separation of the preliminary and intermediate medical studies the council of King's College has dissolved the medical board and has created a board for advanced medical studies which will superintend the teaching work of the hospital and be organised as a separate department. The preliminary and intermediate studies have been transferred to the Faculty of Science under a separate board.

Annotations.

"Ne quid nimis."

THE HEALTH OF H.R.H. THE PRINCESS VICTORIA.

WE are authorised to make the following statement:—H.R.H. the Princess Victoria developed some time ago—when in her usual good health—evidences of trouble in the appendix. After an attack of influenza early in January these manifestations became more acute and it was considered desirable that the appendix should be removed at as early an opportunity as possible. The operation was simple and without complications and there is every reason to believe that Her Royal Highness will make a good recovery. Sir Francis Laking and Sir Frederick Treves are residing in Buckingham Palace. The nurses are Nurse Fletcher—who nursed His Majesty at the time of his operation—and Nurse Isaacs.

VISIT OF BRITISH PHYSICIANS AND SURGEONS TO PARIS.

THE French physicians and surgeons during their recent visit to London expressed the hope that they would be afforded the opportunity at no distant date of receiving a party of British physicians and surgeons in Paris to visit the hospitals, the science laboratories, and similar institutions, and to discuss further with them matters relating to medical education. To that end a committee was formed in Paris, with Professor Bouchard as president and M. Lucas-Championnière as vice-president, and last December an invitation was received by the London executive committee, of which Sir William Broadbent is chairman. There has been an exchange of views between the Paris and the London committees as to the dates on which it would be most convenient for the visit to take place. After the several possible dates had been discussed it became quite clear that in the opinion of our *confrères* the season of the year most suitable for the visit would be next May. An invitation has now been received from Paris definitely for Thursday, Friday, and Saturday, May 11th, 12th, and 13th, and has been accepted by the London executive committee. A circular letter has been addressed to all those gentlemen who contributed to the fund for the reception of the French visitors last October and they have been requested to inform one of the honorary secretaries (Dr. Dawson Williams, 2, Agar-street, Strand, London, W.C., and Dr. W. Jobson Horne, 27, New Cavendish-street, Portland-place, London, W.) whether they wish to take part in the return visit. At an early date the London executive committee will complete and forward to Paris the list of visitors. It is therefore important that those who have not already replied to the letter should do so without delay. Further particulars of the arrangements will be notified to intending visitors as soon as they are completed.

ROYAL SANITARY INSTITUTE: CONFERENCE ON SCHOOL HYGIENE.

A CONFERENCE on school hygiene will be held in the great hall of the University of London, South Kensington, from Feb. 7th to 10th next, under the auspices of the Royal Sanitary Institute. This conference is intended to pave the way and to prepare the ground for the International Congress on School Hygiene, which is to be held in London in 1907, by discussing some of the aspects of school hygiene which are of pressing importance. Over 100 education committees, colleges, councils, societies, and universities have up to the present appointed delegates, and these, with the members of the Institute, will be welcomed at a reception at 7 P.M.

on Tuesday, Feb. 7th. An hour later Sir Arthur W. Rücker, F.R.S., will deliver the Presidential Address on the Coördination of the Teaching of Hygiene. On Wednesday, Feb. 8th, the subject for the day will be Scholars. This subject will be dealt with under two headings; in the morning that of Physical and Mental Development during School Life and in the afternoon that of Physical Inspection. On Thursday the subject will be Schools, under the headings Building and Equipment and Sanitary Inspection. On Friday the subject will be Training in Hygiene, under the headings Training of Teachers and Training of Scholars. The meetings on Wednesday, Thursday, and Friday will begin at 11 A.M. and 2 P.M. each day. An exhibition of school building and furnishing appliances will be held in the same hall and will be open each day to those attending the conference and to all teachers from 10 A.M. to 6 P.M. and during evening meetings. Fellows, Members, and Associates of the Institute will be supplied with tickets on application and to those not connected with the institute the price of the conference tickets, which are obtainable from the secretary, is 10*s.* 6*d.*

FLANNELETTE.

"A SURGEON" writes:—

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We have made some tests with the samples which our correspondent has kindly forwarded to us. There is little doubt that the inflammability of the flannelette known as "non-flam" is practically *nil.* After several washings with soap and water, however, there is a tendency of the fabric to regain some of its original inflammable property; but even then this is nothing like so marked as in the untreated flannelette. This behaviour implies that the inflammable flannelette is rendered much less inflammable by treatment with a salt of some kind which after repeated washing of the material is to a large extent removed from it. "Non-flam" at any rate is loaded with mineral matter and according to our experiments this consists largely of a tin salt. We have also received a specimen of the "non-flam" material from the manufacturers which proved to be identical with the piece sent to us by our correspondent. The same correspondent in a further letter points out that in the two recent cases of burning alleged to be due to the use of flannelette the material in the first was a flannelette nightdress and the accident occurred at 9.45 A.M. not P.M. In the second case the child was dressed in flannel and not flannelette, the coroner eliciting from the mother that she had dressed the child in flannel since an attack of bronchitis. The suggestion of our correspondent in favour of the adoption of swinging fireguards seems to us therefore a valuable one and there is much to be said also for the proposal to substitute for the ordinary nightdress for infants a sleeping sack which would prevent the child getting close to the fire. Many children of the poor are probably allowed to play in their nightdresses for the greater part of the day. The fireguard would seem therefore to be the only effectual and practicable remedy against these sad occurrences and we think that the purchasers of flannelette and other inflammable wearing material should be warned about its dangers so that they may take every precaution to prevent the poor little irresponsible infants from exposing their dresses to the risk of ignition.

CURRENT THEORIES OF THE HEREDITARY PROCESS.

IN the third lecture[1] delivered by Professor W. F. R. Weldon, F.R.S., at University College, London, on Dec. 6th, 1904, the question of regeneration of lost parts was dealt with. A planarian worm cut across into two parts forms two entire worms, each half regenerating the missing parts completely. Cut into four parts of equal length, each segment similarly regenerates into a complete animal. Longitudinal splitting of the body into right and left halves results in regeneration of a double-bodied monster with one head. If, however, thin transverse slices are cut off from the middle region of the body a head develops from either cut surface. Such a two-headed monster is unable to feed and dies in a short time. The same occurs when the head of a planarian is cut off. The cut surface regenerates a second head but the dual structure dies shortly after. In the case of the common earthworm, if the anterior three, or even five, segments are cut off the rest of the body will regenerate the lost parts. Here both brain and stomach, which were removed by the operation, are redeveloped—an indication of high regenerative power. On excising the stomach and the ventral nerve cord, after removing the ventral halves of the fourth, fifth, and sixth segments, a new head grew out of the gap, producing an extraordinary double-headed monster. In the case of crustaceans the power of regenerating lost limbs is highly developed. Thus, if the entire leg except the minute pair of proximal segments is broken off a new leg develops from the short stump at the next ecdysis (casting off of the shell). If an eye of a crab is excised there is usually regenerated in its place an antenna (Herbst). This is because the optic ganglion—the immediate centre of regeneration—is removed in such an operation. If, however, the ganglion is situated deeply and is intact at the operation a normal eye is regenerated. The amphibia show, according to their higher position in the animal scale, less power of regeneration. If the eye of the salamander or newt is excised, leaving the posterior choroid intact, a proliferation of cells from the pigment cells of the choroidal margin takes place, forming a new lens—i.e., an imperfect eye. A frog deprived by operation of an upper limb will regenerate one or more abnormal limbs at the site of lesion. The higher vertebrates, and especially the mammalia, have very little power of regenerating lost organs. It is thus shown, concludes Professor Weldon, that the capacity for regeneration, strongly hereditary in the lowest organisms, gradually decreases to a minimum in the highest animals. The influence of environment in determining development is very potent in the case of lower organisms. Maupas and Calkins found that the water in which paramœcium lived for several generations "grew stale" and though well supplied with food the organisms in such an environment eventually became enfeebled and extinct. When the water was entirely changed the enfeebled paramœcia recovered vitality and vigour. The eggs of the sea-urchin can be stimulated to parthenogenetic development by the presence of a large quantity of carbon dioxide in the sea-water, as was shown by Loeb whose experiments were recently confirmed by Delage. The nucleus has been held to be the sole vehicle of heredity by Weismann. Recent experiments of Boveri and Delage have demonstrated that this is incorrect. Both these writers have shown that denucleated eggs produced by mechanical extrusion of nuclei can be fertilised in the sea-urchin and that they give rise to normal blastulæ, gastrulæ, and larvæ. Hence the "determinants" of heredity are present in the cell body of the egg. If such eggs are fertilised by alien spermatozoa (of different sub-species) the larva shows the characters of the male parent, because the "determinants" of these are more potent. It is thus established that hereditary traits are transmissible through both parents and that one parent may be prepotent over the other.

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[1] Abstracts of the first and second lecture were published in THE LANCET of Jan. 7th (p. 42) and 21st (p. 180), 1905.

THE SAFEGUARDING OF THE PUBLIC BY PRIVATE AGENCIES.

WE note that in a case referred to in another column, under the heading of "Medicine and the Law," after having successfully detected, prosecuted, and obtained the conviction of a man who had sold without complying with the prescribed regulations enough of a dangerous poison to kill 600 people, the Pharmaceutical Society was allowed out of the public funds set aside for such purposes the sum of £1 1*s.* towards its costs. This was after an application made by its advocate who no doubt laid due stress upon the service rendered. We have no desire to minimise such privileges and official recognition as the Pharmaceutical Society may receive in return for services of this kind to the community, nor would we deny that such an agency as, for example, the National Society for the Prevention of Cruelty to Children enjoys a high reputation and is in receipt of considerable funds in return for the good work which it does in the protection of infant life. Many other similar institutions could easily be named, not excluding the Medical Defence Union in its operations directed against illegal practice by quacks, or the Society for the Prevention of Cruelty to Animals which is not concerned with the preservation of human life, all of which, no doubt, do not work without in some degree earning the gratitude of the community. A question, however, may well be raised with regard to institutions concerned with aiding the administration of the law as to whether they do not do too much towards relieving the public authorities of expense and trouble which should rightly be theirs and whether some change would not be desirable, not in the direction of checking the associations referred to in the exercise of their peculiar activities, but rather in that of suitably compensating them for their expenditure and of encouraging the police to more systematic vigilance and more sustained efforts. It is by no means an uncommon occurrence to read at the conclusion of an inquest on some unhappy child who has fallen a victim to the negligence or brutality of his or her parents or guardians that the coroner hopes that the attention of the National Society for the Prevention of Cruelty to Children will be drawn to the case. It would be more satisfactory to learn that the police and the Treasury would promptly do their best to bring to justice persons apparently guilty of crime. We do not forget that certain expenses are allowed to the private agency by the court official who taxes the bill at the conclusion of the trial; but this represents only a portion of the expenditure involved. Where a public agency such as the police is primarily responsible the balance of the cost is paid from another public fund. When the prosecutors are a society composed of private individuals a portion of the expense incurred in enforcing the law of the land is left to be borne by volunteers actuated by benevolent sympathy with suffering. There can also be no doubt that the fact that an association prosecutes which has for its object the punishment of a certain class of crime is likely to some extent to prejudice the case presented against the defendant. "The police, against whom no sinister motive can be suggested, are," as an advocate for the defence might say, "standing aside They have not thought fit to take any steps but their place has been usurped by a society the very existence of which depends upon the number of convictions which it can secure." It is true that such reasoning as this carries no weight with those who are aware of the true state of affairs but it may have its influence with some benches of magistrates and with jurymen. A more or less private body of the nature of those referred to will always have ample scope for its expenditure in exercising a useful form of vigilance and it may be called upon to pay for its own failures. We do not desire to see anything done that would cripple the action of the Pharmaceutical Society in the prevention of illegal dealings in dangerous drugs but we suggest that when an offence against the public safety has been proved to have been committed it is the public purse and funds provided for the enforcement of the law which have to bear the expense.

LUMBAR PUNCTURE IN THE DIAGNOSIS OF MENINGEAL HÆMORRHAGE.

THE use of lumbar puncture in the diagnosis of diseases of the nervous system is a comparatively new procedure. At the meeting of the Société Médicale des Hôpitaux of Paris on Nov. 25th, 1904, M. Letulle and M. Lemierre reported two cases in which this method of examination enabled meningeal hæmorrhage to be diagnosed when it otherwise would not have been. In the first case a woman, aged 20 years, was admitted to hospital on July 21st, 1903. On the previous day after dinner she was suddenly seized with intense headache and vomiting which were soon followed by loss of consciousness. A practitioner who was called in found her comatose and very pale with a slow pulse; the pupils were normal. Suddenly clonic convulsions localised in the left arm and rigidity and contracture of the right arm began. The head was moved about without cessation; the tongue was put out and bitten several times. About 2 A.M. she was rendered quiet by an injection of morphine. The convulsions began again about 4 A.M. but ceased under the influence of an enema of chloral. Before the attack she had enjoyed good health. On admission she was comatose. When her name was called she opened her eyes and looked around and then shut them. The pupils were equal and moderately dilated. The left arm presented some rigidity but was not paralysed. The right arm was strongly contracted and seemed to be paralysed. The knee-jerks were diminished. The respiration was superficial but at times was interrupted by pauses and deep inspirations. The temperature was 100·4° F. and the pulse was 52. The urine did not contain albumin. The diagnosis was thought to lie between uræmia and tuberculous meningitis but lumbar puncture yielded sanguineous cerebro-spinal fluid. On the 22nd the coma persisted and there was profuse perspiration. On the 23rd the patient could respond to simple questions but immediately relapsed into coma. The arms were flaccid and inert. Babinski's sign was obtained but Kernig's was not. There was incontinence of urine and fæces. The morning temperature was 101·5° and the evening 102·2°. The comatose state continued but on the 26th there was delirium. On the 27th a bedsore formed on the buttock. On the 28th there was marked contracture of the arms which were held against the trunk with the forearms flexed and the hands clenched. Death took place on the 30th. At the necropsy on opening the dura mater the frontal lobes were found to be covered with a layer of clotted blood. The base of the brain was also covered by a clot which extended backwards from the longitudinal fissure over the pons and medulla and upwards on to the cerebellum. The fourth ventricle was filled with clot. There was no hæmorrhage in the substance of the brain and the arteries appeared normal everywhere. On opening the spinal dura mater the cord was found to be covered completely with clot which in some places was half a centimetre thick. Microscopic examination of the brain did not reveal the source of the hæmorrhage or anything abnormal. The fluid obtained by lumbar puncture contained 230,000 red and 100 white corpuscles per cubic millimetre. The cause of the hæmorrhage remained undetermined. The absence of Kernig's sign is noteworthy for it is usually present in cases of meningeal hæmorrhage. In the second case the patient was a man, aged 52 years, addicted to alcohol, who was admitted to hospital on April 12th, 1904. On the previous day he returned home drunk, as usual, and was seized with epileptiform convulsions which were followed by coma, in which state he was on admission. There was left hemiplegia; the leg was flaccid, the knee-jerk was absent, and Babinski's sign was obtained. On the right the knee-jerk was also absent but Babinski's sign was not obtained. In both arms some contracture was present. There were conjugate deviation to the right and paralysis of the left side of the face. The temperature was 101·5° and the pulse was 60. The urine did not contain albumin. Lumbar puncture yielded very sanguineous cerebro-spinal fluid which rapidly escaped in drops. It contained red corpuscles, neutrophile polynuclears, some lymphocytes, and some large mononuclears. Abundant cerebral hæmorrhage involving the ventricles was diagnosed. During the night the patient uttered cries and incoherent words. On the 14th he opened his eyes and answered simple questions and the conjugate deviation had almost disappeared. He could move the leg but Babinski's sign persisted. Recovery gradually took place. On the 16th lumbar puncture yielded an orange fluid which on centrifugalisation yielded much less deposit than that previously obtained. On the 18th he could walk but there was still a little facial paralysis and the knee-jerks were absent. In similar cases observed by M. Letulle and M. Lemierre the termination was always fatal although the cerebro-spinal fluid was less sanguineous. The favourable course of this case caused them to alter the diagnosis to that of meningeal hæmorrhage which they thought must have been considerable. The deposit from the cerebro-spinal fluid was much greater than that in the first case. They were of opinion that the lumbar puncture assisted recovery by relieving pressure. The conjugate deviation is noteworthy, for it is rare in meningeal hæmorrhage. It may be suggested that the blood in the cerebro-spinal fluid was due to accidental wounding of a vessel in performing lumbar puncture but this was excluded by the fact that the fluid did not yield clot on standing.

"A MINT IN THE SEA."

WE suggested (correctly as it proves), more than eight years ago, that the announcement that definite quantities of gold had been recovered from sea water would be sure to attract the attention of speculators. The fact that sea water contained gold was first made patent, we believe, by the observation that the deposit on the copper plating of jetty piles in sea harbours was comparatively rich in the precious metal. In an annotation in THE LANCET of Oct. 10th, 1896, p. 1024, under the heading of "A Mint in the Sea," we drew attention to these observations and discussed the possibilities of treating sea water with the view of recovering what must be a vast amount of gold dissolved in it. On the estimate that a ton of sea-water contains approximately one grain the yield would amount to something like 200 tons of gold per cubic mile and as the volume of the world's ocean is estimated at 400,000,000 cubic miles the total possible yield of gold would be no less than 100,000,000,000 tons—a truly attractive prospect to the company promoter. We now learn that a serious attempt is to be made to wrest a proportion, at any rate, of this vast wealth from the sea and that a company is about to start the necessary machinery and plant somewhere on the south coast of England. It should be borne in mind, however, that the original observations as to the sea containing gold were made on the waters which wash the shores of a gold-bearing country—namely, New South Wales. Still, time no doubt suffices to effect a uniform distribution of the mineral salts of the sea, although the composition of sea-water varies with the locality from which it is taken. We should have thought that an eminently practical experiment in this direction would before now have been undertaken by the great steamship companies. Most steamships are equipped with an electric installation and it would be quite an easy matter for them to start a system of electro-plating while at sea without interfering seriously with the progress of the ship. A couple of large copper plates suspended in the sea and connected with the dynamos would serve as electrodes and collect the gold contained in the sea-water during the voyage. At the end of the voyage the plates could be examined for gold and some idea of the practicability of recovering the metal would be gained. If it proved that the steamship companies could add to their equipment an effective electrical gold dredger they might possibly be induced to cheapen the passenger rates according to the success of the system.

IMMUNISATION AGAINST ANTHRAX BY THE USE OF VIRULENT CULTURE.

Mr. J. A. Gilruth, M.R.C.V.S., chief veterinarian and bacteriologist of the New Zealand Government, has made some interesting experiments in guinea-pigs, rabbits, sheep, and pigs to test their immunisation against the bacillus of anthrax when it is inoculated in the body after being mixed with certain other organisms. The experiments were suggested by the observation of peculiar symptoms exhibited by a guinea-pig after inoculation with a small quantity of blood from an animal dead of anthrax, this blood having been accidentally contaminated by another organism during inoculation. As is well known, a guinea-pig or rabbit inoculated even with a small quantity of pure anthrax culture dies within from 24 to 48 hours with comparatively no premonitory symptoms and with no evidence of inflammation at the seat of inoculation. *In this particular case, however,* there was around the region of inoculation for the first two days an intense inflammation which nevertheless produced no disturbance and had disappeared almost entirely on the fifth day after inoculation. The animal was, so far as could be observed, in the best of health, yet on the morning of the sixth day (exactly 140 hours after inoculation) death occurred. A post-mortem examination revealed a typical anthrax condition, the bacillus anthracis being readily demonstrated in enormous numbers in the spleen and other organs. Following up this observation Mr. Gilruth inoculated anthrax bacillus mixed with bacillus coli communis, with streptococcus from a case of human septicæmia, and with bacillus enteritidis (Gaertner) respectively in various proportions. In each case death due to anthrax was delayed much beyond the normal time and in some instances the animals recovered. One rabbit even received within six months five cubic centimetres of anthrax broth culture subcutaneously, half the quantity being injected in a state of purity within a period of nine weeks, thus showing that the mixture of other organisms with that of anthrax considerably delayed the death of the subject. From these and control experiments Mr. Gilruth draws the following conclusions:—

1. Guinea pigs, rabbits, and sheep can completely resist the inoculation of large doses of virulent anthrax bacilli, provided these organisms are mixed with a larger quantity of some other organisms which are [illegible] nmals [illegible] elayed very considerably, when the organism [illegible] bacillus is possessed of small pathogenic properties.

3. The anthrax bacillus must be "mixed" with the other organism, for if they be injected under different parts of the skin no resistance results.

4. An animal which has suffered without absolute impunity the injection of a large dose of anthrax bacillus when mixed with a foreign organism may succumb later to a much smaller dose of anthrax bacillus of pure culture although generally some resistance is evidenced.

5. It was observed with rabbits and sheep which received repeated doses of both anthrax and Gaertner bacillus mixed together in increasing quantities that a certain amount of immunity to comparatively large doses of pure anthrax could be conferred.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE lectures of the present year to be delivered before the Royal College of Physicians of London are as follows. The Milroy lectures will be given by Dr. T. M. Legge on March 7th, 9th, and 14th, the subject being Industrial Anthrax; the Goulstonian lectures will be given by Dr. W. C. Bosanquet on March 16th, 21st, and 23rd, the subject being Some Considerations on the Nature of Diabetes Mellitus; the Lumleian lectures will be given by Dr. W. H. Allchin on March 28th and 30th and April 4th, the subject being Some Aspects of Malnutrition; and the Oliver-Sharpey lecture will be given by Dr. Leonard E. Hill on April 6th, the subject being the Influence of Atmospheric Pressure on Man. The days of the week for the delivery of the lectures are Tuesdays and Thursdays. The hour of delivery is 5 P.M. at the Royal College of Physicians, Pall Mall East, S.W.

COFFEE AND SEWAGE.

A RATHER strange decision seems to have been arrived at in a case which was concluded at the Southwark police court on Jan. 24th after an adjournment from the preceding week. The application made by the chief sanitary inspector of the borough of Bermondsey was for the destruction of 60 tons of coffee salvaged from a ship which had been sunk in the Thames and the summons was taken out in order to prevent the berries from being dried and sold for human consumption. The evidence of Dr. R. K. Brown, medical officer of health of Bermondsey, of Dr. J. W. H. Eyre, and of Mr. Bodmer was to the effect that the coffee was moist, sodden, permeated with sewage, and unfit for food purposes. Although they admitted that the necessary roasting might modify the dangerous conditions they declined to say that the subsequent decoction would thereby be rendered a wholesome beverage. On the other side, Mr. Friswell of Great Tower-street said that he had drunk coffee made from the sewage-laden berries without untoward results. Dr. F. J. Smith also gave evidence that he was prepared to do the same but that he "would not do so for choice." The magistrate, Mr. C. Chapman, appears to have been satisfied that the usual roasting process was sufficient to render the coffee fit for the food of man and dismissed the application. If he could have ordered that the stuff when sold retail should be labelled "coffee and sewage," so that the purchaser would have the same choice in purchasing that the law gives him in the case of admixture with chicory, the matter might have passed without comment. Few, even when tempted by a cheaper price, would be likely to buy coffee if they knew that it had undergone soaking in the diluted products of the metropolitan drainage system, although the decision of the learned magistrate would seem to be a certificate that 60 tons possibly saturated in varying degrees will make a safe and wholesome drink for those who will partake of it. According to the *Standard* it now appears that Mr. Rose, at Southwark police court, refused to revoke his order for the destruction of the coffee in spite of Mr. Chapman holding with regard to a portion of it that it was fit for human consumption. If this be so we congratulate Mr. Rose on his attitude.

HEREDITARY TRANSMISSION OF SYPHILIS.

ABOUT two years ago Professor Matzenauer, in a paper read before a medical society at Vienna and published in the *Wiener Klinische Wochenschrift*, 1903, Nos. 7-13, stated that in his opinion a direct paternal transmission of syphilis to the offspring has not been proved. His principal conclusions may be summed up in three general propositions: first, "that the mother of a congenitally syphilitic infant is invariably herself the subject of syphilis, even when to all appearances healthy." The second is "that an inheritance of the disease through an infected ovum or spermatozoon—that is, hereditary transmission in the true sense of the word—has not been proved." The third proposition is the natural consequence of these—viz., that the infection of the offspring is in every case secondary and brought about by an infection from the mother by the channel of the placental circulation. If these be accepted it follows that what has been called *choc en retour*, that is, the infection of a healthy mother through the placental circulation by a syphilitic fœtus, the result of paternal infection, does not exist. From the outset these conclusions of Professor Matzenauer were vigorously attacked and a somewhat polemical discussion raged in certain German and Austrian papers for some time. A paper has been published in the *Munchener Medicinische Wochenschrift*, Nos. 49 and 50, 1904, by Dr. Jesionek of Munich, in which two cases of considerable interest are recorded and Professor Matzenauer's views are vigorously criticised. The first case was that of a girl, aged 18 years, admitted into hospital for an attack of gonorrhœa, the gonococci being repeatedly demonstrated in the discharge. Since the case was one brought in by the police and was being dealt with judicially very careful examination was repeatedly made by several observers for evidence of syphilitic affection but always with negative result. It soon became apparent that the patient was pregnant and about four months after the date of impregnation her general condition, which had previously been good, markedly deteriorated and about a month later she developed a typical severe syphilitic roseolous eruption. The patient had been in hospital during the whole of this time and no evidence could be found of any primary chancre or anything to point to infection while in hospital. Shortly afterwards general enlargement of lymphatic glands became manifest and the case progressed as an ordinary case of secondary syphilis. About two and a half months later—that is, about the middle of the eighth month of pregnancy—a dead fœtus 35 centimetres in length was born which showed appearances typical of congenital syphilis—viz., maceration, enlarged spleen, swelling and parenchymatous degeneration of the liver, general icterus, syphilitic osteochondritis, multiple hæmorrhages, and complete atelectasis. Dr. Jesionek considers it highly improbable that such advanced changes as were found in almost all the organs of the fœtus could have developed in the short space of two and a half months, and taking into consideration the history of the case comes to the conclusion that the case is one of *choc en retour* and that infection of the fœtus through the spermatozoon without direct infection of the mother is thus a possibility. He also brings forward another case in support of his contention that the spermatozoa may serve as [illegible] 45 years, who acquired a primary chancre on one of his right fingers from attending a syphilitic woman in her confinement; this was followed by a typical rash and sore-throat. Treatment by mercurial inunction was adopted vigorously for four months, after which period no signs of syphilis were discoverable. Shortly afterwards the patient resumed conjugal relations with his wife who subsequently developed a chancre of the vagina followed by roseola and glandular enlargements. In this case Dr. Jesionek attributes the infection to the spermatozoa since no syphilitic lesions such as mucous patches or a rash could be found about the man. Although no generalisations can be made from two cases yet the very careful manner in which they have been observed and recorded demands that due attention shall be given to the conclusions to which they apparently point, and while we cannot on this evidence alone accept Dr. Jesionek's conclusions that the spermatozoa of a syphilitic man are directly infective and that paternal inheritance and *choc en retour* are both proved, yet the striking nature of the cases should lead to careful observation of others in the same manner by other observers, and the paper forms a valuable addition to our knowledge of a controversial matter.

DINNER AND DISEASE.

IN an evening contemporary there recently appeared an admirable article by Mrs. Hugh Bell entitled "The Dietetics of Conversation." In it she protests against the perpetual references to health, disease, and the state of the "inside" which now form such a prominent topic of conversation. In her own words: "To have people sitting in one's drawing-room talking about their secretions seems to me repellent, not to say disgusting. It is bad enough to have each of their most trifling actions explained and justified by a symptom; but it is quite intolerable that each symptom should in its turn be explained and a name given to the particular form of acid or of inflammation to which it is due." Further on she says: "It is like poor people, whose favourite form of conversation is to offer to show you their 'bad leg'—a mysterious disease which will no doubt in due time work its way up into the drawing-rooms and the conversation of Belgravia." We quite agree with Mrs. Hugh Bell but we do not think that the style of conversation to which she objects is altogether a novelty. In chapter 41 of that storehouse of human psychology, "Vanity Fair," Thackeray refers to Lady Jane Crawley and Becky Sharp having one of those confidential medical conversations about the children which all mothers delight in. He continues, with a fine disregard of dates,[1] "Fifty years ago, and when the present writer, being an interesting little boy, was ordered out of the room with the ladies after dinner, I remember quite well that their talk was chiefly about their ailments." Again, in chapter 60, after an account of one of Joseph Sedley's dinner parties, we learn "Politics stepped in a short time after dessert when the ladies retired upstairs and talked about their complaints and their children." Nowadays, however, the talk about complaints is openly indulged in at the dinner-table by members of opposite sexes and in our opinion it is due in great part to that emancipation for which women have been crying out for so long and which now they have undoubtedly gained. Not only have we heard appendicitis discussed at the dinner-table but even intimate gynæcological complaints. It is true that London society is not yet so advanced as is fashionable society in Paris, for the records of a recent trial have shown that there an occasional entertainment is a biograph representation of the hostess or one of her friends undergoing an abdominal section. But it is too true that refinement and that old-fashioned virtue known as reserve have markedly decreased of late years. The arcana of feminine dress are exposed to all and sundry in every shop window, to say nothing of the advertisements in fashion papers, and although there is nothing immoral in underclothing or in conversation about appendicitis or curetting we cordially agree with Mrs. Hugh Bell that such matters are not fitting for ordinary social conversation.

CEREBRAL HÆMORRHAGE IN CHILDREN.

IN another column we publish an interesting case of non-traumatic cerebral hæmorrhage in a child, aged ten years, recorded by Dr. Hugh Taylor. Cerebral hæmorrhage in children is certainly a rare disease but nevertheless it has to be borne in mind in ascertaining the cause of sudden or unforeseen death in young subjects. It may be meningeal or intra-arachnoid or into the substance of the brain, the first-named being the more common. Meningeal hæmorrhage is generally met with in children at the period of dentition. At this time congestive attacks may occur, including lesions of the parietal arachnoid which becomes vascular; the small vessels newly formed in the membranes may burst and sudden death follows. Whooping-cough may also be the cause of the hæmorrhage or severe purpura may bring it about. Thrombosis of the sinuses and the various abnormal conditions of the blood met with in the exanthemata are also occasional causes. Hæmorrhage into the substance of the brain seldom occurs in children; when it is found it has in most cases been secondary to ulcerative endocarditis and has been due to embolism Very exceptionally the vessels in childhood present a condition of atheroma and cerebral hæmorrhage has resulted from the rupture of a vessel thus diseased. Congenital syphilis may also produce vascular lesions in the brain and elsewhere. Dr. Taylor states that in his case all the other organs were macroscopically quite healthy. Probably some disease of the blood-vessels of the brain was present which would only have been detected on microscopic examination.

INFLUENZA AND ENDOCARDITIS.

SINCE influenza has established itself as a permanent scourge in this country we have had only too frequent opportunities of observing the disturbing effects of its toxins upon the heart. The most common manifestations of this action are seen in the irregularities characteristic of the pulse in influenza; this may be frequent, infrequent or irregular, or may exhibit the special "instability" described by Huchard. These disturbances must in all probability be ascribed to the action of the poison of influenza upon the nervous apparatus of the heart. But actual inflammatory affections of the organ may also occur and both pericarditis and endocarditis are sometimes met with, though they are comparatively rare. A case of the latter affection has recently been recorded by Dr. Pedro Escudero in a communication made to the Argentine Medical Society.[1] The patient was a boy, aged 13 years, who went through an attack of influenza complicated by pneumonia affecting both lungs in succession. The pneumonia resolved satisfactorily but a relapse of fever occurred, accompanied this time by the appearance of a systolic murmur at the apex of the heart, conducted into the axilla. This persisted after convalescence and apparently pointed to an organic valvular lesion. There is some doubt as to control experiments Mr. Gilruth draws the following conclusions:—

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[1] "Vanity Fair" was written in 1847-48 and Thackeray was born in 1811.

[1] "Endocardite Grippale," Argentina Medica, Nov. 19th, 1904.

1. Guinea-pigs, rabbits, and sheep can completely resist the inoculation of large doses of virulent anthrax bacilli, provided these organisms are mixed with a larger quantity of some other organisms which are non-pathogenic to these animals.

2. Death is frequently delayed very considerably when the organism mixed with the anthrax bacillus is possessed of small pathogenic properties.

3. The anthrax bacillus must be "mixed" with the other organism, for if they be injected under different parts of the skin no resistance results.

4. An animal which has [illegible] the injection of a large dose of [illegible] ign organism may succumb l[illegible] rax bacillus of pure culture although generally some resistance is evidenced.

5. It was observed with rabbits and sheep which received repeated doses of both anthrax and Gaertner bacillus mixed together in increasing quantities that a certain amount of immunity to comparatively [illegible] could be conferred.

[illegible] may possibly afford a surer [illegible] immunity against anthrax, [illegible] in vogue.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE lectures of the present year to be delivered before the Royal College of Physicians of London are as follows. The Milroy lectures will be given by Dr. T. M. Legge on March 7th, 9th, and 14th, the subject being Industrial Anthrax; the Goulstonian lectures will be given by Dr. W. C. Bosanquet on March 16th, 21st, and 23rd, the subject being Some Considerations on the Nature of Diabetes Mellitus; the Lumleian lectures will be given by Dr. W. H. Allchin on March 28th and 30th and April 4th, the subject being Some Aspects of Malnutrition; and the Oliver-Sharpey lecture will be given by Dr. Leonard E. Hill on April 6th, the subject being the Influence of Atmospheric Pressure on Man. The days of the week for the delivery of the lectures are Tuesdays and Thursdays. The hour of delivery is 5 P.M. at the Royal College of Physicians, Pall Mall East, S.W.

COFFEE AND SEWAGE.

A RATHER strange decision seems to have been arrived at in a case which was concluded at the Southwark police court on Jan. 24th after an adjournment from the preceding week. The application made by the chief sanitary inspector of the borough of Bermondsey was for the destruction of 60 tons of coffee salvaged from a ship which had been sunk in the Thames and the summons was taken out in order to prevent the berries from being dried and sold for human consumption. The evidence of Dr. R. K. Brown, medical officer of health of Bermondsey, of Dr. J. W. H. Eyre, and of Mr. Bodmer was to the effect that the coffee was moist, sodden, permeated with sewage, and unfit for food purposes. Although they admitted that the necessary roasting might modify the dangerous conditions they declined to say that the subsequent decoction would thereby be rendered a wholesome beverage. On the other side, Mr. Friswell of Great Tower-street said that he had drunk coffee made from the sewage-laden berries without untoward results. Dr. F. J. Smith also gave evidence that he was prepared to do the same but that he "would not do so for choice." The magistrate, Mr. C. Chapman, appears to have been satisfied that the usual roasting process was sufficient to render the coffee fit for the food of man and dismissed the application. If he could have ordered that the stuff when sold retail should be labelled "coffee and sewage," so that the purchaser would have the same choice in purchasing that the law gives him in the case of admixture with chicory, the matter might have passed without comment. Few, even when tempted by a cheaper price, would be likely to buy coffee if they knew that it had undergone soaking in the diluted products of the metropolitan drainage system, although the decision of the learned magistrate would seem to be a certificate that 60 tons possibly saturated in varying degrees will make a safe and wholesome drink for those who will partake of it. According to the *Standard* it now appears that Mr. Rose, at Southwark police court, refused to revoke his order for the destruction of the coffee in spite of Mr. Chapman holding with regard to a portion of it that it was fit for human consumption. If this be so we congratulate Mr. Rose on his attitude.

HEREDITARY TRANSMISSION OF SYPHILIS.

ABOUT two years ago Professor Matzenauer, in a paper read before a medical society at Vienna and published in the *Wiener Klinische Wochenschrift*, 1903, Nos. 7–13, stated that in his opinion a direct paternal transmission of syphilis to the offspring has not been proved. His principal conclusions may be summed up in three general propositions: first, "that the mother of a congenitally syphilitic infant is invariably herself the subject of syphilis, even when to all appearances healthy." The second is "that an inheritance of the disease through an infected ovum or spermatozoon—that is, hereditary transmission in the true sense of the word—has not been proved." The third proposition is the natural consequence of these—viz., that the infection of the offspring is in every case secondary and brought about by an infection from the mother by the channel of the placental circulation. If these be accepted it follows that what has been called *choc en retour*, that is, the infection of a healthy mother through the placental circulation by a syphilitic fœtus, the result of paternal infection, does not exist. From the outset these conclusions of Professor Matzenauer were vigorously attacked and a somewhat polemical discussion raged in certain German and Austrian papers for some time. A paper has been published in the *Munchener Medicinische Wochenschrift*, Nos. 49 and 50, 1904, by Dr. Jesionek of Munich, in which two cases of considerable interest are recorded and Professor Matzenauer's views are vigorously criticised. The first case was that of a girl, aged 18 years, admitted into hospital for an attack of gonorrhœa, the gonococci being repeatedly demonstrated in the discharge. Since the case was one brought in by the police and was being dealt with judicially very careful examination was repeatedly made by several observers for evidence of syphilitic affection but always with negative result. It soon became apparent that the patient was pregnant and about four months after the date of impregnation her general condition, which had previously been good, markedly deteriorated and about a month later she developed a typical severe syphilitic roseolous eruption. The patient had been in hospital during the whole of this time and no evidence could be found of any primary chancre or anything to point to infection while in hospital. Shortly afterwards general enlargement of lymphatic glands became manifest and the case progressed as an ordinary case of secondary syphilis. About two and a half months later—that is, about the middle of the eighth month of pregnancy—a dead fœtus 35 centimetres in length was born which showed appearances typical of congenital syphilis—viz., maceration, enlarged spleen, swelling and parenchymatous degeneration of the liver, general icterus, syphilitic osteochondritis, multiple hæmorrhages, and complete atelectasis. Dr. Jesionek considers it highly improbable that such advanced changes as were found in almost all the organs of the fœtus could have developed in the short space of two and a half months, and taking into consideration the history of the case comes to the conclusion that the case is one of *choc en retour* and that infection of the fœtus through the spermatozoon without direct infection of the mother is thus a possibility. He also brings forward another case in support of his contention that the spermatozoa may serve as the honorary secretary, Dr. David Walsh, 18A, Hanover-street, London, W. All who hold the diploma of a Scotch college are invited to attend, whether they are members of the association or not.

AT a meeting of the Hospitals Association which will be held on Friday, March 3rd (by the permission of the council of the hospital), in the hall of Charing Cross Hospital, Mr. D. G. Mackintosh, medical superintendent of the Western Infirmary, Glasgow, will read a paper on the Control of Hospital Expenditure with Efficiency. Tickets of admission may be obtained on application to the honorary secretary of the association at 28, Southampton-street, Strand, W.C.

THE opening lecture of the winter session of 1905 at the *Hospital for Consumption and Diseases of the Chest*, Brompton, S.W., will be delivered by Dr. H. Batty Shaw on Wednesday, Feb. 8th, at 4 P.M., on the Selection of Cases of Tuberculosis of the Lungs suitable for Treatment by means of the Tuberculins and other Specific Agents. The lectures are free to all qualified medical practitioners and to students of medicine.

THE Lettsomian lectures of the Medical Society of London will be delivered by Dr. G. H. Savage on Feb. 6th and 20th and March 6th. The subject of the first lecture is Functional Mental Disorders; of the second lecture, Toxic Mental Disorders; and of the third, Mental Disorders of Decay. The lectures will be delivered at the rooms of the society, 11, Chandos-street, Cavendish-square, and they will commence at 9 P.M.

AN address on the Physical Advantages of Universal Naval and Military Training will be given by Lieutenant-Colonel). T. Duke, until lately honorary secretary of the Lads' Drill Association, at the Caxton Hall, Westminster, at 5.30 P.M., on Tuesday, Feb. 7th; Sir William S. Church, Bart., will take the chair. Baron Suyematsu, late Minister of the Interior for Japan, will also speak.

THE annual general meeting of the Neurological Society of he United Kingdom will be held at 11, Chandos-street, ondon, W., on Thursday, Feb. 16th, at 8.30 P.M. Sir John atty Tuke, M.P., will deliver the presidential address on he Relation of the Lunacy Laws to the Treatment of nsanity.

A GENERAL meeting of the Society for Psychical Research ill be held at 20, Hanover-square, London, W., on Monday, eb. 6th, at 8.30 P.M. Professor Charles Richet will deliver presidential address.

THE ARMY MEDICAL SERVICE OF THE ARGENTINE REPUBLIC.

BY F. HOWARD, M.D. ST. AND.,
COLONEL, ARMY MEDICAL STAFF (RETIRED).

THE corps of military surgeons directs the sanitary service [illegible] the army, under the superior chief of the forces, holding enary power and following the authorised procedures in ormal and urgent cases under the orders of the commandant-in-chief. The sanitary service consists of surgeons, pothecaries, and veterinary officers and is divided into (a) the General Inspectorate; (b) the service in the different actical units which form the army—viz., army corps, [illegible] egiments; and (c) service in the [illegible] military training establishments. [illegible] te is comprised of the director of e sanitary corps and a board called "Inspecsion General," mposed of the inspector-general, president; surgeons of the army, inspecting apothecary, and inspecting veterinarians, members; a surgeon acting as secretary. The inspector-general has under his orders the *personnel* of his office and is recognised as a general of brigade enjoying all corresponding honours, &c., of that rank. The duty of the inspector-general is to supervise the sanitary service of the whole army, to inquire into the complaints of military chiefs and surgeons, to give account of the results of special commissions of a technical nature whether medical or pharmaceutical, to disburse accounts, to keep a record of punishments, and to furnish annually to the military chief the works done by the sanitary corps. To the office of the inspector-general are allowed a secretary, an accountant, an assistant, two clerks, and one orderly.

In peace the service of the corps is worked by surgeons of corps, of regiments, of brigades, and divisions, and by apothecaries of the first and second class. In war the service is divided into administrative (direction) and executive. The former is in the hands of an army [illegible] division, brigade, and [illegible] rform their duties in [illegible]

The surgeon of the army corps has under his immediate orders the sanitary *personnel*, hospitals, and ambulances allotted to each corps. In time of war the director of the sanitary service has authority over officers and men of the sanitary corps, submitting to the chief of the army his requirements for increase of *personnel* or *matériel*. He has the right of punishing officers serving under him and furnishing reports thereon. He has also the direction of the hospitals of aid societies. He is responsible to the commandant-in-chief of the army and to the inspector-general of the sanitary service. The surgeons of division direct the sanitary service of their respective divisions, having charge of the hospitals and ambulances. They are under the orders of the chief of the division and report all matters pertaining to sanitation, &c., to the inspector-general. They keep statistics of hospitals and carry out meteorological and climatic observations, studying the flora and fauna and geographical conditions of the locality in which they may serve. These divisional surgeons have the rank of lieutenant-colonel in the army and enjoy all the prerogatives of that rank. The surgeons of brigades rank as majors and are under the orders of the chief of the brigade. The brigade hospitals and ambulances and the *personnel* and *matériel* are under their orders. The surgeons of regiments have the rank of captains. They have charge of the nursing department of the army, instructing nurses and bearers, vaccinating the troops, and supervising *personnel* and *matériel*. The younger surgeons rank is that of first lieutenant. The duty of these officers consists of daily inspection of the sick, inspection of the food-supply and cooking, investigation of the water-supply, and sanitation generally. Each regiment has one medical officer, one apothecary, and one sick attendant, and arrangements exist to permit of a great number of sick being treated without going to hospital.

The apothecary corps has for its *personnel* one inspecting apothecary, one principal apothecary of the army, and apothecaries of the first and second class. They enjoy prerogatives of rank the same as surgeons. They are responsible for the upkeep of pharmaceutical and chemical stores, for compounding prescriptions, &c. The inspecting apothecary is the chief of his branch under the inspector-general of the Sanitary Service. The principal apothecary of the army is the second head. The apothecaries assist generally in the hospitals and infirmaries in peace, and in war in the camp hospitals and ambulances. The veterinarians have the care of all animals and, in particular, horses. The nursing orderlies serving under the surgeons are divided into first-class, sergeants; second-class, corporals; and third-class, privates.

The *personnel* of each hospital consists of (*a*) a medical officer, director; (*b*) surgeons, apothecaries, and assistants; (*c*) one nursing orderly for 12 sick, when there are sisters of charity, with power to increase the number; and (*d*) servants (civil) who assist the medical staff. The direction of the military hospital in the capital is in the hands of an army surgeon. The administration of military hospitals is under the immediate supervision of the General Inspection Board, to which allusion has already been made in the beginning of this article.

The central laboratory and drug stores are likewise under the superintendence of the General Inspection Board, while the director is the apothecary inspector, the sub-director the principal apothecary, the further *personnel* being two apothecaries, first class, and two assistant apothecaries. The subordinate staff is fixed by the director who supervises the drugs and laboratory, keeps records of purchases and disbursements and current accounts with each hospital, informs the General Inspection Board of requirements, nominates employés, removes those unfit, and finally submits a monthly and an annual report of all going on under his direction. The sub-director personally superintends the work in the laboratories; he keeps books, in one of which he notes the dates of all the preparations made, in another the outgoings, and in a third, with counterfoils, all articles disbursed at the central drug store. He has charge of the meteorological observations, teaches the army apothecaries analytical work, and is responsible for the contents of the laboratory, reporting monthly and annually to the director all matters connected with it. There is a so-called "surgical arsenal" where all instruments, remedies, disinfectants, and all necessaries for the operating room are kept. There is a central depôt of articles for hospital use and sanitary war *matériel.** The administrative officials are divided into cashier, official accountant, and storekeeper, with their attendants, servants, and others.

Military Medical School.—A decree of the President of the Argentine Republic, dated May 24th, 1902, created a military medical school for the theoretical and practical instruction of students of the faculty of the Republic who may desire to be surgeons, apothecaries, and veterinarians in the army. This school is dependent on the General Inspection Board (of Health) of the Army and is under the care of an army surgeon as chief and director of studies. There are certain conditions as to the selection of students but this fact has to be noted particularly—viz., that the entire expense from the entry of the students into the school to the end of the course is defrayed by the State. The number of students is fixed annually and depends on service requirements. It is needless to go into details as to the plan of studies for the different classes of students, suffice it to say it embraces military surgery, pathology, chemistry, bacteriology, hygiene, and so on. The two most distinguished students are entitled to a journey to Europe for one year to complete their studies at Government expense. Students who fail to give satisfaction are discharged, without power to return, and are subject to the condition of having to serve as soldiers. The professors at the school are surgeons, apothecaries, and veterinary surgeons of the army. The *personnel* of the school is composed of a chief and director of studies, professors, tutors, and assistants. The monthly emoluments over and above salaries (in the case of professors) are as follows. (The Argentine dollar may be roughly taken as 1*s.* 10*d.* of our money.)

Chief and Director	$150
Professors of surgery, medicine, pathology, bacteriology, hygiene, and medico legal subjects ..	$100 each
Professors of pharmacy and veterinary medicine and surgery	$80 ,,
Medical students of sixth and seventh years	$40 ,,
,, ,, of fifth, fourth, and third years ...	$30 ,,
Veterinary students	$25 ,,
Apothecary students	$20 ,,

The Central Military Hospital.—The military authorities have created as a crowning point of their army medical organisation the central military hospital at Buenos Ayres, which is described as a splendid establishment and undoubtedly the first of its kind in South America. It was completed in 1888 at a cost, including site and building, of upwards of $1,000,000 of the national currency. The description of it would require several columns. Sufficient to say that there are complete installations for hydrotherapy and massage, anatomical, chemical, bacteriological, and radiographical, &c., services. It is completely surrounded by lines and cross-lines of electricity and drainage connecting it with the arsenal of war and the other municipal hospitals. For complete information I refer readers to the *Anales de Sanidad Militar* for May, 1903, published at Buenos Ayres.

ROYAL EAR HOSPITAL, SOHO.—Lectures which are free to medical practitioners are given at this hospital in Dean-street, Soho, every Thursday at 5 o'clock. Further particulars may be obtained from Mr. P. Macleod Yearsley, honorary secretary of the medical board.

TWELFTH ANNUAL REPORT (FOR 1903) OF THE MEDICAL OFFICER OF HEALTH OF THE ADMINISTRATIVE COUNTY OF LONDON.

(*Concluded from p. 248.*)

IT is matter for regret that limitations of space preclude our commenting in THE LANCET on Sir Shirley F. Murphy's statistics regarding several diseases other than those which we have already noticed but which are of considerable importance from a preventive point of view. The diseases known as erysipelas, puerperal fever, influenza, and pneumonia, which annually destroy many lives, are carefully passed in review in the report, especially with regard to their several rates of incidence or of fatality and the relation thereto of locality, age, and sex, but for detailed information concerning these diseases reference must be made to the report itself. With respect, however, to two of the diseases not previously noticed—pulmonary tuberculosis and cancer—our readers will naturally expect some comment, for these diseases are responsible for a large portion of the total mortality in the metropolis. In regard to the fatality from pulmonary tuberculosis in London we are informed that from the earliest years respecting which trustworthy information exists there has been a steady decline similar to that obtaining in most other parts of England. During the ten years 1851-60 this disease was fatal in London to 286 out of every 100,000 persons living, but in 1903 the proportion had fallen to 160 in the same number living. Quite exceptionally, as far as we know, the deaths occurring in public institutions in, or belonging to, London have been distributed to the areas from which the patients originally came; it is, therefore, practicable to compare the metropolitan boroughs with respect to their death-rates. In the present report a table appears giving these rates after correction by the use of appropriate factors, the latter being calculated by applying the population of the metropolitan boroughs severally to the general London rates at each age and of each sex in the five years 1897–1901. The table shows that in proportion to population pulmonary tuberculosis was most fatal in the metropolitan borough of Holborn where the mortality was in excess of the mean rate by 78 per cent., it was least fatal in Hampstead where the proportion did not exceed 47 per cent. of the mean. The first and last quarters of the year constitute the period of highest fatality from this disease, the second and third quarters being relatively less fatal.

The system of voluntary notification of pulmonary tuberculosis has been adopted by more than half of the metropolitan boroughs, the council of the borough of Holborn, which at present suffers exceptionally from that disease, having decided in the course of 1903 to adopt this measure for limiting its spread. Among other measures complementary to notification careful inquiries are made by the several authorities into the supposed source of infection and into the family history of the patient. These measures are, of course, supplementary to the ordinary methods of sanitation and their success will depend on the degree in which they are regarded as such rather than as substitutes for such elementary but essential precautions. In the course of 1903 the by-law of the London County Council having for its object the prevention of infection by tubercle came into force. This by-law provides that "no person shall spit on the floor, side, or wall of any public carriage or any public hall, public waiting-room, or place of public entertainment, whether admission thereto be obtained upon payment or not." The penalty attaching to breach of this by-law is 40*s.* and it is important to note that the enforcement of this penalty can be secured by anyone who has witnessed the practice against which the by-law is directed. The words "any public carriage" include a railway carriage.

With reference to cancer we learn from the report that owing to changes of area in the sanitary districts of London effected by the London Government Act of 1899 the death-rates since 1900 are [illegible] [illegible]tive purposes. We find, [illegible] 's decennial supplement that in the years 1881–90 London occupied among English counties the highest position in the scale of cancer fatality, and this after making the fullest allowance for age and sex differences of the populations.

Sir Shirley Murphy's figures show that the London deaths from cancer are still increasing in number, the mortality in the last three years having been equal to 93, 99, and 102 respectively in each 100,000 persons living. An interesting table appears in the report showing the incidence of cancer mortality on the several metropolitan boroughs since 1900, [illegible] possible by dis- [illegible] had previously [illegible] public institu- [illegible] of only three years is perhaps too limited to justify other than very [illegible] to which the com- [illegible] two columns of the [illegible] But if the figures are to be trusted they show that the boroughs of Marylebone and Hampstead sustained the greatest loss of life by cancer in 1903 and the borough of Greenwich the least.

In the second part of his report Sir Shirley Murphy discusses several matters relative to the administrative work of his department during the year 1903. Constant and careful supervision has, as in previous years, been maintained with regard to the prevalence of nuisances and to the regulation of offensive businesses and of common lodging houses.

Under the Housing of the Working Classes Act several representations have been made and schemes undertaken, either by the County Council on its own initiative or by the borough councils with the County Council's approval, under Parts I., II., and III. of that Act, the details of which, both as regards the demolition of property unfit for human habitation and as regards the erection of new dwellings, are fully given in the report. The administration of the Factory and Workshops Act has received due attention at the hands of [illegible] have the inspec- [illegible] night shelters, [illegible] urphy's remarks [illegible] general super- [illegible] and its purity, will, it is hoped, be brought into much closer relation than at present with the public health department of the County Council. The serious warnings of Dr. T. E. Thorpe, the official water examiner, as regards the necessity for further precautions in the filtration, the storage, and the distribution of drinking water are of vital importance to the vast population which depends for its very existence on its purity and quantitative sufficiency. We trust that his weighty words respecting the condition of the water-supply and the floods in the Thames Valley in June and October respectively will receive the attention which their great importance demands.

Turning now to the appendices, which occupy almost half of the medical officer's report, we note that Dr. W. H. Hamer's report on the prevalence of enteric fever in London is there reprinted. This interesting document, which we reviewed fully in THE LANCET of July 23rd, 1904, p 233, connects the spread of enteric fever with the eating of imperfectly cleansed and insufficiently fried fish in certain extensive districts of the metropolis. Sir Shirley Murphy does well to keep this important topic constantly before the authorities concerned, for fried fish is very largely consumed in many of the poorer districts of London as the chief article of food, and Dr. Hamer has abundantly shown that little care is ordinarily devoted to its preparation for that purpose. The second appendix contains a report by Dr. C. W. F. Young, the recently appointed county medical officer of health of Middlesex, with respect to the sanitary appointments of the tenement dwellings of London. In the course of 1903 Dr. Young inspected a large number of [illegible] which now consist [illegible] dently been intende [illegible] lies, in order to asce [illegible] could [illegible] ealth [illegible] In [illegible] ound [illegible] l by one family, except in so far as relates to water-closet accommodation which has been increased in order to comply after a fashion with the minimum regulations of the County Council made under the London Public Health Act. Even in the important matter of water-supply no alteration has been made on a scale sufficient for the requirements of the inmates of sublet houses. The only available water tap appears to be placed usually in the backyard or in the washhouse on the ground or basement floors. The result of these inconveniences is that drinking water is often stored in receptacles within each tenement and that waste water and household slops, which ought speedily to be removed, are also there retained, thus seriously endangering the wholesomeness of the dwellings. The report gives an account of an inquiry as to the accommodation provided in the ordinary tenement house for the cooking of food and this Dr. Young finds to be generally unsatisfactory. In at least one-third of between 700 and 800 tenements inspected in the course of the year no oven existed in which food could be cooked, the fire-grate being the same as that provided when the house was originally built and not better adapted than an ordinary bedroom grate for cooking purposes. In a certain proportion of tenements gas stoves were supplied for cooking purposes but these were fitted with so little care that Dr. Young states that no provision whatever had been made for carrying off the products of combustion. For hot water the tenants have ordinarily to depend on the use of a kettle. In a small number of instances a boiler was found in connexion with the fire-grate but almost invariably this was defective and out of use. In the tenements visited no special provision existed for the storage either of food or of fuel. In Dr. Young's opinion the conditions chiefly calling for remedy are the provision of a more accessible water-supply for each tenement and the construction of a suitable place for each tenement in which food can be properly kept. It is questionable whether in addition each tenement should not be provided with a cooking stove. This, [illegible] that [illegible] poorer neighbourhoods so that the provision of this convenience cannot be urged with the same force as in the case of water-supply and storage of food.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on Jan. 26th, Sir WILLIAM SELBY CHURCH, Bart, K.C.B., the President, being in the chair.

The PRESIDENT announced that the subject of the Bradshaw lecture, to be delivered by Dr. G. R. Murray, would be Exophthalmic Goitre.

The following gentlemen having passed the required examination were elected as Members of the College: Henry Willoughby Gardner, M.D. Lond., L.R.C.P. Lond.; Charles John Nepean Longridge, M.D. Vict., L.R.C.P. Lond; and William Henry Willcox, M.D. Lond.

Licences to practise physic were granted to 101 gentlemen who had passed the required examination.

Diplomas in Public Health were granted jointly with the R[illegible] of England to the following ge[illegible] Bankart, M.B., C.M. Edin.; Jo[illegible] Glasg.; George Alfred Edsell, M.D. Durh., L.R.C.P. Lond., M.R.C.S. Eng., L.S.A.; William Lloyd Edwards, L.R.C.P. Lond., M.R.C.S. Eng.; Edward Haines, L.R.C.P. Lond., M.R.C.S. Eng.; Oswald Horrocks, L.M. & S. Madras, L.R.C.P., F.R.C.S. Edin.; Major Oliver Richard Archer Julian, R.A.M.C., L.R.C.P. Lond., M.R.C.S. Eng., L.S.A.; Surgeon-Major Charles Randolph Kilkelly, M.B., B.Ch. Dub., L.R.C.S. Irel.; Frederick Norton Menzies, M.D., B.S. Edin., M.R.C.P. Edin.; Robert Macfarlane Mitchell, M.B., Ch.B. Edin., F.R.C.S. Edin.; *Captain Arthur Hugh Morris*, R.A.M.C., L.R.C.P. Lond., M.R.C.S. Eng.; Major Albert Pearse, R.A.M.C., L.R.C.P. Lond., M.R.C.S. Eng.; John Richards, L.R.C.P. Lond., M.R.C.S. Eng.; Frank Edward Scrase, [illegible] ghtman Sinclair, [illegible]; Robert Small, [illegible] rederick Robert Elliston Wright, M.B. Lond., L.R.C.P. Lond., M.R.C.S. Eng.

The PRESIDENT announced that Dr. W. Heaton Hamer had been appointed as Milroy Lecturer for 1906.

The following communications were received: 1. From the secretary of Queen Victoria's Jubilee Institute for Nurses asking the College to nominate a representative for a term of three years from the end of February next in place of Sir Dyce Duckworth who retires by rotation but is eligible for re-election. Sir Dyce Duckworth was unanimously re-elected. 2. From the secretary of the Royal

College of Surgeons of England reporting certain proceedings of their Council. 3. From Colonel C. W. Long, M.P. (chairman of an association formed in 1903), moving the College to memorialise the Government to give effect to recommendation 50 of the Inter-Departmental Committee on Physical Deterioration by appointing a commission of inquiry into the prevalence and effects of syphilis on the national health. The matter was referred to the Council of the College for consideration and report.

The following Fellows were elected to serve on the Council: Dr. Thomas Buzzard, Dr. J. Watt Black, Dr. T. Clifford Allbutt, Dr. W. Hale White, and Dr. R. Percy Smith.

Dr. F. de Havilland Hall was elected a member of the finance committee until July, 1906, in place of Sir Isambard Owen who has resigned.

The PRESIDENT drew attention to a fine portrait of Harvey which had been offered to the College and it was resolved to purchase it and to add it to the collection of portraits already in the possession of the College.

The quarterly report of the College finance committee, dated Jan. 12th, was received and adopted.

A report was received from the committee of management dated Dec. 5th, 1904, recommending that the Liverpool Stanley Hospital should be added to the list of general hospitals recognised by the Examining Board of England, and that the Municipal College, Grimsby, should be added to the list of institutions recognised by the Examining Board in England for instruction in chemistry, physics, and practical chemistry. The report was adopted.

A report from the laboratories committee dated Dec. 2nd, 1904, was received and adopted.

A list of books and other publications presented to the library during the past quarter was received and the thanks of the College were ordered to be returned to the donors.

The PRESIDENT then dissolved the Comitia.

MEDICINE AND THE LAW.

The Name "Benedictine."

A MOTION was heard by Mr. Justice Buckley recently for an injunction forbidding a Welsh company from applying the name "Benedictine" to a liqueur of their manufacture. The party complaining was the Société Anonyme de la Distillerie de la Liqueur Bénédictine de l'Abbaye Fécamp, and the evidence on its behalf was to the effect that the word "Benedictine" was generally understood in the wine trade to mean their liqueur and no other. This is so much the case that it is a little surprising to find the learned judge dismissing the application as "ridiculous," a somewhat strong term to apply when a business firm finds its well-known product imitated and the imitation sold under the name which the original firm has made famous. The evidence, however, showed that the liqueur of the defendants although sold in bottles which themselves to some extent were imitations, was accompanied by labels and advertised by circulars which with complete candour proclaimed that it was made in Great Britain, and which boasted that the secret of the Abbaye Fécamp had been discovered by the British firm who used identical materials. This, of course, is not a representation that the new liqueur is made abroad by the foreigner. No evidence was given as to the actual composition of the two liqueurs and Mr. Justice Buckley's decision was simply on the question of the name. It proceeded on the assumption that the claims of resemblance between the two liqueurs were justified in fact. No doubt, it would not be held that a man had the right to sell an altogether inferior article and a mere imitation by boasting that it was precisely similar to another of recognised merit. To do this would be to damage the reputation of the latter by means of a misrepresentation.

Arsenic on Easy Terms.

Arsenic has figured as the instrument of death in so many famous crimes and has so often been detected in these only through a repetition of its use or some chance circumstance that it is safe to conclude that in other instances human life has been taken by its means without the murder being brought home to the assassin. That it may be taken accidentally must also be remembered in considering a prosecution by the Pharmaceutical Society which led to the conviction and fining of William Andrews, a ratcatcher, at Stratford on Jan. 27th. An inspector of the Pharmaceutical Society had written to the defendant inclosing a postal order for 3*s.* 6*d.* and asking for "Hammond's Remedy for Rat Killing." In return he received a cake, apparently of meal, which upon analysis was found to weigh four ounces and to contain one and a half ounces of arsenic. The bench declined to accept the excuse that the defendant was ignorant of the law—a defence which the common law of England does not recognise—and fined him £2 with 4*s.* costs. Regulations for the sale of patent medicines such as those referred to in THE LANCET of Jan. 28th, p. 241, as having been introduced in New Zealand would presumably include such articles as "Hammond's Remedy for Rat Killing" and would assist in the suppression of a dangerous traffic the disappearance of which none would regret, even if it involved pecuniary loss to ratcatchers.

COCOA CHEMICALLY AND PHYSIOLOGICALLY CONSIDERED.

II.[1]

IN the previous article it was shown that there are practically two classes of cocoa in the English market—one which after fermentation is simply roasted, ground, and the fat expressed and another in which in addition to the above the natural salts are increased. The cocoas of the former class commonly exhibit an acid reaction and those of the latter class either a neutral reaction or a slightly alkaline one due not to free alkali but to the presence of alkaline salts. As these different methods of manufacture are calculated to modify the properties and the composition of the cocoa which may affect its value as a food and a beverage it is interesting to determine how far this is so. We therefore instituted a series of experiments directed to ascertain, first, the *real* solubility of the cocoas in boiling water and the amount and the nature of the soluble constituents; secondly, the *apparent* solubility of the cocoas judged from the amount of material subsiding from the infusion; thirdly, the digestibility of the two classes of cocoa in artificial gastric and pancreatic juice; and fourthly, the action of acids and alkali in the absence of ferment.

For the purpose of these experiments Cadbury's cocoa was taken as a type of one method of manufacture and Van Houten's cocoa as a type of the other, while Plasmon cocoa was included in the investigation as representing a cocoa containing added matter (plasmon or dried milk proteid).

In determining the real solubility of the cocoa in boiling water the directions contained upon the respective labels were strictly followed in making the infusion. The results below relate to the total dissolved matters, the mineral matter, organic matters, and proteid dissolved. The amount of proteid dissolved was arrived at by determining the amount of nitrogen in the undissolved residue and deducting this from the total amount of nitrogen present as proteid in the cocoa.

Cocoa.	Total dissolved matters. Per cent.	Mineral matters. Per cent.	Organic matters. Per cent.	Proteid. Per cent.
Cadbury's ...	19·80 ...	3·20 ...	16·60 ...	5 90
Van Houten's...	23·00 ...	5·20 ...	17·80 ...	10·55
Plasmon cocoa	50 40 ...	5·00 ...	45·40 ...	38 21

Plasmon cocoa consists approximately of 60 parts of plasmon and 40 parts of cocoa, the latter belonging to the class of cocoas which are either neutral or slightly alkaline in reaction. The high percentage of soluble matters and of soluble proteid, therefore, in this cocoa is due to added proteid. The solubility of the proteids of cocoa is evidently influenced by the method of manufacture, as we should expect. Thus it is very decidedly increased in Van Houten's cocoa in which the natural alkaline salts are increased, while Cadbury's cocoa showing an acid reaction yields distinctly less proteid to hot water. It should be remarked, however, that the real solubility of cocoa must depend also upon the degree to which the cocoa is reduced to powder. Van Houten's cocoa is exceedingly finely ground, in fact comminuted, and this must be an obvious factor in the case, for according to the fineness of the powder so will be the proportion of the nitrogenous and other principles freed from their environment. Van Houten's cocoa is practically an impalpable powder and the most finely ground that we have examined. While it yields about the same amount of organic matters to hot water as does Cadbury's yet the proportion of proteid dissolved is nearly twice as much. Summing up, Plasmon cocoa yields to boiling water 70 per cent. of its proteid, Van Houten's 60 per cent., and Cadbury's 33 per cent., the total proteid of the cocoas respectively being 54·43 per cent., 17·25 per cent., and 18·60 per cent.

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[1] No. I. was published in THE LANCET of Jan. 7th, 1905, p. 47.

By the *apparent* solubility of cocoa is meant the quantity of the cocoa which remains suspended in the infusion after a certain time. This will depend again upon the fineness of the powder, while obviously as the percentage of natural salts is increased the amount of matters kept in suspension will be greater. This is a matter of considerable importance not only from a dietetic point of view but from an economical one also. It follows that the use of cocoa which yields the greatest amount of sediment in a short time in the cup is very liable to be attended with waste, for sediment is as a rule rejected and it must contain some of the important food principles of the cocoa. Such waste, however, could, of course, be obviated by occasionally stirring the infusion or by thickening it with milk or even starch. It is clearly an advantage, however, when a cocoa yields a minimum amount of sediment in a reasonable time. The word "soluble" is used in this sense by manufacturers of cocoa.

One gramme of each cocoa was heated with boiling water and made up to 100 cubic centimetres in a graduated cylinder. The volume of sediment was read off after half an hour with the following results :—

Cadbury's	5·0	cubic centimetres.
Van Houten's... ...	1·0	,, ,,
Plasmon cocoa ...	3·0	,, ,,

It appears from these results that the *apparent* solubility of various cocoas differs widely. Thus Cadbury's cocoa and plasmon cocoa yield an abundance of sediment when treated with boiling water and allowed to stand, while Van Houten's cocoa yields very little sediment even after standing for some hours. In practice, a cup of cocoa would not be standing more than half an hour when intended for consumption. The actual proportion of cocoa consumed, however, is clearly dependent upon its degree of apparent solubility, the extent, in fact, to which the cocoa remains suspended. The presence of natural salts increases the apparent solubility, which is further enhanced when the fineness of the powder is extreme. There is thus an important economy in the use of a cocoa which gives a negligible quantity of sediment in the cup just as there would be in the use of a beef-tea which contained albuminous particles in such a fine state of division as to result in practically no sedimentation. The order of sedimentation beginning with the cocoa which gives the least is as follows: Van Houten, Plasmon, Cadbury. It is interesting to observe that Plasmon cocoa yields a comparatively large sediment, and further, this sediment contains a considerable proportion of plasmon or milk proteid. Since plasmon is regarded as a soluble form of milk proteid it would appear that when combined with cocoa, at any rate, its solubility is interfered with.

The next experiments relate to the behaviour of cocoa under the action of artificial gastric and pancreatic juice. The results are calculated to give some idea of the fate of cocoa in the body, though necessarily the action taking place *in vivo* would be more complete than that taking place *in vitro*. Nevertheless the experiments being carried out under precisely the same conditions the results may be said to have a comparative value. The activity of the ferments was first ascertained and, as a matter of fact, Benger's liquor pepticus and liquor pancreaticus were found to be most trustworthy for the purpose. The cocoa infusion in each instance was prepared in the manner directed by the [illegible] water and the infusion then [illegible] the body (100° F.). A [illegible] s added and the whole mixture was kept for four hours at a constant temperature and occasionally stirred. In the case of gastric digestion the mixture was acidified with hydrochloric acid until of the acid strength of the gastric juice and in the pancreatic digestion the fluid was made alkaline with carbonate of sodium. The following figures show the percentage amount of the total proteid hydrolysed by the gastric and pancreatic ferments respectively after four hours :—

	Gastric digestion.	Pancreatic digestion.	Undigested proteid.
Cadbury's... ...	40·45	31·40	28·15
Van Houten's ...	67·20	4·11	28·69
Plasmon cocoa...	37·50	56·20	6·30

The results are of particular interest in that they show that the two methods adopted in the preparation of cocoa determine the relative digestibility of the cocoa in one or other of the digestive juices. Thus Van Houten's cocoa proves to be readily digestible in the gastric juice, the bulk of the proteid yielding to that digestive agent. While Van Houten's cocoa readily yields 67·20 per cent. of its proteid to the hydrolysing action of gastric juice, Cadbury's similarly yields 40·45 per cent. On the other hand, in the pancreatic juice Cadbury's yields 31·40 per cent. more of its proteid and Van Houten's 4·11 per cent. In other words, the latter cocoa is much more quickly digestible than the former, although both are ultimately digested to about the same extent after the united action of artificial gastric and pancreatic juices so far as regards their proteid constituents. It should be pointed out that in these experiments *in vitro* the infusion was constantly stirred but in practice, as has been already mentioned, the amount of cocoa actually reaching the gastric and pancreatic juices in the body is not represented by the spoonful of cocoa placed in the cup. According to the kind of cocoa used a more or less varying proportion of cocoa is left as a sediment in the cup. To make, therefore, a really practical comparison the infusion in the cup should after a time be poured off the sediment and then be submitted to the action of the artificial digestive juices. The cocoas giving the least sediment would obviously give the most favourable result. The more finely divided, too, the particles of cocoa the more amenable is it likely to be to the action of digestive fluids, the proteids *inter alia* being unlocked, so to speak, by the process. The proportion of proteid digested as shown in the above table is based upon the following amounts originally present in the cocoas:—Cadbury, 18·60 per cent.; Van Houten, 17·25 per cent.; and Plasmon cocoa, 54·43 per cent. In the literature on this subject we find that the amount of proteid given by other observers is generally in excess of the truth, for the reason probably that the amount of proteid has been based on the total quantity of nitrogen found. Since, however, cocoa contains on an average 1·5 per cent. of theobromine (equal to 0·5 N) its equivalent of nitrogen should be deducted before calculating the proteid.

It has already been pointed out in regard to Plasmon cocoa that, in spite of statements as to the solubility of plasmon itself, the cocoa yields a relatively large sediment containing plasmon. This suggests that some constituent, possibly cocoa-red or tannin, interferes with the solubility of the proteid. However that may be, the same restraining effect appears in evidence in the experiments with artificial gastric juice, for, in spite of the very [illegible] present in Plasmon cocoa, only [illegible] in gastric juice, as against 40 [illegible] cocoa and 67·20 per cent. in Van Houten's cocoa. The conclusion is suggested that, at any rate in gastric digestion, the natural proteids of cocoa resolve more easily than does dried milk proteid. Whatever restraining effect the constituents of cocoa may possess on the gastric solubility of dried milk proteid it is evident from these experiments that it is readily digested in artificial pancreatic (alkaline) juice, no less than 93·70 per cent. being hydrolysed.

The residue of cocoa after four hours' peptic and pancreatic digestion respectively was dried and weighed, the result giving, so far as experiments *in vitro* go, the total undigested matter. It should be stated that this undigested matter practically contains all the original fat of the cocoa since the power of artificial pancreatic juice actually to digest fat is very feeble, though to some extent it is probably capable of hydrolysing it. In the following results, therefore, the fat is deducted.

Undigested Residue after the Digestion of Cocoa in Artificial Peptic and Pancreatic Juices.

	Undigested.	Digested (by difference).
Cadbury's	31·73	68·27
Van Houten's...	31·65	68·35
Plasmon cocoa	14·88	85·12

The above results are the mean of six distinct experiments. Even with digestion experiments "in the test-tube" it is abundantly evident that cocoa contains a very considerable amount of true food material. The proportion of undigested residue in Plasmon cocoa is of course much less than in the pure cocoas but then this is due to the large excess of proteid. In the one case we have the cocoa digested; in the other chiefly the plasmon. Plasmon unmixed with cocoa is undoubtedly digestible; its digestibility, however, in the gastric juice is considerably diminished by the presence of cocoa, owing probably to the effect of cocoa-red or tannin. On the other hand, the digestibility of the natural proteid constituents of cocoa is apparently not affected. In view, therefore, of the fact that cocoa contains true food material in approximately physiological proportions in relation to the amounts of proteid, fat, and carbohydrate, the addition to it of foreign proteid must be regarded as physiologically superfluous. It amounts to an excessive proportion of nitrogenous food at the expense of fat and carbohydrates. Physiologically speaking, the dilution of cocoa with a carbohydrate such as starch or sugar would be a more rational proceeding, since as the experiments show cocoa contains a valuable proportion of digestible proteid as well as fat, starch, and other carbohydrates.

It has been said that "without proteid we die," and it would be equally true to assert that with nothing else but proteid in the diet we should die also, since the other elements, fat, carbohydrates, and mineral matter, are equally essential. When these elements are not present in physiological proportions the food is not complete, it is ill-balanced and not in accordance with the requirements of the body. The word nitrogenous is not synonymous with the word nutritive. Cocoa, as will be seen from a reference to the average analyses given in the previous article, approaches in composition to a complete food such as milk, but, unlike milk, it is necessarily not capable of being consumed in large quantities. Its mildly stimulating properties must further be taken into account in connexion with its use as an article of everyday diet and as an admitted restorative.

Lastly, it is interesting to note the behaviour of cocoa under the action of weak acids and alkalies in the absence of organic hydrolytic agents (ferments) altogether. Practically 93 per cent. of cocoa is soluble either in weak acid or alkali, some 7 per cent. of indigestible fibre remaining, as the following results show:—

Cocoa.		Soluble in weak acids.		Soluble in alkali.		Insoluble in both.		Total soluble.
		Per cent.		Per cent.		Per cent.		Per cent.
Cadbury's	...	41·50[1]	...	51·70	...	6·80	...	93·20
Van Houten's		41·10[2]	...	51·70	...	7·20	...	92·80
Plasmon	...	58·10[3]	...	39·60	...	2·30	...	97·70

These results would appear to indicate that probably a larger proportion of cocoa would be utilised in the metabolic processes of the human body than is shown in experiments conducted *in vitro* with artificial digestive juices.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On Small-pox in the Dewsbury Union, by Dr. S. W. WHEATON.[4]—Dr. Wheaton gives in this report a vivid picture of the local neglect and maladministration which have been so largely responsible for the heavy epidemic of small-pox which attacked Dewsbury and adjoining towns during the past autumn and is even yet not entirely at an end. The whole of the Dewsbury union, which comprises Dewsbury itself, three other municipal boroughs—Batley, Morley, and Ossett—and also ten smaller districts, has long been known for its hostility to the administration of the vaccination law. This was particularly marked in years previous to 1891–92, when Dewsbury and its neighbourhood suffered from a severe epidemic of small-pox which was the subject of an elaborate analytical study made by Dr. Sidney Coupland on behalf of the Vaccination Commission. Dr. Coupland's observations formed a convincing demonstration of the protective effect of vaccination which was manifested during that epidemic, but it is evident that they have had little effect on the Dewsbury guardians who have continued to do as little as possible to carry out their vaccination duties. As a result, at the beginning of last year's epidemic the proportion of unvaccinated children was extremely high. The adults also no doubt comprised a large proportion of unvaccinated, although it is probable that the proportion of comparatively well-protected persons among them was larger than in many towns owing to the extensive revaccinations in 1891–92 and to the number of persons who were attacked by small-pox in those years. It is usually claimed by antivaccinationists in support of their position that an epidemic of small-pox can be averted by "modern methods"—i.e., isolation, disinfection, and observation of "contacts"—and experience shows that where these methods are stringently applied (together with prompt vaccination of those known to be exposed to infection) a town with a bad record for infantile vaccination may nevertheless often keep an invasion of small-pox within relatively small limits. In the neighbourhood of Dewsbury, however, the local authorities failed to realise the need for providing adequate means of isolation and disinfection which unfortunately have to be faced by every large district so long as our vaccination laws relate only to infants and are specially called for in places where infantile vaccination is habitually neglected. It is not surprising, therefore, that the outbreak from which the neighbourhood has suffered has been severe. Dr. Wheaton's report relates to visits to the localities concerned during the earlier stages of the epidemic. By the middle of October last there had occurred in 1904 412 cases of small-pox in Dewsbury, 84 in Thornhill, 118 in Ravensthorpe, and many more in Ossett and other districts in the union. Dr. Wheaton found that the vaccination authority, the Dewsbury guardians, was doing practically nothing, although timely provision of assistance to the public vaccinators would have been invaluable, while the arrangements of the several sanitary authorities to deal with small-pox were most inadequate and unsatisfactory. In Dewsbury the small-pox hospital (situated at the cemetery) was "a collection of small galvanised iron buildings and had a very dilapidated and forbidding appearance; nearly all the windows were broken, the apertures having been stuffed with paper or rags. ...... A fœtid smell was noticeable outside the hospital and heaps of refuse and partially consumed food lay around it. ...... On entering the building the fœtor was extreme; the wards were much overcrowded and were pervaded by flies, which arose in swarms from the patients when disturbed. The interiors of the wards were very dirty.' In charge of 76 patients (in many of whom the disease was of a severe type) were only eight nurses who were provided with wholly inadequate quarters. Extension of small-pox from the hospital to dwellings in its neighbourhood, whether due to communications between patients and their friends outside, to general maladministration, to atmospheric convection, or to all three causes together, was apparently taking place. Dr. Wheaton ascertained that the residents of houses within a quarter of a mile of the site were being attacked by small-pox in exceptional numbers. The Thornhill temporary small-pox hospital, though clean, was also inadequate and overcrowded. On the female side "17 persons were sleeping in 14 beds in a ward intended for six only." The Ravensthorpe district had an arrangement to send patients to the Dewsbury hospital but this could not be continued owing to the demands of Dewsbury itself. Consequently in this district cases of small-pox were left at their homes without proper nursing and often under conditions which involved the sick and the healthy occupying the same sleeping room or the same bed. Graphic instances of this objectionable state of things are given in the report and Dr. Wheaton observes that it would hardly be credited that such conditions were capable of existence in a civilised country. In other districts visited the position, though not as bad as at Ravensthorpe, was sufficiently serious. Dr. Wheaton records the advice which he gave to each of the authorities concerned and which fortunately was in many cases followed with satisfactory results. Although a large number of people in the Dewsbury union, particularly the "contacts" in invaded houses, were persuaded by fear of small-pox to protect themselves and their families by vaccination, this was often not the case. Some of the Ravensthorpe people appeared "to have become accustomed to the presence of small-pox, regarding it as a calamity which it was hopeless to fight against." In one instance, when small-pox was going through the household, "I urged the father to have this remaining unvaccinated child vaccinated, but he declined. I *asked him if he was not convinced of the* protection afforded by vaccination since he knew that the medical men who were constantly going in and out of the infected houses had none of them taken the disease, but he replied that medical men were protected by a charm with which they would not part." As our readers are aware,[5] the inactivity of the guardians who refused to open vaccination stations led to special action by the Local Government Board which made the new departure of issuing an Order under Sections 130 and 134 of the Public Health Act, 1875, to the Dewsbury, Ravensthorpe, and Soothill districts empowering the medical officers of health to vaccinate or to revaccinate any person in immediate [illegible] visitors if the medical officer of health so advised. Later returns will no doubt [illegible] success of these and o[illegible] which we understand [illegible] Dr. Wheaton reports. The epidemic of small-pox in this union must have entailed a severe strain not only on officers of the central and local public health authorities but also upon many of the medical practitioners in the districts concerned.

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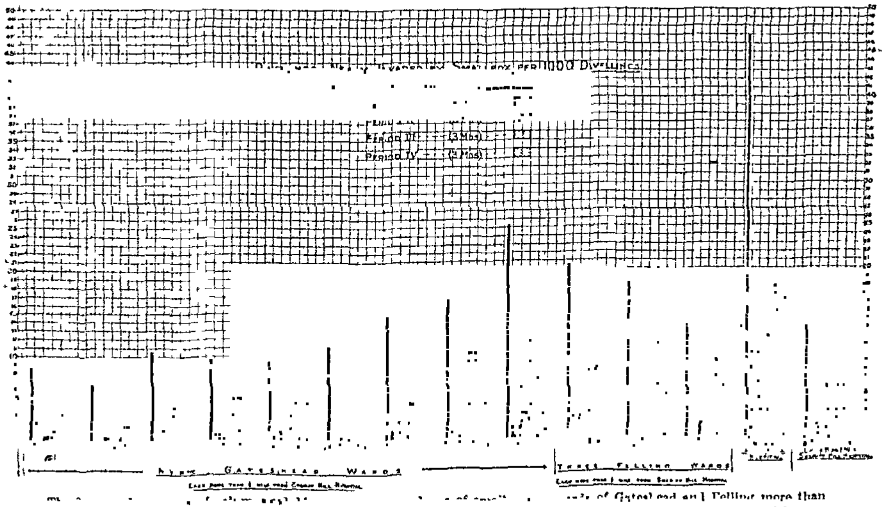
[1] Including 7·33 per cent. starch. [2] Including 2 70 per cent. starch.
[3] Including 1 99 per cent. starch.

[4] London, Eyre and Spottiswoode, East Harding street; Edinburgh, Oliver and Boyd; Dublin, E. Ponsonby. Price 3*d*.

On Small-pox in Gateshead and Felling, 1903-04, in relation to Sheriff Hill Hospital, by Dr. G. S. BUCHANAN.[6]—This report relates to prevalence of small pox in very different circumstances to those of Dewsbury. The districts [illegible] accommodation and then, and all through the epidemic which followed during the next 13 months, notified cases were removed to hospital almost invariably within 12 hours, and usually within a much shorter time, from the receipt of notification. Disinfection of dwellings, bedding, clothing, and the like was practised systematically. "Contacts" in Gateshead were kept under regular observation and in Felling were maintained at their homes at the expense of the district council. Both districts are comprised in the Gateshead union, in which infantile vaccination appears to be enforced fa[illegible]ed by the Gateshead [illegible]ed the protection of [illegible] Usually, *though by* [illegible]pted vaccination or revaccination and a large majority of them did not contract small-pox. Notwithstanding the various precautions adopted the epidemic reached considerable dimensions. From April, 1903, to May, 1904, Gateshead, with a population of 109,000, had 316 houses invaded and 510 cases of small-pox; Felling with a population of 22,500 had 106 houses invaded and 155 cases. The latter district is in the administrative county of Durham and in March, 1904, the county medical officer of health, Dr. T. Eustace Hill, drew attention to the exceptional incidence of the disease on the portions of Felling nearest to the Sheriff Hill Hospital in which all the cases of small-pox which arose in Gateshead were being treated. This hospital, *though situated within the borough of Gateshead, is close* to the Felling boundary. Dr. Hill and Dr. W. E. Peacock, medical officer of health of Felling, concluded that the exceptional incidence was to be ascribed to aerial convection of infection from the hospital. The subject of the distribution of small-pox in different areas of Gateshead and Felling was then investigated by Dr. Buchanan on behalf of the Local Government Board. His report is illustrated by maps and diagrams and forms an interesting contribution to the subject of the influence of a small-pox hospital on the neighbourhood. The facts recorded by Dr. Buchanan make it quite certain that small pox was exceptionally severe in parts of Gateshead and Felling which are near the hospital. Within half a mile of it there are 1297 dwellings and the proportion of these invaded by small-pox was 47 per 1000 as against 14 per 1000 in the rest of Gateshead and Felling more than half a mile from the hospital. Within a quarter of a mile of the hospital there are 330 dwellings; 27 of these, or 82 per 1000, were invaded. It might be supposed that these figures could be accounted for by the accidental occurrence of undetected cases in some house or houses near the hospital but this suggestion is disposed of by the study of



of Gateshead and Felling more than

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[5] THE LANCET, Oct 29th, 1904, p. 1227.

[6] London: Eyre and Spottiswoode, East Harding street, Edinburgh, Oliver and Boyd; Dublin, E. Ponsonby. Price 8*d*.

the facts given for different periods of the epidemic which show that all through the 13 months the same disproportionate incidence was observed. Dr. Buchanan has also applied a very searching test by comparing the intensity of small-pox prevalence within the half-mile area with that in 12 wards of Gateshead and Felling each of which is more than half a mile from the hospital and contains somewhat about the same number of dwellings as the half-mile area. He finds that the incidence on the half-mile area exceeded that in any one of these wards and that this is shown not only when the epidemic is taken as a whole but also when it is divided into three-monthly periods. We reproduce here the diagram in the report which illustrates this. Dr. Buchanan also gives reasons for believing that the influence of the hospital was exerted on certain localities near, but more than half a mile from, Sheriff Hill Hospital. His conclusions *on the facts obtained are that there is no evidence* that maladministration or absence of proper precautions in connexion with the traffic to and from the hospital was responsible for the exceptional and sustained incidence on the half-mile area and that the probable explanation is that here, as in other well-known cases, aerial transmission of infection has occurred. Dr. Buchanan agrees also with the observations of Dr. Hill that the direction of prevalent gentle winds at Sheriff Hill accords with this explanation. It is in any case evident that the use of this hospital has been responsible directly or indirectly for a material portion of the epidemic which has occurred during 1903–04 in these two administrative districts and Dr. Buchanan concludes by stating that he has no hesitation in recommending that it should no longer be used for the isolation of small-pox.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8914 births and 5520 deaths were registered during the week ending Jan. 28th. The annual rate of mortality in these towns, which had been 19·9, 17·5, and 18·1 per 1000 in the three preceding weeks, further rose to 18·4 per 1000 last week. In London the death-rate was 18·9 per 1000, while it averaged 18·1 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 9·0 in Walthamstow, 9·3 in Handsworth (Staffs), 10·5 in Hornsey, 12·0 in King's Norton, 12·3 in Southampton, 13·2 in Willesden, and 13·7 in Leyton and Portsmouth; the highest rates were 23·3 in Bootle, 24·1 in West Hartlepool, 24·2 in Nottingham, 24·9 in Stockton-on-Tees, 25·4 in Rochdale, 27·1 in Rhondda, 28·9 in Merthyr Tydfil, and 29·7 in Middlesbrough. The 5520 deaths in these towns included 376 which were referred to the principal infectious diseases, against 399, 378, and 358 in the three preceding weeks; of these 376 deaths, 124 resulted from measles, 107 from whooping-cough, 61 from diphtheria, 37 from diarrhœa, 28 from scarlet fever, 15 from "fever" (principally enteric), and four from small-pox. In Croydon, Hornsey, Brighton, Southampton, Rochdale, York, and seven other smaller towns no death from any of the principal infectious diseases was registered, while they caused the highest death-rates in East Ham, Leyton, Plymouth, Grimsby, Nottingham, Bootle, Stockton-on-Tees, Sunderland, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in East Ham, Leyton, Bristol, Nottingham, Burnley, Stockton-on-Tees, South Shields, and Merthyr Tydfil; from diphtheria in Grimbsby and Bootle; from whooping-cough in Hastings, Hanley, Aston Manor, Grimsby, Preston, Barrow-in-Furness, Hull, and Sunderland; from "fever" in Bootle; and from diarrhœa in Ipswich and Plymouth. Of the four fatal cases of small-pox registered in the 76 towns last week one belonged to London, one to Leeds, one to Gateshead, and one to Newcastle-on-Tyne. The Metropolitan Asylums Hospitals contained 15 small-pox patients at the end of last week, against 18, 19, and 18 at the end of the three preceding weeks; no new case was admitted during the week, against one in each of the three preceding weeks. The number of scarlet fever cases remaining under treatment in these hospitals and in the London Fever Hospital, which had been 2309, 2192, and 2174 on the three preceding Saturdays, had further declined to 2096 on Saturday, Jan. 28th; 251 new cases were admitted during the week, against 187, 194, and 225 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 443, 301, and 377 in the three preceding weeks, further rose last week to 478 and were 47 above the number in the corresponding period of last year. The causes of 72, or 1·3 per cent., of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Leicester, Leeds, Newcastle-on-Tyne, Cardiff, and 46 other smaller towns; while the largest proportions of uncertified deaths were registered in Portsmouth, Birmingham, Aston Manor, Liverpool, St. Helens, Rochdale, Sheffield, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 20·6, 21·6, and 20·1 per 1000 in the three preceding weeks, rose again to 20·3 per 1000 during the week ending Jan. 28th and was 1·9 per 1000 above the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 15·8 in Paisley and 16·5 in Dundee to 23·8 in Greenock and 26·5 in Aberdeen. The 681 deaths in these towns included 44 which were referred to whooping cough, nine to diphtheria, nine to diarrhœa, six to measles, six to "fever," and five to scarlet fever. In all, 79 deaths resulted from these principal infectious diseases last week, against 79, 85, and 72 in the three preceding weeks. These 79 deaths were equal to an annual rate of 2·4 per 1000, which was 1·3 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 37, 45, and 33 in the three preceding weeks, rose again last week to 44, of which 25 occurred in Glasgow, seven in Greenock, three in Edinburgh, three in Aberdeen, three in Paisley, and three in Perth. The deaths from diphtheria, which had been four, five, and three in the three preceding weeks, increased to nine last week, and included four in Glasgow and three in Edinburgh. The fatal cases of diarrhœa, which had been 13, 16, and 17 in the three preceding weeks, declined again last week to nine, of which five were registered in Glasgow and three in Edinburgh. The deaths from measles, which had been 14, 12, and 15 in the three preceding weeks, decreased to six last week and included three in Aberdeen. The fatal cases of "fever," which had been eight, four, and three in the three preceding weeks, rose again last week to six and included two in Glasgow, two in Aberdeen, and two in Greenock. The deaths from scarlet fever, which had been three, three, and none in the three preceding weeks, rose last week to five, of which two occurred in Edinburgh and two in Aberdeen. The deaths referred to diseases of the respiratory organs in these towns, which had been 182, 183, and 156 in the three preceding weeks, rose again to 163 last week and were 35 in excess of the number in the corresponding period of last year. The causes of 25, or nearly 4 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·6, 22·6, and 21·2 per 1000 in the three preceding weeks, rose again to 25·5 per 1000 during the week ending Jan. 28th. During the past four weeks the death-rate has averaged 23·7 per 1000, the rates during the same period being 17·5 in London and 8·9 in Edinburgh. The 185 deaths of persons belonging to Dublin were 31 in excess of the number in the preceding week, and included 18 which were referred to the principal infectious diseases, against five, 21, and 10 in the three preceding weeks; of these 13 resulted from measles and two from scarlet fever, two from whooping cough, and one from diarrhæa, but not any from small-pox, from diphtheria, or from "fever." These 18 deaths were equal to an annual rate of 2·5 per 1000, the death-rates last week from the principal infectious diseases being 1·2 in London and 1·9 in Edinburgh. The fatal cases of measles, which had been three, 12, and five in the three preceding week, rose again last week to 13. The two deaths from scarlet fever corresponded with the number in the preceding week. The 185 deaths in Dublin last week included 26 of children under one year of age and 54 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons were in excess of the respective numbers recorded in the preceding week. Four inquest cases and four deaths from violence were registered; and 70, or nearly two-fifths, of the deaths occurred in public institutions. The causes of eight or more than 4 per cent. of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: R. Hardie to the *Vivid* for the *Commonwealth*, and on recommissioning; R. A. Fitch and J. A. Thompson to the *Drake*. Staff Surgeons: W. R. Trythall to the *Diamond* on commissioning; E. S. Miller to the *Vivid*; and R. T. Gilmour to the *Egmont*. Surgeons: H. C. Whiteside to Malta Hospital; A. R. Schofield to the *Vivid* for disposal; E. D. J. O'Malley to the *Pembroke* for Chatham Dockyard; A. F. Fleming to the *Lapwing*; E. R. L. Thomas to the *Sphinx*; A. D. C. Cummins to the *Empress of India*; and W. N. Horsfall to the *Exmouth*.

ARMY MEDICAL SERVICE.

Surgeon-General W. J. Fawcett, C.B., Army Medical Staff, to be Deputy Director-General, vice Surgeon-General A. Keogh, C.B., appointed Director-General (dated Jan. 20th, 1905).

ROYAL ARMY MEDICAL CORPS.

The following officers, on arrival in India, will be posted as follows: Major A. Kennedy to the 6th Division; Captain W. E. Hudleston to the Nagpur District; Captain J. G. Berne to the 6th Division; Lieutenant A. A. Meaden to the 5th Division. Major T. B. Beach, now in Bengal, is appointed to the Thames District for duty. Major C. E. Pollock is held in readiness for service in Malta, embarking about March 25th. Lieutenant-Colonel S. F. Freyer, C.M.G., on promotion, is transferred from the Home District to Aldershot for duty at the Cambridge Hospital.

Colonel W. Allan May, C.B., is appointed Principal Medical Officer for Salisbury Plain District.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major S. Linton, having resigned his commission in the Volunteers, ceases to belong to the Army Medical Reserve of Officers (dated Jan. 28th, 1905).

INDIAN MEDICAL SERVICE.

The following gentlemen were successful at the examination for admission to the Indian Medical Service held on Jan. 24th and four following days:—

	Marks.		Marks.
Hamilton, A. F.	3572	MacWatters, M. R. C ..	3143
White, A. D.	3279	O'Neill, J. S.	3140
White, R. K....	3223	Boalth, W. H....	3215
Keaney, M. F.	3180	Hamilton, W. H.	3118
Wilson, N. M.	3166	Coppinger, C J.	3026
Buckley, H. C.	3150	Cunningham, J.	3024
Soltau, G. A.	3149	Falk, H.	3016

35 candidates (17 of whom had university degrees) competed for the 14 vacancies.

THE WAR IN THE FAR EAST.

Russia is at present the arena of revolutionary activity and as we have already said the events taking place there have had the effect of rivetting public attention on the [illegible] and of almost altogether [illegible] from the theatre of war in [illegible] political unrest in Russia must have been intensified by the news of the failure of [illegible]

[illegible] may be for the real interest of Russia to make peace and however much the Russian nation may wish it it is hardly [illegible] t present adopt [illegible] war now going [illegible] led except the facts that the hospitals are said to be filled with sick and wounded and that a bread famine exists to add to the miseries of the poorest classes of that city.

Correspondence.

"Audi alteram partem."

RESEARCHES INTO THE ETIOLOGY OF CARCINOMA.

To the Editors of THE LANCET.

SIRS,—While thanking you for your appreciative annotation upon our paper which appeared in THE LANCET of Jan. 28th, p. 244, we feel obliged in the interests of cancer research to join issue with you in regard to your declaration that there is no analogy between the phenomena of finger-and-toe disease and those of carcinoma, which we are convinced can only have been made under a misapprehension as to the actual facts of the case. Had we thought that the point would be questioned we should certainly have dealt with it. It is one of several that we purposely did not touch upon, chiefly because the mere description of our observations necessitated a paper that we felt would already encroach too largely upon your valuable space.

The striking parallel that exists between the phenomena of finger-and-toe disease and those of carcinoma has been pointed out by several observers, but particularly by Dr. Gaylord, to whose papers we referred. Briefly, the phenomena of finger-and-toe disease (especially as observed in turnips) that are analogous to those of carcinoma are the following. The morbid changes consist essentially in a rapid, abnormal local proliferation of the cells of the plant, [illegible] tumour-like excrescences. [illegible] any period in the life of [illegible] be initiated and to proceed to the formation of a considerable local swelling in a previously healthy root which had completed its growth, which had been removed from the ground, and from which the leaves had been cut away. On section the localised tumours attached to the healthy portion have a general appearance which is comparable to that of an epithelioma of the lip. The morbid process very commonly goes on to ulceration, invasion of the tumour mass by putrefactive bacteria, and death of the host. The general health of the plant is always seriously affected from an early period of the disease. Inoculation of a healthy plant with material from an affected one does not result in the transmission of the disease. Tumours may, on the other hand, be grafted upon a normal plant and the subsequent tumour growth is formed exclusively by descendants of the grafted cells. The evidence goes to show that the morbid proliferation commonly begins at only a few points and that by multiplication of a small number of primarily infected cells tumour masses of large size may arise. Whilst the fact that the plasmodiophora brassicæ is the cause of the disease is beyond question, all attempts to cultivate the parasite [illegible] ling [illegible] ena [illegible] be considered to do so. Whilst the existence of this analogy is a striking and incontrovertible fact we would point out that it is not logically necessary for the support of the con[illegible] the ground of actual observa[illegible] carcinoma. We have not [illegible] brassicæ is the cause of carcinoma. We have merely maintained that a parasite of the same class is present in carcinomatous tumours. There are grounds for believing that there are several parasitic plasmodiophoræ, just as there are many parasitic bacteria, and it is extremely unlikely that the pathogenic action of each species is exactly the same.

We are, Sirs, yours faithfully,

W. FORD ROBERTSON,
HENRY WADE.

Laboratory of the Scottish Asylums, Edinburgh, Jan. 30th, 1905.

*** We are glad to know that Dr. Robertson and Mr. Wade recognise the importance of the omissions to which we drew attention. The letter which we print above implies that the writers have convinced themselves by personal observation and experiment that an analogy exists between the morbid changes of "finger-and-toe" disease in turnips and carcinoma in man. We have had no opportunity of investigating the nature of the evidence on which their opinions are based and we are therefore debarred from commenting upon it. It is otherwise with the published work of Gaylord, Woronin, Nawaschin, Behla, and Podwyssozki whom the writers have quoted. These investigators have not established either that cancer is an infective disease or that an analogy exists between the morbid processes of "finger-and-toe" disease and carcinoma any more than do the contributions of von Leyden and others to the same subject. If the writers have succeeded where earlier workers on the plasmodiophora have failed it is all the more necessary for them to supply a convincing demonstration of the fact. Until they do so they cannot claim to have done more than to have described and interpreted another cell inclusion in carcinoma and the serious criticisms of von Tubeuf, Lubarsch, and von Hansemann will still remain unanswered, as will the more general criticisms which have been passed upon the cell inclusions of cancer generally. We trust that workers with such a desire to be objective as Dr. Robertson and Mr. Wade will not only be able to solve the many contradictions in the literature on the relation of the plasmodiophora to cancer and cell inclusions generally but that they will succeed in establishing their thesis.—ED. L.

CERTIFICATES FOR MIDWIVES AND THE OBSTETRICAL SOCIETY OF LONDON.

To the Editors of THE LANCET.

SIRS,—In your issue of Jan. 28th there is a report of an inquiry held by the Central Midwives Board into a charge against a certified midwife of signing false certificates. As there is a passage in that report which is in danger of creating an impression contrary to fact and detrimental to the reputation of the Obstetrical Society of London, may I, as the witness whose evidence is concerned, be allowed a word or two by way of explanation? The statement that I made was to the effect that the Obstetrical Society of London some ten years ago was in the habit of occasionally accepting a certificate of attendance upon a smaller number of cases than the regulations required on the understanding that a supplementary certificate would be furnished before the day of examination showing that the candidate had by that time completed the required number. This is, of course, a very different thing from conniving at a false certificate, which is what your readers would naturally suppose from your report to be what the Obstetrical Society did.

I am, Sirs, yours faithfully,
A. HANNAM,
Secretary and Librarian of the Obstetrical Society of London.
Jan. 30th, 1905.

OVARIOTOMY IN A COTTAGE.

To the Editors of THE LANCET.

SIRS,—The unusually early age of the patient, who was only 11½ years old, impels me to report this case. I was called in to see the patient, a little girl, by Dr. R. McCandless of Rathfriland. She had a temperature of 101° F. and was suffering from colicky pains in the lower part of the abdomen with gastro-intestinal disturbance. These symptoms she had complained of more or less for the previous five months, but they had become much aggravated during the last few days with the elevation of the temperature. There was an obvious fulness of the hypogastrium and a tumour was plainly felt extending above the umbilicus, dull, fluctuating, very tense, and with clearly defined outlines. There was no dulness in the flanks and the tumour was unaltered on evacuating the bladder. There was a tuberculous family history and it was only this fact, coupled with the youth of the patient, who had shown no signs of early puberty, that cast any doubt upon the diagnosis of a frank ovarian cyst. I urged an immediate operation as the patient was in a serious condition but it was impossible to secure an experienced surgeon as her people were of very humble means and lived far away from any hospital, so that I had to undertake it myself. I did so with some diffidence, as neither the surroundings nor our equipment were ideal, but I had the advantage of valuable assistance from my friend Dr. J. A. D. Radcliffe and Dr. McCandless chloroformed the patient for us two days later. On opening the abdomen the tumour was found beneath the omentum with smooth surface, very tense, and filling the lower half of the abdominal cavity. On puncturing with trocar about one and a half pints of slightly blood-stained fluid escaped. The cyst was then found to spring from the left ovary, a few recent adhesions to the intestines being easily separated by the fingers. The appendages on the left side were removed along with the tumour. The right ovary appeared healthy and was left. On opening the tumour a mass of hair presented, revealing a dermoid cyst, and thus, I suppose, accounting for its development at so early an age. I would be glad to know, however, if such cases are at all common. The patient stood the operation well, although it was rather prolonged (one and a half hours), and made a good recovery. I removed the stitches ten days later and the wound was quite healed. The little girl is now running about and seems perfectly well.

I am, Sirs, yours faithfully,
J. HOPE REFORD, M.D. R.U.I.
Banbridge, co. Down, Jan. 26th, 1905.

SUNSHINE IN GUERNSEY.

To the Editors of THE LANCET.

SIRS,—It does not seem to be as widely known as it should be that this island is a highly favoured place as regards the large amount of sunshine it enjoys. A reference to the table given beneath will show that in 1904 Guernsey holds the record by 211 hours over Hastings, the sunniest town in England for that year:—

	Hours.		Hours.
Guernsey	1926	Cornwall	1660
Jersey	1866	Devonshire	1634
Hastings	1715	London	1328
Hurst Castle	1671	South of Ireland ...	1232

I am, Sirs, yours faithfully,
HY. DRAPER BISHOP,
Medical Officer of Health, States of Guernsey.
Jan. 28th, 1905.

ATMOSPHERIC CONDITIONS AND THE OCCURRENCE OF CEREBRAL HÆMORRHAGE.

To the Editors of THE LANCET.

SIRS,—I am much interested in Dr. J. W. Russell's contribution on the above subject in THE LANCET of Jan. 28th, p. 222, as since Dr. R. Hensleigh Walter and others so strongly suggested the influence of climatic conditions in deciding the onset of an attack of cerebral hæmorrhage I have been endeavouring to ascertain if any statistical proof could be obtained in favour of the belief which exists in the minds of many practitioners. The material at my disposal consists of a large number of death certificates and meteorological observations taken by myself. Only about 15 per cent. of death certificates give the duration of illness or date of attack I thought it might be interesting to see if deaths from apoplexy were more common under high or low pressure. Dealing first with the returns for Bath for three years—121 deaths—I found that 64 per cent. of the deaths took place when the atmospheric pressure was above the average of the three years, 29·84 inches, but the pressure was above the average on 57 per cent. of the days of these three years.

Dr. Russell takes the average pressure of 12 years as 29·376 inches; this, I suppose, is the uncorrected reading of the barometer, otherwise it seems low. He says that a larger number of cases occurred on days on which the barometric pressure was above the average than on those when a pressure below the average was recorded, the proportion in the total number of cases being almost exactly as 5 to 4 Singularly enough in the three years 1901–03, the days on which the pressure was above the average compared with days on which the pressure was below the average were almost exactly as 5 to 4. If the same ratio obtained during the 12 years 1891–1902, Dr. Russell's cases must have been fairly evenly distributed, but days of high pressure being more frequent than days of low pressure attacks of cerebral hæmorrhage are apparently more common on days of high pressure. Anyone wishing to confirm these figures can find meteorological records for London from 1882 onwards in Whitaker's Almanack.

The number of deaths from apoplexy in Bath being too few to afford statistics from which reliable conclusions could be drawn, I applied to Dr. D. S. Davies for permission to use the returns for Bristol and so obtained a total of 1575 certificates of deaths from cerebral hæmorrhage, apoplexy, or hemiplegia during the six years 1899-1904. The duration of illness or date of attack is only given in 299 of these certificates; these may not be representative as the date of attack may be more often stated when soon followed by death. In 70 per cent. of these cases death occurred within seven days and in80 per cent. within one month; 55 deaths, or 18 per cent., being within 24 hours of attack and for these rapidly fatal attacks the following table shows the corrected 9 A.M. readings of the barometer on the *day of death and also on the day preceding death; the* groups of cases would not be the same. I have also given an approximate estimate of the comparative frequency of attacks of cerebral hæmorrhage at each pressure when allowance is made for the proportion of days of such pressure.

	Barometric pressure (inches).			
	28·8 to 29·4	29 5 to 29 8	29·9 to 30·1	30·2 to 30·8
Death same day ...	6	15	17	17
Death next day ...	5	16	20	14
Estimated ratio ...	21	24	25	29

This empirical estimate founded on a small number of cases seems to support the argument which has been put forward, but a careful consideration of the monthly death-rates from cerebral hæmorrhage, which must be closely related to monthly attack-rates, in connexion with the meteorological conditions of each month for the past six years, leads me to the conclusion that atmospheric conditions have no special influence in determining an attack of cerebral hæmorrhage. January, February, and March are the months which show the highest death-rates from [illegible] lso from all other causes among [illegible] istrar-General's annual reports [illegible] from apoplexy and cerebral hæmorrhage varies always in the same direction as the death-rate of deaths from all causes among persons between 65 and 75 years of age, although these special diseases cause less than 10 per cent. of all deaths at such ages.

I am, Sirs, yours faithfully,
W. H. SYMONS.
Bath, Jan. 29th, 1905.

THE PRINCIPLES OF TREATMENT OF PNEUMONIA.

To the Editors of THE LANCET.

SIRS,—The able letter published in THE LANCET of Jan. 28th by Dr. A. G. Auld in criticism of my recent address on the Principles of Treatment of Pneumonia would have been still more welcome and valued had it been less exclusively *devoted to the discussion of debatable points of* theory. We are in full agreement in recognising that the first principle of treatment should be to prevent the invasion and the second to summon at once the force needed for [illegible] failed to [illegible] vived by [illegible] perhaps [illegible] ne point upon which we remain at variance. I still regard the risks which attach to lobar consolidation and to disablement of the lung as greatly in excess of any advantages which may belong to them in nature's scheme of cure. Preventive treatment, when it comes, will obviate pneumonic consolidation; and the anti-pneumococcus treatment of the future would presumably either forestall its occurrence or insure that arrest of its full development which it is the present endeavour to secure. Since an immediate cure cannot yet be attained, let us aim at as speedy a cure as may with safety be achieved with the remedies at our disposal. I believe that much can be effected by prompt and judicious action on the lines proved to be correct by the clinical results. Those measures which I have found to succeed in materially shortening or modifying the course of the attack are best described in one word by "elimination." To get rid of the germs and of the products of disease is to liberate the powers of health, which include any opsonic powers special to serum. How this is to be best effected and most quickly must have engaged the attention of many clinical workers. Their practical criticisms and suggestions would be most valuable as the special kind of help which the address was intended to invite.

I am, Sirs, yours faithfully,
WM. EWART.
Curzon-street, W., Jan. 28th, 1905.

PS.—*Dechloridation* does not at present form part of my treatment. As I have employed it in one case only, that reported in my address, I keep an open mind as to its merits with considerable doubt as to its value.

BED-GEAR FOR INVALIDS.

To the Editors of THE LANCET.

SIRS,—In a recent number you published the design of a useful invalid night-gown. There is another simple garment often wanted by invalids which it is generally difficult or impossible to procure at a short notice and which, it seems to me, might profitably be put upon the market by an enterprising firm. I refer to a bed-jacket or covering for the shoulders, arms, and chest. Most people when confined to bed, even for a short time, need such a covering and in many hospitals bed-jackets of various kinds are provided, but in private it is generally found necessary to improvise such a garment or to use shawls or similar articles, all of which are unsuitable, in one or other way, for the object needed. What is wanted is a fairly closely-fitting jacket, extending to the waist, easily opened front and back, and with *arms fastening at the wrists.* It could be made of any woollen or soft material, preferably, I think, knitted. Such a bed-jacket I find it almost impossible to get in private and I feel sure that if a garment of this sort were put upon the market it would find a very large demand and many households would provide themselves with two or three of different sizes for use in any case of illness. Only this week a patient of mine, a gentleman of a practical turn of mind, asked me why we medical men did not suggest a suitable bed-jacket for housewives to keep in readiness for sicl [illegible] arrangements of shawls, &c., all [illegible] fallen back on a dressing-gown w[illegible] lling the purpose of covering the arms and shoulders, still encumbered the bed with unnecessary skirts. I defended my profession as well as I could and said that we were not oblivious of such details as there had been quite lately in THE LANCET a beautiful picture of a convenient invalid nightdress. He insisted that his bed-jacket was of far greater importance and I am inclined to think he was right.

I am, Sirs, yours faithfully,
H. CAMERON KIDD.
Bromsgrove, Worcestershire, Jan. 27th, 1905.

INDIAN UNIVERSITY DEGREES AND THE ROYAL COLLEGE OF SURGEONS, OF ENGLAND.

To the Editors of THE LANCET.

SIRS,—In replying to a correspondent in your issue of Nov. 12th, 1904, you mention that "the L.M.&S. is not a degree—it is a diploma." The University of Bombay calls it "the degree of L.M. & S." There is no such degree as M.B. in this University. The Vice-Chancellor when admitting us as graduates of the University also pronounces at the convocation, "I admit you to the degree of L.M.&S." I admit that the University should not have used the word "Licentiate" while granting a degree and that the degree of M.B. should have been instituted when the Faculty of Medicine was founded.

In other universities, such as those of Madras, Dublin, &c., where licences are granted in addition to the degree of Bachelor of Medicine, the L.M.& S. may properly be regarded as a licence, but such is not the case with the University of Bombay. It would be well for the examining boards in the United Kingdom to read the calendars of the different universities before framing regulations concerning their mutual arrangements.

I am, Sirs, yours faithfully,
D. R. TATA, L.M. & S. Bombay.

*** If our correspondent will refer to p. 1448 of THE LANCET of Nov. 19th, 1904, he will there see a letter from Mr. S. B. Gadgil giving similar information and a note by ourselves stating that according to the testamur the L.M. & S. of the University of Bombay is called a degree.—ED. L.

THE TREATMENT OF STRABISMUS.

To the Editors of THE LANCET.

SIRS,—With respect to the operation of lengthening the tendon in cases of strabismus, described in THE LANCET of Jan. 28th (p. 254), by Dr. Landolt of Paris, I may perhaps be permitted to point out that I adopted a similar operation several years ago. In July, 1902, I read a note upon my method before the Ophthalmological Society and at the same time showed several patients upon whom the operation had been performed. I showed by diagrams that the tendon of the internal rectus might be lengthened in several ways without disturbing its insertion into the sclera. My communication was published in the Society's Transactions, vol. xxii. (1902), p. 276. I believe I am correct in claiming that I was the first to devise and to perform the operation now described by Dr. Landolt under the name of "muscular elongation." I am, Sirs, yours faithfully,

Welbeck street, W., Jan. 30th, 1905. SYDNEY STEPHENSON.

THE QUESTION OF TESTIMONIALS.

To the Editors of THE LANCET.

SIRS,—My attention has been called to an advertisement in THE LANCET with the *facsimile* of a letter, or part of a letter, commending a medical preparation, which is signed "Always truly yours, James Paget." It is not in the handwriting of Sir James Paget. The firm who sent it to you assure me that it has been in their possession for some 30 years and that they have always regarded it as genuine. It may, of course, be a copy of part of a private letter written long ago by Sir James Paget, but there is not the faintest reason for thinking that it was written to the firm who have lately used it as an advertisement.

I am, Sirs, yours faithfully,
Harley street, W., Feb 1st, 1905. STEPHEN PAGET.

THE TREATMENT OF PULMONARY TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—I was glad to see Dr. A. C. Falkiner in THE LANCET of Jan. 14th draw attention to the harm done by "stuffing" in sanatorium treatment. A great many patients, and unfortunately some doctors, are dissatisfied unless they see a weekly gain in weight. But everyone who has any experience of sanatorium treatment must remember cases where increase of weight and progress of disease have occurred at the same time. But even in favourable cases a rapid increase of weight throws a great strain on the heart and produces breathlessness and this in spite of uphill walking. Quite recently I saw a young man return from a short stay at a sanatorium with his lung distinctly improved but a pulse-rate never below 125 and going up to 140 and over on exertion, which undoubtedly was due to a large deposit of fat, and yet he was taking walking exercise up to five and seven miles per day. Another evil effect of "stuffing" is the respiratory distress produced by distension of the stomach. In a well-known sanatorium I have seen patients rise from table and on walking a few yards commence gasping for breath. This is mainly produced by a large quantity of carbohydrate diet, which I maintain is the cause of much discomfort to phthisical patients. Of course the large amount of carbohydrate diet increases weight rapidly and so produces a favourable impression on the patient's friends of the result of the treatment. As to the effect of foggy, rainy winters on some cases, I think they do harm. I have watched cases even in Germany go downhill whenever the misty days began but improve on moving to a warmer and drier atmosphere. As in every department of medicine it is wrong to dogmatise, but I am quite sure that many cases, especially in females, have gone back through persevering in the "Spartan" methods during damp winters.

I am, Sirs, yours faithfully,
X.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Sanitary Condition of Simla.

THE occurrence of several cases of enteric fever in Simla in 1903 and 1904 amongst the European and Eurasian population has called attention to the sanitary condition of this station. I understand that the Lieutenant-Governor of the Punjab has appointed a committee, consisting of the sanitary commissioner, the judge advocate general, the sanitary engineer, and the civil surgeon, to make full inquiries into the various complaints which have of late been made. Amongst other grievances may be mentioned the trenching of night soil and the foul smells along the Mall and other roads, the collections of putrefying matter permitted to remain, and the shortage of water during the summer months. The drinking water is in quality undoubtedly good. Simla is growing and the station is overcrowded and complaint is made that the houses are too close together one above the other on the hillsides. The sewage works are not yet completed and the arrangements for carrying off the sewage water are insufficient. The septic tank at the bottom of the valley is admittedly a success but the incinerator used for burning refuse works slowly and is of a crude construction. The dhobies wash the clothes in hill streams but also doubtless in foul pools. The cows and buffaloes are kept in crowded and dirty byres in the villages. It is suggested that the annual occurrence of fevers amongst the natives every spring may be due to typhoid fever but the registration of the causes of deaths is so defective that the supposition is mere guesswork. The milk-supply is open to grave suspicion of constant contamination.

The Increasing Plague Mortality.

The plague mortality throughout India is rapidly mounting up. For the week ending Dec. 31st, 1904, there were 22,645 deaths, as compared with 19,465 for the previous seven days. The increase is almost entirely in the Punjab and the United Provinces. The detailed figures are: in the United Provinces, 9574, against 6822 last week; the Punjab, 4643, against 3940; Bombay districts, 3774, against 4154; Bengal, 2496, against 2005; Hyderabad State, 516, against 809; Madras districts, 367, against 353; Rajputana, 314, against 345; Mysore State, 282, against 319; and Central India, 121, against 132. I have frequently drawn attention to the absence of mention of Poona city in these weekly figures, notwithstanding that plague has been raging very severely for two or three months past. The deaths in this city have been included in the figures for the Bombay districts but it appears that the recent outbreak caused 71 deaths in September, 654 in October, and 1337 in November. Since the census of 1901, when Poona was credited with 153,320 inhabitants, there have been no less than 15,587 deaths from plague alone. The rate of mortality during November was 104 per 1000 per annum from plague. This city has lost nearly 40,000 of its inhabitants from plague since the first visitation of the disease in 1896.

Social Reforms amongst the Indian People.

The recent Indian Social Conference in Bombay indicates a great change in the opinions of the leaders of the various native communities upon questions concerning social reform. I find a resolution was passed that the custom of child marriage is most injurious to the physical, economic, and social well-being of the people. In the Baroda State marriage of girls under 12 years of age has been discouraged by recent legislation. A motion was also carried expressing cordial sympathy with the temperance movement and adopting the resolution passed at the last All India Temperance Conference. A further motion considered enforced widowhood as an infringement of the rights of women and recommended that all obstacles in the way of the marriage of widows should be removed. It is not generally known what a large proportion of girls under ten years of age are married. The census gives a rate of 115 per 1000 females and for child widows 6 per 1000 females. This shows that 1 in about every 9 female children is married before ten years of age and that about 1 in 20 of these infant marriages is followed by child widowhood In Bengal the rate is much higher—nearly 1 in 5 of the female children being married—and in Behar the proportion rises to 1 in 3, with child widowhood about 1 in 18 When it is remembered that this widowhood is enforced in most cases for life the injustice and evil will be manifest

Jan 14th

THE HOUSING PROBLEM AT BOSTON, U S A

(FROM OUR SPECIAL SANITARY COMMISSIONER)

MY first attempt to investigate the question of working class dwellings and of the housing of the American poor was made in Boston One of the local papers, the *Boston American*, sent a member of its staff to interview me and he at once inquired what I thought of the Boston slums This enterprising journalist was somewhat disappointed on hearing that I had not thought about them at all and this for the simple reason that I had not seen them If, however, he would take me round and show me the worst quarters of the town then I would be pleased to say what I thought about them. In this manner I secured the assistance of a pleasant guide and companion First we visited Salem street which is the Petticoat-lane of Boston Here the population seemed somewhat dense and the dark recesses in many of the small shops looked forbidding but there was nothing very different from what may be seen in Europe—in, for instance, the Jews' quarter of Amsterdam In Martin street close by we found a house with only one closet which was certainly insufficient for the large number of inhabitants but it was clean and well flushed In the basement there was, in the back part of the house, a very small room with no window opening to the outside and here lodgers slept, though for want of light and ventilation it was not fit for habitation The tenement in this basement consisted in all of three rooms and the rent charged was £2 8*s* per month For from 25*s* to 30*s* a month better accommodation could be obtained in London and even in Paris Another tenement which we visited had two good rooms and two dark back rooms and the rent was £3 per month

From the Jews quarter we went to the Italian and Portuguese district In Keith's alley overcrowding was the chief grievance, though this is not surprising considering the high charges made for rent One of the tenements was ventilated by an irregularly shaped, small shaft which apparently had not been cleaned out for years On the other hand, it was a pleasure to see here, as I have seen among the poor of Italy the domestic cleanliness the love of white and tidy linen which are the pride and joy of the Italian housewife Here in one of these tenements, which I was assured formed part of the slums of Boston, we admired the white bed linen and the embroidered pillow cases of a bed that stood in the one living room Close to the bed on the stove the dinner was in course of preparation, giving off aromatic odours which showed that the Italian housewife was as artistic in the selection of her flavouring ingredients as she was in the decoration of her household linen In Page court, off North street, there were signs that the scavenging had been much neglected There were barrels full to overflowing with ashes and garbage, so that dirty paper and other light refuse were blown about the yards Then a number of rain water pipes from the roofs had split open, some for their whole length The aperture gaped and was widest about half way from the top The rain water coming down such pipes must escape and render the house wall very damp Rents here were equally high in spite of this neglect and the back courts or openings were very erratic in shape and often not large enough to give sufficient air and light In Power s-court and other places there are old houses with such very narrow and small windows that they cannot sufficiently light the rooms On the other hand, it was satisfactory to note that many of the inhabitants kept these windows open as if they appreciated the advantages of having a plentiful supply of fresh air Perhaps a small window that is constantly open is better than a large one that is always shut.

At a dispensary where the poor of this quarter obtain medical relief I was told that during the last three years they had patients belonging to 18 different nationalities Indeed, while visiting these poor quarters it was difficult to believe that I was in America In any case I felt much more at home than my guide who, being an American, had not my knowledge of these various European people He was particularly impressed by the savoury cooking that was going forward in the poorest dens which we visited, whether the tenants were Portuguese, Italians, or Pol [illegible] find any extensive prevalence of [illegible] were details that required remed [illegible] there were three tenements with a family in each and only one closet between them Here the backyard had planks of wood for pavement but the wood was in many places eaten away Mud and dirt oozed through and egg shells and other refuse lay about The closet was dirty , nevertheless, when people stood on the seat they automatically pressed down a knob which produced a good flush Then there were basement stairs which were dirty and dark Nevertheless, and in spite of the details mentioned, it was only when we at last came upon the Italian organ grinders' quarter that we found something worthy of comparison with a European slum

Undoubtedly this Italian court was at once the worst and the only picturesque place we were able to discover Here the houses or huts are built in a most irregular manner There are terraces for roofs and other smaller houses rising from these terraces The top house of all is so small and narrow that the attic where many organ grinders sleep seems more like a passage under the roof The space where it is possible to stand upright is barely three feet wide and then the slanting of the roof makes it necessary to stoop to reach the beds These are placed as far as possible under the roof which is certainly not more than two feet above the sleeper as he is lying in bed If this roof is not very perfectly tiled the bedding must get wet when it rains Here at last we got the real stuffy smell of the genuine slum While the highest parts of this strange conglomeration of houses or huts was thus so forbidding and foul, the very deep basement or cellar at the lowest and opposite extremity was not particularly inviting Here there was an oven and beyond in the dark far side of this large sort of cellar there was a dirty long table where the ' boarders ' of the barrel organ fraternity dine Doubtless they dine well for the price they pay—namely, 10*s* a month for sleeping in the attic and £1 12*s* a month for feeding in the cellar Just outside the door and steps leading to this cellar there are two foul, dirty, malodorous closets and a broken urinal Fortunately, the garlic laden fumes and the scent of bay leaf and thyme which escaped from the well-flavoured stew simmering on the oven below provided a [illegible] guide, I asked the organ grinders which restaurant they patronised when on fete days or other special occasions they indulged in a particularly good dinner Having thus obtained a likely address we proceeded to lunch at the restaurant that enjoys the special patronage of Italian organ grinders As a result my American companion declared that he would forthwith bring his wife to this restaurant of organ grinding renown so that she might learn how to cook Undoubtedly the tasteless cold storage meat eaten in America requires to be treated with the resourceful ingenuity of the Latin races in order that it may be rendered palatable

With the exception of this small group of strange structures inhabited by organ grinders it did not seem to me that the housing problem at Boston had reached the acute stage attained in many European towns, so far at least as the sanitary phases of the difficulty are concerned There is undoubtedly a difference in the death rates of various localities but I hardly think that this is due to any very striking structural defect in the dwellings It is rather the result of poverty, of racial predisposition and of overcrowding Of course in this respect it is the tenement houses that are the worst Fortunately, measures are being taken to put a stop to the " sky scraper nuisance It is only in the business streets that the building of very lofty houses will be allowed In residential quarters it will not be permitted to build a house that measures in height more than one and a half times the width of the street. Therefore, if a street is 30 feet wide no house must be more than 45 feet high. In old quarters instead of pulling down houses so as to widen the streets it will, it is thought, be less troublesome and less expensive to remove some of the upper floors of the houses so that they shall not be higher than accords with the width of the street. This, however, is not at present the law, but a Bill to that effect is to be submitted to the State legislature.

Boston seems to be going through an experience similar to that acquired in England some 50 years ago. Thus from 20 to 30 years ago the entire housing problem it was believed would be solved by our old acquaintance the 5 per cent. philanthropist. A coöperative building society intended to erect model tenements and to content itself with 5 per cent. interest on the capital invested. The society also took over old and defective dwellings and improved them. But even under these conditions it had to charge £3 a month for tenements of three rooms; and some four years ago the managers came to the conclusion that in spite of such high rents this was no longer possible, at least not in the central and congested districts. The society said that the present building laws enforcing the employment of steel beams, plaster walls, and, in fact, strict fireproof conditions, made it too expensive to build. The question now discussed is whether it is a fact that nothing can be done so as to build model tenements at comparatively low rentals and yet yielding 4 or 5 per cent. profit. Private enterprise in Boston has reached the point attained in London many years ago and is now no longer desirous to speculate in such matters. Yet the municipality of Boston is not attempting to grapple with the difficulty. It refuses to own any land except parks for the people. Instead of acquiring land and itself building tenement houses, as the County Council of London and so many other towns in England have done, the municipality of Boston is only seeking to modify the law so that cheaper—that is to say, more dangerous—houses may be erected. It is proposed that the restrictions to make the houses fireproof shall be withdrawn. Thus, cheaper material being allowed in the construction of "model" dwellings, the philanthropists, at the risk of roasting their tenants, will after all be able to make their 5 per cent. Boston has not yet reached that stage of evolution in municipal matters which was attained in London and many large British towns some years ago. Its municipality does not realise that certain things have to be done, if not by private enterprise then by public enterprise; if not at a profit then at a loss; and that the greatest loss of all is to leave them undone. This applies with particular force to insanitary areas.

The prevalence of disease at Boston is not, however, intimately associated with any special quarter or area. Disease follows the race rather than any particular feature in sanitation. Thus tuberculosis is much more prevalent in the tenements inhabited by the Irish and pneumonia is more common in tenements occupied by other races. Undoubtedly the chief difficulty is with the new arrivals, immigrants who are not yet in receipt of the higher rate of wages paid in America and who consequently cannot afford the high rents charged. However, in spite of the immense crowd of immigrants who land there the housing problem at Boston has certainly not yet reached the acute stage which prevails in many of the seaport towns of Europe.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Victoria University: Opening of the New Pathological Laboratory.

THE formal opening of the new pathological laboratory in connexion with the Victoria University marks an occasion important in its relation to bacteriological research and to the bearing of increased and increasing knowledge on the public health. The laboratory is situated in York-place, near the new infirmary, and has been planned so as to be well adapted for its purpose. It is two storeys in height, about 160 feet long by 60 feet deep, with outbuildings 136 feet by 16 feet. The chief characteristics are unlimited light and the installation of important and yet simple appliances. As one of the local reports says, "it will be, when more funds are received, better able to cope with public health work than any other laboratory in the kingdom." Professor S. Delépine has a staff of 13 qualified assistants, five students, one secretary, and six servants. Last year over 100 sanitary authorities, representing the public health of between five and six millions of people, made use of the laboratory "in cases or outbreaks of consumption in man and animals, anthrax, typhoid, malaria, food poisoning, glanders, fowl cholera, rag-pickers' disease, Asiatic cholera, plague, and noxious properties in all sorts of food." In addition to this the laboratory dealt with sterilisation and disinfection, methods of filtration, and many kindred questions. Reports are made by the staff on morbid products for public authorities and medical men. Bacteriology is taught to candidates for the diplomas of public health, to chemists, veterinary surgeons, and teachers in agricultural or dairy schools; investigations and research work are always going on in relation to the public health work and to cancer (in connexion with the Christie Hospital), while medical men often conduct investigations bearing on the cause and prevention of disease. Of course, all this entails expense and more pecuniary help is desirable if the wide field of usefulness lying open is to be cultivated thoroughly. As a local paper puts it, "a few benefactors" are needed "who are willing to decrease the death-rate of the future by paying now for the knowledge of how to prevent disease." Earl Spencer, the Chancellor, presided at the opening ceremony which was performed by Mr. W. J. Crossley, the chairman of the advisory committee, who it may be remembered gave munificently towards the establishment of the sanatorium for consumption in Delamere Forest in connexion with the Manchester hospital for that disease. He was presented with an ornamental key by Professor Delépine who described the remarkable growth of the work of the laboratory during the last ten years and stated that he had received letters of commendation from many distinguished men of science, including one from Lord Lister who said that the enterprise would be of immense service to Manchester and its neighbourhood and would bring additional renown to the Victoria University. In his reply Mr. Crossley stated that a large portion of the study and investigation carried on in the laboratory would tend towards the prevention of disease which was better than cure. "The layman's share of the work was to contribute to the funds, not to stint the means of study." The building cost over £6000 and the equipment £700, and this was largely unpaid, so that further sums were required for full equipment. The Vice-Chancellor, Dr. A. Hopkinson, referred to Professor Delépine's long years of work towards the establishment of this laboratory and added that Mr. Crossley had given much larger help than he would allow to be mentioned. The Lord Mayor, in moving a vote of thanks to Mr. Crossley, observed that nearly half of the work of the laboratory had been done for the corporation. Dr. Arthur Ransome seconded the vote of thanks and Professor Calmette of Lille, who spoke in French, humorously urged that if the laboratory were self-supporting it would imply a great prevalence of disease. On behalf of the Pasteur Institute of Lille and of Paris he congratulated Professor Delépine on his work.

"Held by Electricity."

An accident that took place recently at the Burnley electricity station illustrates the dangers always accompanying electrical developments. The staff and members of the electricity committee were witnessing the trial of an electrically driven air-compressor. After running for some little time on a wood floor it was proposed that it should operate on one of the dynamos. As soon as the engine driver put his foot on the metal floor plate he was thrown down. Mr. Birkett, the electrical engineer, ran to his assistance when his hands touched the metal drawbar of the compressor and he too was flung to the ground with great violence. "The whole of the current for tramway traction purposes was passing through the compressor" and Mr. Birkett could not loosen his hold of the drawbar. He got on his knees, received another heavy shock, and became unconscious. An assistant fortunately ran to the switchboard and broke the circuit, also receiving a severe shock, and Mr. Birkett was released. The engine-driver, in the first place, got a severe shock but Mr. Birkett was more seriously hurt. "Holes were burnt through his trousers into the flesh of his legs" and one knee-cap was seriously injured.

Lead in Mossley Water.

Numerous cases of lead poisoning have recently occurred in the borough of Mossley. The chairman of the public health committee recently said that "from what he had been told they in Mossley were receiving the water against which Saddleworth people had so bitterly complained on account of the sickness and lead poisoning it caused." He cautioned householders before using water for domestic purposes to run off a quantity first. This caution, though often repeated, cannot be repeated too often, for haste, carelessness, and idleness cause its frequent neglect. The special liability to contamination by lead of moorland surface water is well known but often forgotten and has to be set against the good from the pure fresh breezes that come from the moorland gathering grounds.

Jan. 31st.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

The General Infirmary at Leeds.

THE statement of admissions and attendances for the year 1904, which will be incorporated with the annual report, shows an increase of work in almost all departments. The number of beds which are always ready for occupation is 395 and it has seldom been the case that more than 10 per cent. of these have been unoccupied. Attached to the infirmary is the Ida Semi-Convalescent Hospital at Cookridge, some four and a half miles from the infirmary. This has 46 beds and is of great service in affording accommodation to patients who, especially after operation, require skilled nursing combined with the benefits of a convalescent home. It is reserved exclusively for patients who have been treated at the infirmary. The total number of patients treated as in-patients during 1904 was 6873, of whom 356 were in the infirmary on Jan. 1st. Of the 6517 admitted 1191 were medical, 4044 were surgical—including 909 accident cases—730 were ophthalmic cases, 219 were aural cases, and 333 were admitted to the gynæcological wards. The average number of patients in the wards was 355. The number of deaths was 477, giving a death-rate of 6·94 per cent., but excluding 123 deaths which occurred within 48 hours of admission the mortality was 5·17 per cent. In the out-patient department close upon 40,000 new patients were attended to. These comprised 12,769 medical cases, 5462 surgical cases, 495 gynæcological cases, 4569 ophthalmic cases, and 1853 aural cases. Among the medical patients, but not included in the above figures, 688 new skin cases and 152 throat cases were separately dealt with by the out-patient physicians. The number of casualties amounted to 10,170. The new semi-convalescent home at Cookridge is approaching completion. This, which is to be called the Arthington Hospital, will, it is expected, be built and equipped entirely out of the fund given by the late Mr. Robert Arthington for the purpose, but its maintenance will involve an extra expenditure of about £2000 per annum. The design and elevation of the new buildings are very similar to those of the Ida Hospital which it adjoins. The two hospitals will, indeed, be practically one and the administration department, kitchens, &c., will be common to both. When the building is completed the infirmary will have at its disposal about 100 beds for patients who are described above as forming the semi-convalescent class.

Hospital for Women and Children.

Largely as the result of the increase in the work consequent on the opening of the new buildings and the institution of the lying-in department, some changes of importance have been arranged in the constitution of the honorary staff of the Hospital for Women and Children. The acting staff consists at present of three honorary surgeons who until a few months ago attended both to women and to children. In March an assistant physician was appointed to see the medical out-patients in the children's department and a new appointment is to be made of an assistant surgeon for children whose work will also be confined to the children's department. In making this new appointment and in filling up either post in the event of any vacancy occurring the electors will doubtless be influenced in their choice by considerations of special knowledge of the medical and surgical diseases of early childhood, for it is not intended that the assistant surgeoncy for children should carry with it any claim for promotion to the full staff on a vacancy occurring. It has also been determined that on a vacancy occurring in the full staff, which at present consists of three, the honorary surgeoncies shall be reduced to two and that an assistant surgeon shall be appointed who will assist the surgeons in their gynæcological and obstetric work and act as their deputy should occasion arise.

Leeds Public Dispensary.

Applications are invited for the post of honorary pathologist. The new officer will be in charge of the clinical laboratory and will have a seat on the faculty of the dispensary and on the board of management. The appointments in connexion with the new dental department have *just been made. As honorary dental surgeons there have* been appointed Mr. J. H. Carter, Mr. W. E. Margetson, Mr. J. E. Greaves, Mr. P. T. Leigh, Mr. W. Marston, and Mr. A. G. G. Plumley. The honorary assistant dental surgeons are Mr. Stephen D. Hey, Mr. James N. Nicol, Mr. Henry Perkin, Mr. Cecil G. Riddett, Mr. David Saville, and Mr. R. Littlewood Young. Mr. F. Sherburn at the end of his 20 years' service as honorary dental surgeon becomes consulting dentist to the institution.

Prosecutions for the Sale of Watered Milk.

The stipendiary magistrate has imposed fines of 40*s.* and costs in two cases and bound the defendant in the third case in the sum of £5 to come up for judgment if called upon and exacted an undertaking from him to abandon the trade. The amount of water in the three cases was respectively 14, 32½, and 11½ per cent.

Poisoning by Coal Gas.

Two cases of poisoning by coal gas are reported from Batley. From the account of the coroner's inquest it appears that the manager of the gasworks and a striker were found dead in the coal storage shed. They were found close to an upright four-inch gas main which connected the two purifiers and was provided with valves where it opened into each. It was not quite clear how the accident happened but it is supposed that the first victim was the striker and that the manager met his death in an attempt to rescue him. The gases which would escape if the valves were opened would be sulphuretted hydrogen, carbonic acid gas, and carbon monoxide. Mr. H. Keighley, who made the necropsies, gave evidence to the effect that death in each case was due to carbon monoxide, the presence of which in the blood was shown by the characteristic spectroscopic appearances.

Jan. 31st.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Cardiff Infirmary.

FIVE years ago the governors of the Cardiff Infirmary inaugurated a scheme for providing necessary permanent additions to the institution, the principle of which lay in the publication of the specific requirements, together with their estimated cost. Several private individuals have subscribed the entire cost of certain of these requirements and altogether no less a sum than £18,000 has been expended. The latest addition to the infirmary is an electrical pavilion, the cost of the structure of which (£2000) has been paid by Mrs. W. H. Martin, and special subscriptions of £500 have defrayed the cost of the furniture and fittings. The pavilion, which was formally opened by Sir William Preece, F.R.S., on Jan. 26th, is a one-storey building placed in a central position on the main corridor of the infirmary. The inside walls are lined with pale olive-green crystopal tiles and the floors are paved, like that of the operating theatre, with terrazzo. The building includes a waiting room, two water-closets, a Finsen lamp room with dressing room, an x ray photographic room, a photographic room for developing, and a room for general electrical treatment. The installation of appliances is very complete, especially as regards x ray apparatus, and also includes a d'Arsonval-Gaiffe high-frequency apparatus which works directly without any interrupter from the town mains, appliances for stereoscopic and localising purposes, a

16-inch induction coil with adjustable primary winding (Dr. Walker's method) with Wehnelt electrolytic interrupter, to be worked from a motor generator giving 65 volts, a Finsen lamp, and a St. Bartholomew's Hospital lamp for ultra-violet rays. The department is in the charge of Dr. William Martin, one of the honorary assistant surgeons, who is himself the inventor of lead glass shields fitting on to focus tubes. He has also made ample provision for the protection of operators and patients from the deleterious effects of the x rays by means of a large lead screen to protect the whole body of the radiographer, a lead box with adjustable diaphragm for screen examinations, and lead glass shields. Colonel Bruce Vaughan, the chairman of the house committee, is very largely responsible for the acquisition of this pavilion.

The Teeth of School Children.

A valuable report has just been issued by Mr. E. Rice Morgan, medical officer to the Swansea education committee, in which he gives the result of an examination which he recently made of the teeth of some of the boys and girls attending five schools in the upper division of the borough. Among 151 boys examined only five, or 3·3 per cent., had no unsound teeth and of the remaining 146 boys each had on an average 3·7 decayed teeth. Among the 144 girls examined there were six, or 4·1 per cent., with all their teeth sound, while the remaining 138 had on an average 3·2 teeth which were unsound. Mr. Morgan is evidently of opinion that dental surgeons might with advantage be appointed to look after the teeth of the school children. He does not, however, advise this for the present but suggests that in the first instance parents and scholars should be supplied with printed rules for the preservation of the teeth of children. In the rules which he has drawn up he points out that sound teeth are necessary for good mastication and that good mastication is requisite for good digestion, that food left on the teeth ferments and becomes acid, thus producing decay, and that the teeth should be cleaned night and morning with a tooth brush and a simple tooth powder.

Carmarthen Asylum.

The committee of visitors of the Joint Counties Asylum at Carmarthen has increased the salary of the medical superintendent (Dr. Edwin Goodall) from £600 to £700 per annum. Dr. Goodall has held his present appointment for nearly 11 years.

Motor-cars for County Officials.

A committee of the Glamorgan county council has recommended the purchase of a 12-horse power motor-car at a cost of £475 for the use of the county surveyor. The salary of the surveyor of the Carmarthen county council has been increased in order that he may use a motor-car for travelling about the county.

Meteorological Records at Bath.

Ever since he was appointed medical officer of health of Bath, eight years ago, Dr. W. H. Symons has devoted a great deal of time to the investigation of the meteorological conditions of the city and at the last meeting of the West of England and South Wales branch of the Incorporated Society of Medical Officers of Health he laid before the members some of the results of his observations. As an illustration of the necessity for checking the records of an earth thermometer he stated that on one occasion he found that a four-foot instrument in one part of the public gardens registered nine degrees above the temperature registered elsewhere and upon investigation he discovered that the waste water from the hot baths was carried off in a culvert a few feet away from where this thermometer had been placed. Dr. Symons is not very sanguine of the possibility of making accurate records of the density of fogs and considers that the fog gauge made of alternate white and black stripes of varying width, though suitable for the very opaque small-grained London fog, is quite useless in the estimation of the coarse-grained fog of the country. He proposes a scale based upon the limit of visibility and for this purpose notes the distance of various objects from the point of observation. For example, if the outline of a hill known to be six miles away can be seen but not beyond he records F 1; if an object three miles distant can only be seen then F 2 is recorded; and if an object one and a half miles distant is only visible then F 3, and so on. He thinks the geological and physiographical conditions have to do with the formation of fog. The very careful meteorological observations made by Dr. Symons, which include the amount of sunshine, the direction and the pressure of the wind, and the amount of evaporation going on, ought to be appreciated to the full in a town the popularity of which is dependent upon physical conditions.

Bath Eastern Dispensary.

The annual report of the Bath Eastern Dispensary, an institution which was established in 1832, states that 2724 visits were made to patients during 1904 and that the expenditure of the dispensary was £655, causing a deficit on the year's working of £52.

Plymouth Workhouse Infirmary.

At the meeting of the Plymouth board of guardians held on Jan. 26th a long discussion took place concerning the proposed scheme for providing a new infirmary at an estimated cost of £56,000. Eventually it was decided that only women's general wards should be erected to accommodate 104 patients at a cost of £9450.

Jan. 30th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

The Majority of the Students' Representative Council of the University of Edinburgh.

THE Students' Representative Council of the University of Edinburgh has attained its majority and, as was suitable at such an important date, it has been marked by special proceedings. On Friday night the students held a torchlight procession through the city which passed off successfully and was witnessed by many thousands of spectators. On Saturday night a dinner was held in the University union under the chairmanship of the senior president of the council, Mr. H. V. Rabagliati. The company numbered about 130 and included various distinguished persons and not a few of those who had taken an active part in the establishment of the council over 20 years ago. The Solicitor-General for Scotland, Mr. Dundas, K.C., who has just been raised to the Scottish bench, proposed the toast of the evening and dealt with the history of the formation and the work of the Students' Representative Council. The chairman responded to the toast and urged upon students to take more interest in the council as being the centre of University life. The Lord Advocate proposed the toast of "Alma Mater" and Principal Sir William Turner replied.

Researches into the Etiology of Carcinoma.

An interesting paper by Dr. W. Ford Robertson and Mr. H. Wade on plasmodiophora in cancer appeared in THE LANCET last week. During the week Dr. Robertson invited a number of his friends to a private demonstration of sections and cultures which was largely taken advantage of and much appreciated. On Thursday evening the work was submitted to the Edinburgh Pathological Club where it was fully discussed. This work is such a definitely new departure on previous methods that more will no doubt be heard of it.

Jan. 30th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Dispensary Medical Officers and the Local Government Board.

THE important case of Keelan *v.* the Local Government Board (which was reported in THE LANCET of Dec. 17th, 1904, p. 1757, and in which the legal right of the Board to amalgamate Collon No. 1 and Drumcondra dispensary districts (Co. Louth) with Collon No. 2 and Dunleer districts was contested at the instance of Mr. M. Keelan and Mr. M. Caraher) was reopened on Jan. 30th in the Court of Appeal before the Lord Chancellor, Lord Justice Fitzgibbon, Lord Justice Walker, and Lord Justice Holmes. It will be remembered that the Court of King's Bench refused to set aside the order of the Local Government Board by which one dispensary district was entirely done away with. The importance of the appeal is due to the fact that it is really a conflict between the Irish Medical Association and the Local Government Board and the Board's view of its gravity is shown by its having briefed for each trial both the Attorney-General and the Solicitor-General in addition to its own counsel. The case is now being heard.

Appointment of Coroner for Belfast

At a special meeting of the city corporation of Belfast held on Jan 30th Dr James Graham was appointed city coroner of Belfast at a salary of £650 per annum It would appear that the Act of Parliament lays down that the coroner shall be paid by fees but to get over this it has been arranged that all fees received on account of the office over and above the sum of £650 shall be refunded to the corporation

Purdysburn Infectious Diseases Hospital

A number of years ago contrary to the views of the medical profession in Belfast, the city corporation decided to build an infectious diseases hospital at Purdysburn, about *three miles from the city and close to the new asylum* Apparently the corporation never considered the question of the drainage of either institution and quite recently it was discovered by the appearance of pipes on the roads that it is now proposed to convey the sewage of both the infectious diseases hospital and of the asylum directly into the city sewerage system and to bring it right through the main drains of the city Naturally this has aroused great opposition and a deputation of ratepayers who waited on the public health committee were assured that there was no danger as the sewage would be disinfected This statement, however, has only stimulated the ratepayers to still more determination and at a meeting held on Jan 30th it was decided to send a deputation to the city council in reference to the matter Those who object to this new departure on the part of the city fathers say 1 Why are patients with infectious disease taken away to a hospital right out of the city and then their dejecta brought back again into the city? 2 The scheme will cost £6000, for the pipes have to be brought at least a mile to join the main city sewers and a pumping station will have to be established and there will be an annual up keep 3 In exceptional periods when parts of the city are flooded it was proved that objectionable matter was as a result deposited, a state of matters much more serious in the case of sewage coming from an infectious diseases hospital 4 That it is unwise to depend on a few workmen for the disinfection of sewage coming through the city from an infectious diseases hospital The question at issue is whether there is any plan of disinfection of the sewage which will be sufficient, the public health committee says that there is but it has not yet stated what method it proposes to adopt Apart from everything else it shows wonderful want of forethought that the committee should not have arranged *definitely as regards the disposal of the sewage* from a large infectious diseases hospital before undertaking the erection of such an institution

The New City Hall, Belfast

Great uneasiness prevails in Belfast as to the total absence of business capacity now shown by the corporation owing to the extraordinary revelations made public last week at an inquiry held by the engineering inspector (Mr P C Cowan) of the Local Government Board regarding a further loan for the new city hall The original contract was £150,000, £300 000 have been already expended *and now, after the lapse of seven years, more money* is wanted for furnishing As Mr Cowan (who commented very severely on the matter) could get nothing but loose figures and estimates on the part of the committee of the corporation as to what the ultimate cost of the building would be, he adjourned the inquiry to March when he will require a clear definite and final statement of the total cost of this wasteful piece of corporate expenditure It is no wonder that so little progress is being made in public health reform in Belfast when it came out at this inquiry that £8000 were to be squandered in the furnishing of the main council room in this ' House of Lords (as Mr Cowan the inspector, called it in contempt) with chairs reckoned to cost £50 each for the city fathers

Jan 31st

BERLIN

(FROM OUR OWN CORRESPONDENT)

Alleged Communication of Syphilis to a Horse

AT a recent meeting of the Berlin Medical Society Dr Piorkowsky showed a horse to which he had given an intravenous *injection of blood serum obtained from patients* suffering from syphilis in different stages The injection was made into the jugular vein and several weeks afterwards a papular eruption appeared on the neck and the breast of the horse together with a swelling of the glands The interval between the injection and the appearance of the eruption corresponded to that elapsing in the human subject between primary infection and the development of secondary symptoms Dr Piorkowsky was of opinion that the eruption was syphilis In the ensuing discussion Professor Lassar adopted this view on the ground of the microscopical examination of the eruption, which, he said, presented features very similar to those observed in syphilis Dr Aronson, however, stated that eruptions having the characteristics in question were often observed in horses after the *injection either of albuminous substances or of extracts of* bacteria and that they had nothing to do with syphilis Dr Benda, Dr Hoffmann, and Professor Brieger opposed Dr Piorkowsky s views on anatomical grounds The general opinion of the meeting was that the communication of syphilis to the horse was not proved by Dr Piorkowsky's experiments and that no inferences as to the production of an antitoxin for the treatment of syphilis could be founded on them

Jan 28th

CANADA

(FROM OUR OWN CORRESPONDENT)

A New Bacteriological and Pathological Laboratory

Dr George Charlton of Montreal has been appointed by the Government of the North West Territories of Canada to [illegible] of cattle and horses, as the [illegible] siderable loss from a disease known as swamp fever which is rapidly fatal to horses The College of Physicians and Surgeons of the North West Territories will also benefit by the establishment of the new laboratory, as Dr Charlton will conduct investigations there in regard to epidemics of diphtheria and typhoid fever Dr Charlton has recently returned from Europe where he has been working in various laboratories since his connexion with the pathological department of McGill University some few years ago

Montreal Hospital damaged by Fire

Montreal s fine hospital the Royal Victoria was damaged by fire to the extent of $30 000 early on the morning of Jan 14th No patients were removed from the wards but everything was in readiness for such an emergency The governors have received a cable from Lord Strathcona, Canadian High Commissioner in England, that he will bear all the cost of restoring the burned portion of the building The report of this institution for November, 1904, shows that 245 patients were admitted during that month, that 229 were discharged and that 11 died In the outdoor departments there were 764 medical cases 407 surgical 467 ophthalmological 76 gynæcological, and 374 laryngological, making a total of 2088

Notre Dame Hospital, Montreal

At the annual meeting of the board of governors of Notre Dame Hospital Montreal, which was held in December last, it was shown by the annual report that during the last official hospital year the number of patients admitted into the institution reached a total of 2226, of whom 1313 were men and 913 were women Of the indoor patients 1919 were discharged recovered or improved, 166 left the hospital unimproved or recognised incurables while 156 died in the hospital The average stay of each patient in the hospital was 18 days In the outdoor services [illegible] given In the pharmacy 26 000 [illegible] The ambulance made 1437 c[illegible] hospital $1 09 per day The total expenditure amounted to $43 824 63 and the total receipts to $41 742 05, thus leaving a deficit of over $2000 The new contagious diseases hospital in connexion [illegible] good progress and will be ready [illegible] this year It will have accommo- [illegible] will be modern in every respect

Annual Report of the Montreal League for the Prevention of Tuberculosis

The Montreal League for the Prevention of Tuberculosis has been at work now for upwards of 18 months, the reports of the first cases of consumption being received on June 1st, 1903. Reporting of cases of consumption to the league is, of course, optional, the object being to educate and to instruct those afflicted as to the regular ordering of their daily lives. Where the cases are advanced, where destitute and neglected, they are sent to the home for incurables; in incipient cases an effort is made to send the patients to the country but lack of financial support has somewhat crippled the league in its work. An interesting and important investigation has been made by the league in connexion with the deaths from meningitis in children reported to the city health department. In 1903 there were 248 deaths among children under five years of age from meningitis in Montreal. In almost every case investigation established the fact that in the homes of the patients there was living someone with consumption and the records at the health office showed that fully 90 per cent. of these deaths were tuberculous. During the 18 months of the existence of the league 300 cases have been reported to it, the youngest being five and the oldest 70 years of age. Of the 300 cases information has been received of the death of 136. Of this number 85 were between the ages of 16 and 36 years. The work of the inspector of the league up to the issue of the report was as follows: visits made to different cases, 1667; 9000 cuspidors distributed; a large quantity of pamphlets distributed; 500 houses disinfected; and 3000 wall cards placed in 326 public and private institutions for the instruction of the inmates.

Jan. 21st.

Obituary.

AMBROSE BIRMINGHAM, M.D. R.U.I., F.R.C.S. IREL.,

PROFESSOR OF ANATOMY IN THE CATHOLIC UNIVERSITY MEDICAL SCHOOL, DUBLIN.

Professor Ambrose Birmingham died in Dublin on Jan. 23rd at the untimely age of 41 years, after an illness which he bore with cheerfulness and, indeed, with heroism. He was born in the West of Ireland and belonged to a family in which no less than five brothers became members of the medical profession. His early education was received at St. Vincent's College, Castleknock, and his professional studies were pursued at the Catholic University Medical School in Dublin. He took the diploma of L.R.C.P. Irel. in 1885 and having also become an undergraduate of the Royal University of Ireland he graduated there as M.B. in 1887 with the additional distinction of obtaining first honours and an exhibition. In 1892 he proceeded to the degree of M.D. in his university and in 1897 he was admitted F.R.C.S. Irel. At an early period in his career he was appointed demonstrator of anatomy at the medical school of the Catholic University, and then assistant to Dr. (now Sir) Christopher Nixon who has the merit of having been the first to recognise his special ability. In 1888, when Sir Christopher Nixon on the death of the late Dr. Lyons accepted the chair of practice of medicine, Dr. Birmingham was appointed professor of anatomy and registrar to the medical school and made a visit to the University of Edinburgh. On his return to Dublin he became a Fellow of the Royal University of Ireland and proceeded to devote all his ability and energy to his special subject and to the welfare of his medical school. In a short time he developed an extraordinary aptitude for organisation and business and with his clever lectures the number of students quickly increased from 100 to the 300 who marched three deep in his funeral procession on Jan. 26th. Yet with all this work on his hands he found time to devote to investigation and to the purely scientific side of his profession. A long list of his original papers and communications is to be found in the Medical Directory under his name. Perhaps the most important of these was his contribution to the "Textbook of Anatomy" by his friend Professor D. J. Cunningham, to which he supplied the article on the Abdomen. Moreover, his paper on Cranio-cerebral Topography with Special Reference to the Mastoid Region of the Skull is of permanent practical value. For many years Professor Birmingham had suffered from colour blindness. About two years ago the continuous strain of his many undertakings proved too much and though he was partially restored by rest and a tour on the Continent he was never again the same man. His health unhappily broke down just as he was doubtless about to obtain the distinctions to which his brilliant and arduous work entitled him. Professor Birmingham was always modest and unaffected; he was universally esteemed by his colleagues, while he was justly admired and almost venerated by the crowds of pupils whom he taught so successfully and to whose advancement he really sacrificed his valuable life.

At the Catholic University School of Medicine, the Dean of the Medical Faculty (Sir Christopher Nixon), in addressing the professors and students, said: "I have never had to undertake so painful a duty as that which falls to my lot to-day in referring to the death, in the prime of life, of my former pupil, colleague, and devoted friend, Professor Birmingham. In the full vigour of a brilliant and well-trained mind, after passing the period of storm and stress through which all scientific workers must pass, as through a fiery ordeal, when all that brings fame and fortune is almost within one's grasp, 'death breaks the vital chain,' and robs both him and us of the fruits for which the seed had been so industriously sown. The whole thing is unutterably sad, too sad, indeed, for empty expressions of regret. Just 18 years ago Professor Birmingham succeeded me as professor of anatomy, and from that time up to the present he held a dual position in the school. He was responsible for the working of the anatomical department, and as registrar upon him devolved the organisation of the school as a whole, the several details of its financial arrangements, and in many respects the work for which I, as dean, am nominally responsible. In every phase of his work he was brilliantly successful and amidst all his labours he found time, with those elements of genius with which he was richly endowed, to make for himself a name distinguished amongst the ablest men of his own special science as a man of original powers of observation and research. If I might in a brief way analyse Birmingham's splendid abilities I would do so under three heads—as a teacher, as an original observer, and in reference to those qualities which made his personality so attractive to all who knew him. As a teacher he was the nearest approach to the ideal that I have had experience of. With the most thorough knowledge and grasp of his subject he possessed the rare gift of making it transparently clear, and by a bright and vivid description invested it with such interest as to excite the rapt and sustained attention of his class."

GEOFFREY HETT, M.D. EDIN., M.R.C.S. ENG.

THE death of Dr. Geoffrey Hett of 41, Westbourne-park-road, which occurred on Jan. 25th, in his sixty-first year, came as an unexpected blow to his friends. Born in Lincolnshire, he was educated at Merchant Taylors' School, then at King's College and the University of Edinburgh. After serving as house surgeon successively to the Lincoln dispensary and hospital he settled in London and spent most of his life as a Bayswater practitioner. In his early days he did good service as honorary secretary of the Royal Medical Benevolent College. He was also a contributor on medical subjects to the *Saturday Review*, under the editorship of his friend Mr. Walter Pollock, and had a special practice among literary men of that set. For the greater part of his life he was one of the officers of the Westbourne Provident Dispensary, the subscribers to which experienced his unfailing kindness and care not less than his better-class patients. Dr. Hett was a remarkably active man who, having turned 60 without a grey hair, still kept up his rowing and swimming. In youth he had been an energetic football player; in later days he would spend a holiday in walking to Brighton and to the last he made one of the small band of winter bathers in the Serpentine. His sudden death from heart failure was, therefore, a most painful shock to his family, with whose sorrow many will sympathise. One who has known him intimately for the greater part of his life writes that he cannot remember his ever saying a harsh or unkind word and few who came in contact with him could fail to be impressed by a singularly genial, unselfish, and serene nature. The first part of the burial office was said at St. Mary Magdalene's Church, Paddington, by the vicar, the Rev. W. H. Bleaden, a large congregation being present. The committal portion of the service was taken by the Rev. James Dixon, vicar of Willesden, an old friend and a former member of the dispensary committee. Dr. Hett leaves a widow, one daughter, and three sons, the eldest *of whom is a member of the medical profession*

DEATHS OF EMINENT FOREIGN MEDICAL MEN — The deaths of the following eminent foreign medical men are announced —Dr Guido Bodlander of Brunswick, who was formerly assistant to Professor Binz, the Bonn professor of pharmacology —Dr I M Lvoff, *privat docent* of midwifery and gynæcology in the University of Kazan

Medical News.

UNIVERSITY OF OXFORD. — Scholarships in Natural Science are offered for competition on March 14th at Keble College and on May 2nd at Merton College and New College —At a meeting of the Hebdomadal Council held on Jan 23rd it was resolved that the hearty thanks of the University be accorded to Mr Edward Whitley B A Trinity College, for his generous and timely gift of £1000 towards the permanent endowment of the chair of pathology —The Vice-Chancellor has published a letter received from Sir William Selby Church, Bart, K C B, D M, D Sc Oxon P R C P Lond, informing him of a meeting of medical graduates held in London on Dec 20th, 1904, at which it was determined—

> That, with a view to show the strong feeling that the medical [illegible] promoting the study and teaching [illegible] the purpose of assisting in this [illegible] be the establishment and endow [illegible]

RURAL MIDWIVES' ASSOCIATION —A very well attended meeting under the auspices of the Rural Midwives *Association was held at 50 Albemarle street London* W (by kind permission of Mrs Murray) on Jan 25th Lord Edmund Talbot presided and among those present were Sir Michael Foster, Dr T Savage Dr A Bostock Hill (Warwick county council), Dr R Boxall, and Dr J Middleton Martin (medical officer of health of Gloucester) Mrs Heywood Johnstone explained that the meeting had been called to discuss the best means of carrying out the *Midwives Act in rural places and the especial difficulties in sparsely inhabited districts where even amongst the educated* classes much ignorance still remained as to the necessity for the Act and the rules laid down by the Central Midwives Board The object of this legislation might be summed up in the words ' the stamping out of puerperal fever, and it also aimed at the better nursing of the mother and child The discussion to follow would embrace the following points 1 The authorities appointed to carry out the Act 2 Inspectors 3 Inspection Besides inspecting the appliances of the nurses and their dwellings, where possible the nurses should be inspected at their work in the cottages 4 Disinfection 5 The best type of midwife for rural districts 6 Combination with nursing associations 7 Midwives acting independently 8 Financial aspects 9 Further difficulties, among which were the impossibility of a trained midwife living on her earnings and the difficulty of getting uneducated women of the servant class to assimilate theory and to be conscientious in their work Dr Boxall said that the Central Midwives Board had *expressed the opinion that a supervising* authority should make arrangements for the inspection of midwives and this would be best carried out by a local authority On this point Dr Savage representing the Warwick county council, said that they had put the [illegible] the crux of the whole question if deterioration in the work of the midwives was to be prevented Dr Boxall pointed out the supreme importance of adequate disinfection In the lying in hospital with which he was connected owing to the precautionary measures adopted out of 8837 cases treated since 1887 not one had died who had been under their care from the outset Sir Michael Foster gave it as his opinion that the best type of midwife was the woman who had practical knowledge of the class to which she was to give assistance She must be trustworthy and a person who would be accepted by the poor The *following propositions were put before the meeting —*

> 1 That a committee appointed by the county council would be the best authority to carry out the Act
>
> 2 That inspection would be best carried out by or under the supervision of, a county medical officer of health or a fully trained nurse midwife under medical supervision and not connected with local nursing associations
>
> 3 That the best form of rural midwife is a woman with an intimate and practical knowledge of the life of the working class

A vote of thanks to Mrs Murray for lending her house for the meeting and to Lord Edmund Talbot for presiding having been passed unanimously the proceedings terminated

LITERARY INTELLIGENCE —The copyright of that useful and popular handbook "Half Hours with the Microscope' by Dr Edwin Lankester, formerly published by Messrs W H Allen and Co has been acquired by Messrs C Arthur Pearson Limited, who have also purchased the companion volume by Thomas Davies, on the ' Preparation and Mounting of Microscopic Objects ' The latter has been out of print for some time but a new and cheaper edition will be published very shortly

LIVERPOOL MEDICAL INSTITUTION — At the annual meeting held on Jan 12th the following list of office bearers and members of council was adopted President Dr James Barr Vice Presidents Dr J R Logan, Dr J. Wiglesworth Dr J H Abram, and Dr George C Walker. Treasurer Mr T H Bickerton General secretary Mr F Charles Larkin Secretary of ordinary meetings Mr R W Murray Secretary of pathological meetings Dr W B Warrington Librarian Mr W Fingland Editor of the journal Dr F H Barendt Council Dr A G Gullan, Dr John Hay Dr David Morgan Mr K W Monsarrat Mr Rushton Parker, Dr F Stevenson, Mr R C Dun Dr R Thacker King Dr John Masson, Dr W McClelland Dr S J Palmer, and Mr James Taylor Auditors Dr Logan and Dr J Tawse Nisbet General committee Dr Barr Mr Larkin Mr Bickerton Dr Logan Mr Murray Dr Palmer, and Mr Rushton Parker Library committee Dr Abram Dr Hay, Mr Dun, Dr Barendt and Mr Monsarrat

DONATIONS AND BEQUESTS —The committee of the Infants Hospital has received from the trustee of the *Jessie Alice Palmer Charitable Fund the sum of £500 to* endow a cot in memory of the late Jessie Alice Palmer — Mr Alfred Stephens formerly a police officer in Hampshire, who died aged 84 years, a fortnight ago at Newport, Isle of Wight has left £2000 to the Royal County Hospital, Ryde and £1500 to the National Consumption Hospital, Ventnor —Mr James Hamilton who died on Jan 1st at Paisley, has bequeathed to the Paisley Alexandra Infirmary £300, to the Scottish National Institution for Imbecile *Children Larbert £200*, and to the Paisley Eye Infirmary, the Poor Associations Society for Treatment of Incurable Diseases and the Paisley Convalescent Home £100 each — By the will of Mrs Elizabeth Broughton Ripley £500 each have been bequeathed to the Leeds Dispensary and Leeds Infirmary and Leeds Hospital for Women and Children — Mr Edward Nixon has by will bequeathed to the Royal Hospital for Incurables and the Sussex County Hospital at Brighton £500 each —By the will of Mr John Lightfoot Newall, of Ongar Essex, estate of the gross value of *£58 083 4s 6d has been left*, of which the net personalty has been sworn at £19 333 17*s* 10*d* Subject to certain conditions and trusts, he left the residue of his son s share of his estate as to one fifth each to the Royal Northern Hospital at Liverpool the Royal Southern Hospital at Liverpool the Royal Infirmary at Liverpool, the Bluecoat Hospital at Liverpool, and the School for the Blind at Liverpool absolutely —Mr Charles Lea of Northampton has by will bequeathed £1000 to the Northern General Hospital Liverpool, for the endowment of a bed

BOOKS, ETC , RECEIVED

ADLARD AND SON Bartholomew-close E C

The British Journal of Children s Diseases Edited by George Carpenter M D Vol I Price cloth 15s net

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, W.C.

A Dictionary of New Medical Terms. Including upwards of 38,000 words and many useful tables, being a Supplement to "An Illustrated Dictionary of Medicine, Biology, and Allied Sciences." By George M. Gould, A.M., M.D., Editor of "American Medicine." Based upon Recent Scientific Literature. Price 21s. net.

Cancer and its Treatment. Being the Bradshaw Lecture, delivered before the Royal College of Surgeons of England on Dec. 1st, 1904, by A. W. Mayo Robson, D.Sc., F.R.C.S. Eng., Senior Vice-President of the College. Published by Request of the Council of the Royal College of Surgeons of England. Price 3s. 6*d*. net.

CHURCHILL, J. AND A., 7, Great Marlborough-street, W.

A German-English Dictionary of Terms Used in Medicine and the Allied Sciences. By the late Hugo Lang, B.A. Edited and completed by Bertram Abrahams, M.B., B.Sc., F.R.C.P., Assistant-Physician, Westminster Hospital, Sub-Dean and Lecturer in Physiology, Westminster Hospital Medical School. Price 15s. net.

St. Thomas's Hospital Reports. [New series. Edited by [Dr. H. P. Hawkins and Mr. W. H. Battle. Vol. XXXII. Price 8s. 6*d*. net.

J. B. LIPPINCOTT COMPANY, Philadelphia and London.

The Diseases of Society (The Vice and Crime Problem). By G. Frank Lydston, M.D., Professor of Genito-Urinary Surgery, State University of Illinois; Professor of Criminal Anthropology, Chicago-Kent College of Law. Price 15s. net.

MACMILLAN COMPANY, New York. (MACMILLAN AND CO., LIMITED, *London.)*

A Laboratory Guide in Elementary Bacteriology. By William Dodge Frost, Ph.D., Assistant Professor of Bacteriology, University of Wisconsin. Third revised edition. Price 7s. net.

MACLEHOSE AND SONS, JAMES, Publishers to the University, Glasgow.

Museums: Their History and their Use. With a Bibliography and List of Museums in the United Kingdom. By David Murray, LL.D., F.S.A. Three volumes. Price 32s. net.

SKEFFINGTON AND SON, 34, Southampton-street, Strand, W.C.

Religion and Health: their Mutual Relationship and Influence. By Norman Porritt, M.R.C.S., L.R.C.P., F.N.S.A., Consulting Surgeon, Huddersfield Infirmary. Price 3s. 6*d*.

STUBER, A. (C. KABITZSCH), Würzburg.

Die Histologischen Untersuchungsmethoden des Nervensystems. Von Dr. P. G. Bayon, Assistent an der Psychiatrischen Klinik zu Würzburg. Price M.3.60.

THE SCOTTISH MEDICAL AND SURGICAL JOURNAL, LIMITED, Edinburgh.

The Scottish Medical and Surgical Journal. Edited by Norman Walker, M.D., F.R.C.P., and Harold J. Stiles, M.B., F.R.C.S. Volume XV. (July to December). Price not stated.

TIP. EDIT. A. TOCCO & SALVIETTI, Via Nilo, 34, p. p. nobile, Napoli.

Istituto di Anatomia Patalogica della R. Università di Napoli, Diretto dal Prof. O. von Schrón. L'Influenza dei Piccoli Traumi sulla Localizzazione della Tuberculosi. Ricerche Sperimentali del Dr. Edoardo Salvia, Docente di Chirurgia, Prof. Incaricarto di Pediatria Chirurgica all'Università. (Pubblicato nel "Policlinico," Sezione Chirurgica, 1904—Anno XI.—fasc. 7 ed 8.) Price not stated.

TIPOLITOGRAFIA "LA INDUSTRIA," Linares Rivas, 11 y 13, Gijón, Spain.
LIBRERIA DE D. MANUEL MANSO, Corrida, 20, Gijón.

Higiene Popular. Contribucion al Estudio de la Higiene de los Trabajadores y Enfermedades de los Jornaleros. Por Ambrosio Rodríguez y Rodríguez, Doctor en Medicina y Cirurgía. Price 8 Pesetas.

VIGOT FRÈRES, 23, Place de l'École-de-Médecine, Paris.

L'Anesthésie Locale pour l'Extraction des Dents. Par le Docteur Sauvez, Dentiste des Hôpitaux, Professeur à l'Ecole Dentaire de Paris. Préface de M. le Professeur Reclus. Price Fr. 4.

Traitement des Hémorragies Puerperales. Par le Dr. G. Keim, Ancien Interne des Hôpitaux de Paris et des Maternités de l'Hôtel-Dieu, Saint-Antoine et Lariboisière, Ancien Préparateur des Cours d'Accouchements à la Faculté de Médecine. Price Fr. 3.50.

Les Méthodes de Rééducation en Thérapeutique. (Rééducation Psychique, Motrice, Sensorielle et Organique.) Par le Docteur Contet. Price Fr. 3.50.

WILSON, EFFINGHAM, Threadneedle-street, E.C.

A Magisterial Handbook: being a Concise Outline of the Everyday Functions of Magistrates with Tables of Offences and Matters Cognisable by them. By W. H. Foyster, Solicitor and Notary, Clerk to the Justices of Salford. Price 2s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ANDERSON, LOUISA GARRETT, M.D., B.S. Lond., has been appointed Assistant Out-patient Surgeon to the New Hospital for Women, London.

BIRMINGHAM, C. L., M.D. R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Westport District of the county of Mayo.

BORROWMAN, PHILIP, M.D. Edin., has been appointed a Medical Referee under the Workmen's Compensation Acts, 1897 and 1900, and to act for the Central District of the Sheriffdom of Perth.

BROWN, A. CARNARVON, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Casualty Officer and House Surgeon to the North-Eastern Hospital for Children, Hackney-road.

CRAIG, GEORGE, M.B. Edin., has been appointed Public Vaccinator for the District of Ohinemuri.

CUNNING, JOSEPH, M.B., B.S. Melb., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Royal Free Hospital, London.

FENNELL, CHARLES H., M.A., M.D. Oxon., M.R.C.P. Lond., has been appointed Senior Assistant Medical Officer to the East Sussex County Asylum, Hellingly.

FERGUSON, WILLIAM, M.D., has been appointed a Medical Referee under the Workmen's Compensation Acts, 1897 and 1900, and to act for the District of Banff, in the Sheriffdom of Aberdeen, Kincardine, and Banff.

FFROST, A. F., M.B., Ch.B. Melb., has been appointed Official Visitor to the Reception House at Townsville, Melbourne, Australia.

FRASER, JOHN H. P., B.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Physician to the Royal South Hants and Southampton Hospital.

GRIFFITHS, T. R., L.R.C.P. Edin., L.R.C.S. Edin., L.F.P S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Kidwelly District of the county of Carmarthen.

HAMILTON, C. W., M.D. Dub., has been appointed Honorary Laryngologist to the Consumptive Sanatorium, Belair, South Australia.

HAMILTON, T. K., M.D. Dub., F.R.C.S. Irel., has been appointed Honorary Laryngologist to the Consumptive Sanatorium, Belair, South Australia.

HOPKINS, G. H., F.R.C.S. Eng., has been been appointed Honorary *Visiting Surgeon, Brisbane Hospital, Queensland, Australia.*

JACKMAN, JAMES JOSEPH HAYES, F.R.C.S.I., has been appointed a Medical Referee under the Workmen's Compensation Acts, 1897 and 1900, and to act for the City and County of Waterford.

LENNANE, G. Q., F.R.C.S., L.R.C.P., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

MACLENNAN, ALEX., M.B., C.M. Glasg., has been appointed Dispensary Surgeon, Western Infirmary, Glasgow.

MOORE, THOMAS CHARLES, M.B., Ch.B. Dub., has been appointed Public Vaccinator for the District of Napier, New Zealand.

ORR, A. W., M.D. Dub., L.K.Q.C.P., has been appointed Honorary Assistant Surgeon to the Eye, Ear, Nose, and Throat Department, Brisbane Hospital, Queensland, Australia.

PARSONS, J. HERBERT, B.S., D.Sc. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Royal London (Moorfields) Ophthalmic Hospital.

REISSMANN, CHARLES HENRY, M.D. Cantab., M.R.C.P. Lond., has been appointed Honorary Assistant Physician to the Consumptive Department, Adelaide Hospital, South Australia.

RUSSELL, HERBERT HENRY ERNEST, L.R.C.S., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Honorary Assistant Bacteriologist, Adelaide Hospital, South Australia.

RYAN, J. F., L.R.C.P. Edin., L.R.C.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Loughrea District of the County of Galway.

SHONE, WILLIAM VERNON, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Public Vaccinator for the District of Christchurch, New Zealand.

STURROCK, PETER STURROCK, M.B., B.C. Cantab., has been appointed a Medical Referee under the Workmen's Compensation Acts, 1897 and 1900, and to act for the Dunfermline and Kinross District in the Sheriffdom of Fife and Kinross.

THURSFIELD, HUGH, M.D., M.R.C.P. Lond., has been appointed Assistant Physician to the Hospital for Sick Children, Great Ormond-street.

WALKER, EDWARD, M.D. Edin., M.R.C.S., has been appointed Honorary Physician to the Huddersfield Infirmary.

WHITE, GEORGE VINCENT, M.B., B.S. Melb., has been appointed Acting Health Officer at Thursday Island, Queensland, Australia, Surgeon of the Prison at that place, Medical Superintendent of the Quarantine Station at Friday Island, and Medical Officer for lepers detained in the lazaret at Friday Island, *pro tem*

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (*see Index*).

BARNSLEY, YORKSHIRE, BECK [illegible] se Surgeon Salary £100, with board,

BRADFORD POOR LAW UNIO [illegible] —Resident Assistant Medical Office [illegible] th rations, apartments, and washing.

BRISTOL ROYAL INFIRMARY.—Resident Obstetric Officer. Salary £75 per annum, with board, lodging, and washing.

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Physician to Out-patients.

COUNTY OF LONDON, LONDON COUNTY COUNCIL.—Medical Officer to employees in District No. 4.

EDINBURGH, CRAIG-LEITH POORHOUSE AND HOSPITAL.—Resident Medical Officer. Salary at rate of £100 per annum, with board and apartments.

EGYPTIAN GOVERNMENT (MINISTRY OF PUBLIC INSTRUCTION).—Professor of Pathology and Bacteriology at the School of Medicine, Cairo. Salary £800 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Physician to Out-patients.

GROVE HALL ASYLUM, Bow, London, E—Assistant Medical Officer. Salary at rate of £150 per annum, with board, apartments, attend- [illegible]

[illegible] AND EYE HOSPITAL.—Assistant House Surgeon for six months [illegible]

HOSPITAL FOR SICK CHILDREN, Great Ormond street, London, W.C.—House Physician, unmarried, for six months. Salary £20, with board and residence.

[illegible] n, unmarried. [illegible] of Anatomy, [illegible] sistant Surgeon [illegible]

MEDICAL DEPARTMENT OF THE NAVY, Victoria-street, S W.—Three Dental Surgeons Salary £1 per diem and (when necessary) travelling expenses

NAPSBURY ASYLUM, near St Albans, Herts —First Assistant Medical Officer, salary £300 per annum; Second Assistant Medical Officer, salary £220 per annum, and Third Assistant Medical Officer, [illegible] —House [illegible] tor and [illegible] asualty [illegible] attendance

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £50 per annum, with board and lodging

SOCIETY OF APOTHECARIES OF LONDON —Gillson Scholarship in Pathology. Value £90

TEIGNMOUTH HOSPITAL, S Devon —House Surgeon Salary £70 a year, with board, lodging, and washing.

WELLS, SOMERSET AND BATH LUNATIC ASYLUM —Medical Superintendent Salary £600 per annum with house and allowances

WESTMINSTER GENERAL DISPENSARY.—Honorary Surgeon.

THE [illegible]

THE Chief Inspector of Factories gives notice of vacancies as Certifying Surgeon under the Factory and Workshop Act at Chertsey in the County of Surrey, at Knottingley in the County of York, at Pangbourne and Whitchurch in the Counties of Berks and Oxford, and at Littleport in the County of Cambridge.

Births, Marriages, and Deaths.

BIRTHS.

LAY —*On Jan 29th, at Peasenhall, Suffolk, the wife of Charles E Lay*, L R C P, L R C S, L M, of a daughter.

WHEATON —On Jan. 30th, at 10, Rastell avenue, Streatham hill, S W, the wife of S Walton Wheaton, M D Lond, M R C P, D P H, of twin daughters

MARRIAGES.

BEATTON—CALLAS —On the 25th Jan, 1905, at Greyfriars Church, Reading, by the Rev S H Soole, Vicar, assisted by the Rev Bathurst Soole, Gilbert T Beatton, Esq, M D, The Cliffe, Bradford, Yorks, to Ada Elizabeth (Dolly), youngest daughter of Alfred Callas, Esq, of Lexden, Bath road, Reading At home, The [illegible]

SPRIGGE [illegible]

DEATHS.

BOTHAMLEY.—On Jan 23rd, at 14, Balham hill, S.W., aged 51, William Parkinson Bothamley, M R C.S, L.S A.

LING —On Feb 1st, Maurice Edward Ling, M D, of Harley House [illegible]

[illegible] Bognor, Louie, wife of John Young, [illegible] *at Putney Vale Cemetery 1 30 on* [illegible]

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

SWEDENBORG'S ACCOUNT OF THE VERMIFORM APPENDIX.

A CORRESPONDENT writes to us as follows "As diseases of the appendix are occupying a good deal of attention in the medical and scientific world it might be of interest to some of your readers to hear what Swedenborg wrote about this in his 'Animal Kingdom,' published *in 1744 Swedenborg says that the appendix opens its* pores and expands its cavity synchronously with the cæcum and pours into the cæcum and colon a liquid adapted for lubricating the wavy folds of the colon and particularly for macerating the fæces. In support of these views he quotes various anatomical authorities in a very long footnote, of which the following is part —

> 'For if the intestines do not pour forth fluid at all, but only absorb it, then in this case, without a fresh spring, they would soon dry up, and the food, which in these intestines is a heavy, tenacious, and fetid mass, would collect and harden, to the entire destruction of life To avoid these consequences, is apparently the purpose of the vermiform appendix, which continually pours a humor, *adapted for performing this last office into the beginning* of the large intestines The structure of the appendix, and many experimental observations made upon it, bear out this view. "Its internal coat," says Winslow, "is plentifully furnished with follicles, and it is likewise reticular, the meshes being the glandular lacunæ, which continually discharge a fluid into its cavity' And Wepfer says: "In the appendix I found a white, turbid mucus when this was wiped off, the whole of the internal surface appeared to be covered with little foramina, from which, on squeezing the appendix, a white, turbid liquid issued, and it was plain that the whole appendix was *of a tubular composition" Morgagni also holds the* same opinion, because, when the cæcum and ileum were distended with flatus, no air was observed in the appendix, nor (according to an observation o Zambeccari), when the appendix was cut off, were any fæces found to pass into the cavity of the abdomen, and further, because the appendix is inserted in the end of the cæcum, or the beginning of the colon, and in two cases, a very remarkable [illegible] impossible for [illegible] (Advers [illegible] vity, even [illegible] tself is so [illegible] furnished with numerous glands, [illegible] comparatively erect, and not flat [illegible] h consequently are emissary or excretory Similar little appendices or cæca, also called vasa variosa, are found in all worms and insects being inserted into both the colon and the duodenum; plainly for a similar purpose From the meeting of the ligaments on the appendix, it may be inferred, that its excretion is more abundant during the full action of the colon And for this reason, animals which live on hard [illegible] have several [illegible] ended with a [illegible] s Moreover, [illegible] found in the colon'

In another long footnote Swedenborg discusses the nature and origin of this fluid which issues from the appendix and argues that it is 'the superfluous lymph of the peritoneum' He remarks also that in the body the 'recrementitious humors' always perform some use before they are thrown out

HOLT OCKLEY NURSING SYSTEM.

To the Editors of THE LANCET.

SIRS,—Will any of your readers with experience inform me as to successes or failures of the above system, and in failures the reasons of want of success? Any letters addressed to me as below will be gratefully acknowledged and considered absolutely confidential

I am, Sirs, yours faithfully,
H. T. WHITLING, M.B Durh

Husbands Bosworth, Rugby, Feb 1st, 1905

PARIS SEWAGE.

IN an editorial article the *Engineer* of Jan. 27th states that the Prefect of the Seine has just brought out a scheme for the creation of a double system of septic tanks and contact beds, this being the first official acknowledgment that *the sewage farms have not done all* that was expected of them. Various difficulties have, however, been encountered in the working of the Paris sewage farms and have been [illegible] when the [illegible] more [illegible] abandonment of the *Achères farms because* the [illegible] who had leased them found that the land was so swamped with sewage that cultivation was unremunerative. The Pierrelaye and Méry farms have also given trouble and it is said that the main cause of the failure of all the farms is that at least twice as much sewage had been diverted on to them as they were intended to receive. Heavy damages are also being claimed by leaseholders on the sewage farms and by others who have suffered from the indiscriminate discharge of sewage. The Paris municipal council is therefore desirous of trying other means of sewage disposal and last year delegated a number of engineers to visit some of the bacterial installations in England and to report upon this system. The first bacterial installation in France has been laid down at Lille and a very favourable report upon it has been made.

A HOME FOR THE WEIR MITCHELL TREATMENT.

To the Editors of THE LANCET.

SIRS,—Will any of your readers be so good as to inform me of the address of an institute where a patient of limited means could be admitted to undergo the "Weir Mitchell" treatment? I do not think that she could afford more than about 10*s*. a week.

I am, Sirs, yours faithfully,
Ravenhurst, Talbot-road, Wembley, Feb. 1st, 1905. H. W. ARMIT.

A MODIFIED FORM OF EARTH CLOSET.

WE have received from Mr. R. J. H. Parkinson of Mablethorpe, Lincolnshire, an illustrated description of a form of closet which he has devised—namely, a modification of the "type in which a deodoriser such as earth or other substance may be employed." Its essential feature is that fæces and urine, although simultaneously received in the same vessel or pan, are immediately separated from one another, the solid matter being retained on the surface of a layer of straw packed in the pan, while the fluid portion drains away through a hole in the bottom of the pan into a sewer, cesspool, or other container. The pan is intended to stand on the ground underneath the seat of the closet and below the level of the floor; for the purpose of being emptied it is easily removed through a small door in the back wall below the floor level.

THE CASE OF DR. A. D. GRIFFITHS.

To the Editors of THE LANCET.

SIRS,—Will you kindly announce the following additions to the amount promised towards the Arthur Griffiths testimonial fund?

	£	*s.*	*d.*
Amount already acknowledged	22	15	6
Sir R. Douglas Powell ...	2	2	0
Mr. Howell Rees (further subscription)	0	16	0
Dr. M. H. Greener	1	1	0
Mr. W. Edmund Thomas	2	2	0
Dr. B. W. Broad	1	1	0
Mr. Percy W. Griffiths ...	1	1	0

I am, Sirs, yours faithfully,
A. P. FIDDIAN, Treasurer.
23, The Walk, Cardiff, Jan. 31st, 1905.

THE "GLASEPTIC" NEBULISER.

THE important advantage of this neat little nebuliser is that it is constructed entirely of glass so that no oxidation or corrosion can happen to it. In addition, it is easily cleansed and, if need be, rendered aseptic. It is a very effective "nebuliser" and it works efficiently even with a few drops of liquid, and it answers equally well whether the agent is viscid or mobile. Thus it is adapted to the "atomising" of solutions of any density, concentrated saline solutions, oily fluids, or ethereal or spirituous menstrua. The glass portion—i.e., that portion apart from the bellows—measures only three and a half inches high by one and three-quarter inches in diameter, so that it is easily accommodated in the pocket. The apparatus may be corked and the active agent in it preserved. The "glaseptic" nebuliser can be obtained from Messrs. Parke, Davis, and Co., of 111, Queen Victoria-street, London, E.C.

ASEPTIC FURNITURE.

To the Editors of THE LANCET.

SIRS,—We notice on page 97 of THE LANCET of Jan. 14th an illustration of an aseptic table made by Messrs. Allen and Hanburys. Not only is this table an almost exact copy of our university table, introduced five years ago, but their illustration is evidently inspired by our own, which has been freely distributed for the last four years. We believe we were the first makers to use phosphor bronze in the construction of aseptic furniture, making some specimens for University College Hospital early in 1902, which we afterwards submitted to the staff of the New St. Mary's Hospital, Manchester. Our samples being accepted we fitted up the principal operation theatre of that institution entirely with phosphor bronze furniture.

We are, Sirs, yours faithfully,
MAYER AND MELTZER.
Great Portland-street, London, W., Jan. 27th, 1905.

POCKET ALBUMIN TEST CASE.

THIS is a convenient and handy application of the salicyl-sulphonic acid test for albumin in the urine. The apparatus consists of a small glass pipette provided with a constriction situated about an inch from the point. A rubber cap is attached to the top of the pipette by means of which a small volume of urine may be introduced into it. Before this is done a tablet of salicyl-sulphonic acid is dropped into the upper end of the pipette and will rest upon the constricted portion of the tube. The tablet serves to divide the pipette, and hence the volume of urine, into two portions. As the salicyl-sulphonic acid dissolves a stream of the solution descends into the lower volume of urine when, if albumin is present, there is an immediate precipitate. The upper portion remains clear since no reagent reaches it and hence a comparison is easily made. In the event of a precipitate forming the fluid is boiled, when if albumin is present the fluid remains turbid. The entire apparatus in a polished metal case is only three and a half inches in length, so that it may be conveniently carried in the waistcoat pocket in the same way as a clinical thermometer. Messrs. Allen and Hanburys of 37, Lombard-street, London, E.C., are the makers.

WHOLESOME LITERATURE.

ON Feb. 14th a new paper for boys, and especially for those of our elementary schools, will be published by the Religious Tract Society, with a view of counteracting the effects of the literary garbage still so largely circulated amongst lads. It will be conducted by Mr. G. A. Hutchison who projected and has edited from the first, now over 26 years ago, the well-known *Boy's Own Paper*, will cost only 1*d*. per number, and will bear the name of *Every Boy's Monthly*.

◆

Candidate.—The books mentioned by our correspondent will amply suffice but we advise him to pay most attention to Osler's Medicine in the list of medical books. As to the history of medicine, a valuable compendium is "Medical History from the Earliest Times," by Dr. E. T. Withington, published by the Scientific Press.

Mr. James S. Elder.—The composition of the preparation was thus given by Dr. Robert Hutchison in THE LANCET of Nov. 28th, 1903, p. 1493: atropine, cocaine, hyponitrous acid, and various balsamic extracts, administered by means of an "aeriser."

I.M.S.—Our correspondent will find in THE LANCET of Sept. 3rd, 1904, a list of books recommended for the higher qualifications which will, doubtless, serve his purpose.

M.D.—We do not think that there is any objection to the course proposed provided that the card is only sent to patients on the books.

J. M.—Our correspondent will find full details in THE LANCET of Sept. 5th, 1903, p. 650.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), [illegible] Westminster (2 P.M.), West London (2.30 [illegible] (2 P.M.), St. George's (1 P.M.), St. [illegible] (2.30 P.M.), Cancer (2 P.M.), Metropolita[illegible] (9.30 A.M.), Royal Ear (3 P.M.), Samarit[illegible] Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (8th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2 30 P.M.), Gt. [illegible] Gt. Northern Central (2.30 P.M.), Westmin[illegible] .30 P.M.), London Throat (9.30 A.M.), [illegible] on-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (9th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2 30 P.M. [illegible] North-West London (2 P.M.), Gt. Northern [illegible] 2.30 P.M.), Metropolitan (2.30 P.M.), Lond[illegible] St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (10th).—London (2 [illegible]), St. Thomas's (3.30 P.M.), Guy's [illegible] aring Cross (3 P.M.), St. George's [illegible] ary's (2 P.M.), Ophthalmic (10 A. [illegible], Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9. 30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.).

SATURDAY (11th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.). St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MON[illegible] [illegible] OF LONDON (11, Chandos-street, [illegible] G. H. Savage: On Functional [illegible] ture.)

TUESDAY (7th).—PATHOLOGICAL SOCIETY OF LONDON (St. Mary's Hospital Medical School, Paddington).—5 P.M. Laboratory Meeting.

[illegible] WEST LONDON MEDICAL SOCIETY [illegible] (sworth Common).—8.45 P.M. Paper:—[illegible] marks on the Indications for Gastro-[illegible]

[illegible] F LONDON (11, Chandos street, Caven-[illegible] Demonstration of Cases of Interest.

THURSDAY (9th).—BR[illegible] square, W.).—8 P.M. [illegible] Jon[illegible]

HAR[illegible] orne-street, Ed[illegible] d: Clinical Ob[illegible] L Evans: An[illegible]

CHILDHOOD SOCIETY AND THE BRITISH CHILD STUDY ASSOCIATION (Parkes Museum, Margaret-street, W.).—8 P.M. Lecture:—Dr. G. E Shuttleworth [illegible]

[illegible] street, Cavendish-square, W.).—8.30 P.M. Papers:—Mr. E. Stevenson: Notes on a Case of Large Orbital Exostosis removed by Operation (with specimen).—Mr. C. Wray: The Treatment of Tobacco Amblyopia.—Mr. E T. Collins and Mr. R. Batten: Neuro Fibroma of the Eyeball and its Appendages.—Mr. A. Ogilvie: Exostosis of Orbit.

FRIDAY (10th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers.—Dr. W. Ewart: A Case of "Soft Valve" [illegible] nt.—Mr. E P. Paton: [illegible] d in the Floor of the [illegible] eal Uretero-lithotomy [illegible] Calculous Anuria in a Child.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY [illegible] COLLEGE AND POLYCLINIC [illegible] Dr. E. G. Little: Clinique. [illegible]: Congenital Hypertrophic [illegible]

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Saunders: Myxœdema and Cretinism, (*with cases*).

TUESDAY (7th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC [illegible] Dr. S. Taylor: *Clinique.* [illegible] Diagnosis of Tumours and [illegible]

P[illegible] n Hospital, Hammersmith-road, W.).—5 P.M. Dr. [illegible]: Posterior Displacement and Prolapse.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture:—Dr. G. P. Chappel: Pleural Effusions.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. J. Taylor: Epilepsy.

WEDNESDAY (8th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Mr. H. L. Barnard: *Clinique.* (*Surgical.*) 5.15 P.M. Dr. G. H. Savage: The Relationship between Suicide and Insanity.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Beddard: Practical Medicine.

TH[illegible] LINIC [illegible] ique. [illegible] mith-[illegible]

CHARING CROSS HOSPITAL.—4 P.M. Dr. Mott: Demonstration of Medical Cases. (Post-Graduate Course.)

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7, Fitzroy-square, W.).—5 P.M. Lecture: Mr. H. Barwell: Laryngeal Paralyses and their Value for Diagnosis. (Post-Graduate Course.)

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M. Mr. Doran: Malformations of the Genital Tract considered Clinically.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond street, W.C.).—4 P.M. Lecture:—Dr. Batten: Muscular Atrophy in Children.

FRIDAY (10th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. W. J. Horne: Clinique. (Throat.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—5 P.M. Mr. C. Williams: X-Rays (illustrated by lantern slides).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. J. Taylor: Syphilis [illegible]

[illegible] COLLEGE (Tottenham Hos-[illegible] Myopia.

EDITORIAL NOTICES.

IT is most important [illegible] Editorial business of [illegible] *exclusively* "TO THE [illegible] gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1904, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1904 are now ready. Bound in cloth, gilt lettered, price 18*s.* carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 2nd, 1905.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain fall	Solar Radia in Vacuo	Maximum Temp Shade	Min Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Jan. 27	30 89	S.W.	...	57	44	29	Fzn	30	Foggy
" 28	30 83	W.	...	58	50	30	39	40	Overcast
" 29	31 00	W.	...	48	46	36	33	36	Fine
" 30	30 59	W	...	62	49	36	40	41	Cloudy
" 31	30 31	N W.	..	65	49	41	41	44	Cloudy
Feb 1	30 02	W	...	74	52	42	44	45	Cloudy
" 2	29·92	N W.	...	72	48	42	40	43	Fine

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dusky and the respirations were quicker and shorter. It was evident, in fact, that the pus was all the while trickling into, and filling, the lung. Rapidly a piece of the eighth rib was removed in the anterior axillary line, the healthy pleura was opened, and the diaphragm was exposed. This was cut through with a knife, when at once came a rush of thin foul pus, projecting a foot from the surface of t[illegible] against the side with [illegible] irrigated. Then two [illegible] gauze were inserted [illegible] and to compress the diaphragm against the ribs. The breathing quieted and the colour improved at once. The collection was above the liver, to the right of the suspensory ligament, and was bounded below by the stomach and colon and amounted to close on two pints. The pleura was free. Looking in through the large opening, for it was near two inches long, one could see the diaphragm and the liver. Desperate as was the condition the outlook was still [illegible]able, for there was no hepatic infection, the [illegible] peritoneum showed no irritation, and there was n[illegible]monia.

On Monday, two days later, I saw the girl again. All urgent symptoms had subsided and there was a free escape of thin pus. For a few hours in the morning of this day the foul expectoration had returned; this was due to the gauze blocking the tube. The gauze being loose I removed both tubes and re-inserted one covered again with gauze. It was interesting to notice that in the period of about 56 hours the pleural cavity had been fully sealed. Rapid progress towards recovery followed. I noticed that the appendix wound was quite insignificant on this the tenth day from the first operation.

Before adding some general remarks it may be asked whether [illegible] not have been delayed in view [illegible] opinion that subphrenic abscesse[illegible] well. In this case the conditio[illegible] thin and abundant, and delay would, I believe, have been fatal. Personally, I do not think it wise to leave any case to itself where the pus is being expectorated. In empyema and in hepatic abscess I [illegible]nd much loss of strength result. [illegible] symptoms following free in[illegible]peration. Going back for a moment it must be noted that the first operation was made fairly early in the case—the third day or beginning of the fourth. If we were in a position to say that no danger need be introduced by operation then early interference should be our rule when symptoms do not spontaneously subside—i.e., without the use of opium. I operated eight years ago on a case within 20 hours of onset because pain was not relieved. I found an abscess with a perforation at the root of the appendix. The appendix was removed, the cæcum was closed, and without any drain the patient, [illegible].

Since [illegible]ry mopping, a[illegible] greatly improved. In borderland cases operated upon on the fifth or sixth day I am certain that flushing will turn the scale to a fatal issue. Some of my earlier cases would probably have recovered had this method been omitted. In very early cases —i.e., those operated upon in from 24 to 36 hours—recovery will generally follow with any method, provided all septic material existing at the time be removed. Even incomplete removal of pus without drainage may succeed, as I will show you another time. I mention the fact here to impress the importance and the safety of early operation.

My working rule is a simple one and it is this. After the initial pain has been relieved by a full sedative the persistence of any one sign of extension should cause anxiety and determine operation on the second, third, or fourth day, or in the worst cases earlier. A patient who required opium at the end of 48 hours should, as a rule, not have the drug but an operation. Some leading sign will certainly be present. There will be a continuously high temperature, associated with signs of general irritation, as in the case related here, or continued pain, or abdominal distension unrelieved by remedies, or an increasing swelling, [illegible]ution. Or there may be sickness. Many have said to me, "He is better, because there has been no sickness for four days." My reply always to that statement is this, How do you know when you have given nothing by the mouth? In such a case I gave a man a bowl of milk at 7 o'clock and he kept it down and at 10 o'clock was no worse. I ordered another, convinced that he had a stomach full of foul material. In six hours he vomited a basinful of foul brown fluid and all were convinced of the necessity of operation but it was too late. Absence of vomiting is of little value when feeding is withheld. The guides in our case to-day were three: a stage of moderate pain preceding the onset, a continuously high temperature with general irritation, and an increasing swelling.

Before leaving this point let me urge upon you the importance of a few conclusions I have laid down for my guidance and have acted upon for a good many years. First, never to give opium after the initial dose required to relieve pain. More harm is done by prescribing opium every four hours than anything. If the pain continue severe after 24 hours operation will almost invariably be required. Secondly, when in any doubt at all advise operation. [illegible]ay remember you ought, if the case [illegible] to handle the swellings fairly freely and all symptoms should be subsiding. It is a dangerous day and if symptoms are progessing operation is the best rule.

Next let us discuss the operation selected in this case. The abdomen was opened by separating the fibres of the abdominal muscles. Abundance of room was obtained in this way. It is the best of all methods and especially in foul abscess [illegible] required. [illegible] and there is [illegible] woman, aged 45 years, where the abscess was chiefly above the iliac crest and where abundance of room could be obtained by separation of muscular fibres. But for most of you this will not give sufficient room. For a beginner I do not recommend this plan in acute conditions where the appendix must be removed. For a localised abscess where the appendix need not be removed, say on the eighth or tenth day, it answers admirably and should be selected in preference to division of the muscle.

There is another route which I strongly recommend you to learn and to practise on the cadaver and which I adopt in all acute cases where the abscess is high up or low down or lies nearer the median line than usual; or again in relapsing cases, where extensive adhesions are expected and the appendix lies probably in the pelvis or near the kidney. I must defer the details to another lecture, but may say here that it consists in cutting through the rectus sheath, dissecting the outer border of the muscle inwards, isolating and preserving the nerves, and then opening the posterior layer of the sheath. The region from the pelvis to the loin can be commanded, no muscle is divided, and no nerve need be destroyed. I owe my knowledge of this [illegible] one of Germany's best surgeons, [illegible] and consider you should learn [illegible] as you do that of celotomy, for you must be prepared to operate, and I hope to show you [illegible] can in most cases be traced upwards from the appendix. In this instance, though no pus was found about the colon, there [illegible] of the bowel. The [illegible] frequently to the r[illegible]r and presents below the ribs, pushing down the liver. Its exact situation is usually determined by an exploring needle inserted in the mid-axillary line. In this case the first punctures were made behind because of the pulmonary signs and a little time was lost.

On account of the coughing and mental excitement no adequate examination could be made before the administration of the chloroform and as the cyanosis was deepening it was thought better to explore freely at once. Pus was found on puncturing the eighth space and a piece of the eighth rib was removed. The danger of pleural infection will occur to you and it must be considered a serious one. The patient's condition at this moment demanded the greatest speed, for the lung was clearly filling with pus, otherwise the diaphragmatic pleura could have been sutured to that of the costal pleura and the cavity shut off. The plan of direct incision was adopted and the diaphragm held against the ribs. This plan has answered in my hands on several occasions and provided a gauze-covered rubber tube be introduced which will plug the opening and keep the parts in contact the plan will be found a good one. If time permits, as in the last two operations in Job ward, the pleura can be sutured.

Can an abscess in this situation be opened below the ribs in front? Does it project sufficiently far down to be accessible? In this instance an examination of the cavity after incision showed that the abscess could have been evacuated from the front. I have operated from the front but so far prefer the transthoracic route. The subject of subphrenic abscess requires a full investigation and I commend it to any of you in want of a subject for a thesis.

ON DUODENAL ULCER; WITH NOTES OF 52 OPERATIONS.

By B. G. A. MOYNIHAN, M.S. LOND., F.R.C.S. ENG.,
SENIOR ASSISTANT SURGEON TO THE LEEDS GENERAL INFIRMARY; CONSULTING SURGEON TO THE SKIPTON HOSPITAL AND TO THE MIRFIELD MEMORIAL HOSPITAL.

IN THE LANCET of Dec. 14th, [illegible] subject of duodenal ulcer and r[illegible] ulcer and two cases of perforating ulcer upon which I had operated. During the last three years my experience of this condition has been considerable, and I propose in this paper to give a brief record of the cases I have seen and to discuss, at greater length than was possible before, the symptoms and the surgical treatment.

From January, 1900, the date of my first operation, to September, 1904, I had operated upon 51 cases. There were seven cases of perforating duodenal ulcer with five recoveries, 22 operations for duodenal ulcer associated with gastric ulcer with one death, and 23 operations for duodenal ulcer alone with one death. The proportion which [illegible] operations bear to the total number of my operation[illegible] simple diseases of the stomach may be gathered fron[illegible] following complete summary of my experience:—

	Cases.	Deaths.
Gastro enterostomy for gastric and duodenal ulcer (including cases of hæmorrhage) ...	162	14
Perforating ulcer of the stomach and duodenum	20	8
Hour glass stomach	19	3
Pyloroplasty	3	0
Finney's operation (gastro duodenostomy) ...	2	0
Gastroplication	1	0
Excision of an ulcer for hæmorrhage	1	1

The relative frequency of duodenal ulcer to gastric ulcer has been, therefore, greater in my experience than in many of the statistics which have been published by others. But any discrepancy in this particular is easily accounted for by the fact that the statistics which are quoted in the text-books of medicine are based exclusively upon post-mortem examinations, whereas my investigations have been confined to the living.

Almost all writers remark upon the rarity of ulcer of the duodenum. There can be no doubt, however, that it is by no means so infrequent as is supposed. A series of over 50 operations occurring in the practice of one surgeon disposes entirely of any question as to the great rarity of the disease. The observation of the condition of the gall-bladder and stomach by the surgeon during life has greatly altered our knowledge of the diseases which affect these organs. I submit that duodenal ulcer is far more common than has been formerly believed and that the association of duodenal ulcer with gastric ulcer is frequent. During the last few years a not inconsiderable number of cases have been reported in the medical journals as having been treated surgically on account of perforation, duodenal stenosis, or hæmorrhage. Side by side with the statement as to the infrequency of duodenal ulcer which is contained in most of the text-books of medicine is the remark that the condition is one which is extremely difficult to diagnose. The one observation may explain the other; as a fact, neither statement is accurate.

The symptoms of duodenal ulcer in many cases are perfectly characteristic and admit of an unhesitating diagnosis. I am compelled to dissent very confidently from the statement so often repeated that it is impossible to distinguish between an ulcer of the stomach and an ulcer of the duodenum. Even in those cases in which both gastric and duodenal ulcers are present, when the difficulty of diagnosis might be expected to be at its highest, a careful scrutiny of the history will generally allow a discrimination to be made between the symptoms due to the one and those due to the other condition. I do not pretend to say that in all cases the diagnosis is easy; on the contrary, in some cases it is impossible, because gastric ulcer and gall-bladder disease may both be complications in the same case. In many cases, however, a diagnosis is possible and in some is unmistakeable.

Position of the ulcer.—Duodenal ulcers are generally situated in the first portion of the duodenum. Collin found in a series of 262 cases that 242 were placed in the first portion, 14 in the second, three in the third, and three in the fourth. Perry and Shaw found that in 149 cases 123 were situated in the first portion, 16 in the second, and two in the third and fourth; in eight cases the ulcers were scattered. Oppenheimer states that in 81 cases 69 were situated in the first part, eight in the second, and four in the third and fourth. Ulcers in the first portion of the duodenum, then, are at least ten times more frequent than in the second. Schwartz has recorded one case of perforation of an ulcer on a level with, or a little below, the ampulla of Vater. Bile [illegible] the opening and was found free in the [illegible]. In my series of cases all the ulcers which perforated were in the first portion of the duodenum; of the chronic ulcers 43 were in the first portion and one was in the second portion.

The ulcers may be multiple though they are usually solitary. If there are many ulcers they are usually crowded together in the first portion of the duodenum, but ulcers in the first portion associated with ulcers in the second or third portion are recorded by Clark, Schwartz, and Dudensing. In one of my cases an ulcer which was on the anterior wall had perforated; immediately opposed to it on the posterior wall was an ulcer of the same size and shape.

The association of gastric and duodenal ulcers had [illegible] or no attention before I pointed out its fre[illegible]per read before the Clinical Society of London [illegible]y series of 44 cases there were 22 in which a gastric ulcer or ulcers were also present. W. J. Mayo found gastric ulcer present in over 50 per cent. of his cases. The reason for this association is not difficult to understand. In peptic ulcer of the stomach there is a marked increase in the amount of free hydrochloric acid; when the acid stomach contents escape into the duodenum they cause a peptic ulcer in that part of the wall with which they first come in contact, destroying its mucosa by digestion. The sequence of events then is gastric ulcer, hyperchlorhydria, duodenal ulcer. The shyness of the duodenum to the contact of acids is illustrated in the work of Pawlow.

One important point that has been established by the work of the surgeon upon the stomach is the frequency of multiple ulcers in the stomach or in the duodenum, or in both. In the statistics gathered together in the various text-books of medicine it is shown that gastric ulcer is usually solitary. The reverse is the fact. Gastric ulcer is rarely solitary, there are often more ulcers than one in the stomach, and, as I have said, duodenal ulcer is associated with gastric ulcer in approximately one-half of the cases.

Age.—Duodenal ulcer may occur at any age. Oppenheimer has collected the records of 15 cases of melæna neonatorum resulting from ulcer of the duodenum. Chvostek, in a series of 87 post-mortem examinations in children under ten years of age, found ulceration of the duodenum in five; three of the children were aged three hours, four days, and seven weeks respectively. T. D. Lister observed a duodenal ulcer in a child three days old and Spiegelberg one in a child four days old. Landau has suggested that these ulcers are due to emboli carried away from thrombi in the umbilicus. Ulcer of the duodenum in the newly born is also recorded by Henoch, Zerschwitz, and Dusser. Collin in 297 cases of duodenal ulcer found that they occurred as follows:—

Under 10 years of age	42 cases.
Between 10 years and 20 years	24 "
" 30 " 40 "	52 "
" 40 " 50 "	46 "
" 50 " 60 "	41 "
" 60 " 80 "	28 "
" 80 " 95 "	3 "

In my own cases the ages of the patients in whom perforation occurred were 44, 25, 17, 17, 25, 22, and 40 years. In the remaining cases the ages ranged from 19 to 61 years.

Sex.—Duodenal ulcer is usually said to be very much more common in the male than in the female. The ratio given by various writers is as follows: Weir, 6 to 1; Collin, 5 to 1; Cullen, 5·6 to 1; Fenwick, 4 to 1; Perry and Shaw (excluding ulcers due to burns), 6 to 1; and Mayo and Graham, 2·5 to 1. In my 51 cases there were 32 males and 19 females.

Symptoms.—The symptoms of duodenal ulcer are pain, hæmatemesis, and melæna. In a certain number of cases (estimated by Morot at 20 per cent.) the ulcer remains latent for long periods and its presence is only revealed by perforation or the occurrence of hæmorrhage. In 151 cases collected by Perry and Shaw in which duodenal ulceration was found post mortem there were 91 in which no history of antecedent symptoms could be obtained.

Pain is sometimes slight and does not amount in the earlier stages of the disease to anything more than a vague uneasiness in the epigastrium. The pain is described as being of a burning character at the first and it is felt chiefly in the middle line or along the right costal margin. By degrees the pain becomes more and more severe and may, in certain cases, be so intense as to render the patient entirely unfitted for work. Many patients say that the pain is cramp-like in character and that they receive the impression of something gathering force by slow but inevitable degrees. When severe the pain is always worse to the right of the middle line. In some cases, especially in those where adhesions to the under surface of the liver or to the gall-bladder are subsequently found, there may be a complaint of pain radiating upwards to the right breast. A pain which passes round the chest to the back is sometimes felt.

There can be no question that the time of the onset of pain after food affords valuable information. If the pain does not come on for from two to four hours after a meal then I feel sure that we are entitled to say that the ulcer is either at the pylorus or very near to it. In such circumstances the patient will often complain of what I have been accustomed to call "hunger pain." This pain begins at about 11 or 12 o'clock in the morning if breakfast has been taken at 8 or 9 A.M.; it begins, that is to say, at a time when a patient is beginning ordinarily to feel that another meal is due. In not a few cases the sufferers have discovered for themselves that the taking of food as soon as the "hunger pain" begins will relieve it. A biscuit and a drink of water or of milk will give almost instant relief. As soon, however, as this is digested the pain slowly returns, to be again dispelled by the taking of food. One hears, not rarely, that the patient feels as though he was assured of comfort "if the stomach is working." For this reason a heavy meal will be eaten in order that the onset of pain may be postponed, or food of a particularly "indigestible" character will be taken in order that the stomach may be kept longer at work digesting it. Three of the patients upon whom I have operated have told me that a glass of wine or a little brandy and water has eased the pain for perhaps half an hour. A copious draught of water is not so effective in the removal of the pain as a little solid food. Many of the patients, therefore, do not restrict their diet, at least in the early stages of the disease. On the contrary, they not infrequently eat more than they have been accustomed to and are inclined to boast of their ability to "eat anything." During this period they do not, therefore, lose weight; indeed, they are perhaps sleek and well-conditioned. It is owing to the hyperacidity of the gastric juice that they are able to digest a heavier meal than they have formerly been accustomed to take.

The cause of the pain in duodenal ulcer has not been determined; it may be different in different cases or in the same case at different periods. Among the more likely causes are the irritation of the open ulcer by the acid gastric contents, the degree of acidity and, therefore, of irritation increasing as digestion proc [illegible] the stomach or duodenum [illegible] of a localised peritonitis. [illegible] drinking of a little sherry or brandy and water is due, it is suggested, either to the closure of the pylorus, caused by the irritant action of the fluid, or to the dilution of the excess of free hydrochloric acid. The taking of a biscuit or a little solid food certainly gives the hydrochloric acid which is in excess "something to do" and it keeps the stomach at work and postpones the propulsion of the stomach contents through the pylorus for a brief period. In some cases the pain is of a colicky nature and is due almost certainly to a spasm of the pylorus or pyloric antrum. I have seen a patient suffering from an attack of pain which to me (and to him—he was a medical man) was indistinguishable from hepatic colic. In later stages the pain alters somewhat in character. It becomes more severe, more continuous, and less capable of being relieved by food or drugs. It occasionally happens that the taking of solid food causes a great increase of the pain and that the patient for this reason may curtail his diet, live only on milk and other fluids, and thereby determine a marked loss of weight.

In some cases it has been possible to diagnose beforehand, with reasonable certainty, the presence of both gastric and duodenal ulcers in the same patient. The time of the onset of pain is then of great importance. When pain begins very shortly after food is taken, then gradually becomes easier, and again undergoes marked exacerbation, it has been taken as showing that both forms of ulcer are present, that the early pain was due to the irritation of the gastric ulcer, the period of repose to the alteration in the physical characters (bulk, temperature, &c.) of the food, and the exacerbation of pain due to the irritation of the duodenal ulcer.

Hæmatemesis and melæna.—These may be present together or either may be present in the absence of the other. It is probable that the passage of blood by the bowel would be found to be more frequent than my statistics show if all cases were carefully examined in the manner suggested by Boas in order to discover traces of blood in the fæces when a quantity not visible to the naked eye is present. Small quantities of blood discharged in vomit are more likely to attract attention than moderate or even large quantities passed in the motions. The disproportion between the frequency [illegible] therefore, not [illegible] the kind now t [illegible] cases presenting symptoms hæmatemesis was present in 14 and melæna was present in nine.

Nothnagel considers that severe hæmorrhage—that is, hæmorrhage which is not so insignificant as to pass undiscovered—occurs in one-third of the cases. Fenwick estimates the frequency of hæmorrhage in acute cases at 26 per cent. and in chronic cases at 40 per cent. Oppenheimer found blood in the stools of 50 per cent. of his patients. In my series of 23 cases of duodenal ulcer alone hæmatemesis and melæna were observed in four cases, hæmatemesis alone in three cases, and melæna alone in two cases. In the 21 cases of duodenal ulcer associated with gastric ulcer, hæmatemesis and melæna were present in six cases, hæmatemesis alone in four cases, and melæna alone in three cases.

The amount of blood lost is sometimes considerable. Faintness has occurred in two of my patients, and one patient, in whom the hæmorrhage was so severe that I operated to check it, fainted as he was lifted on to the operation table. In such cases the intestine may be found to be full of blood when the abdomen is opened; the colon I have seen fully distended with blood which showed through the walls a vivid deep-blue colour. Hæmorrhage from a duodenal ulcer is certainly more persistent and probably less easy to check than hæmorrhage from a gastric ulcer. It is undoubtedly more insidious, for I have seen patients blanched and breathless from loss of blood who have never suspected that their "indigestion" was in any way connected with the cause of their condition. Other signs and symptoms may appear later, due to the changes which occur in the duodenum and stomach as a result of the induration or puckering of the ulcer. These are precisely the same as those which are caused by stenosis of the pylorus and need not be discussed in this connexion.

The complications of duodenal ulcer.—These are: (1) hæmorrhage; (2) perforation, acute, subacute, and chronic; (3) [illegible] the [illegible] at t [illegible] bile and pancreatic juice; (5) periduodenitis; (6) cancer; (7) compression of the portal vein from cicatrisation of a deeply placed ulcer (French); (8) diseases of the gall-bladder or bile-ducts; and (9) diseases of the pancreas.

1. *Hæmorrhage.*—Any of the vessels in or near the duodenum may be opened by the deepening of the ulcer. The following among the larger vessels have been perforat [illegible] ssais), gastro-duod [illegible] atico-duodenal (All [illegible] catica magna, and [illegible] porta (Rayer and Habershon) and the superior mesenteric vein (Warfwinge). The surgical treatment of hæmorrhage in copious quantity

from a duodenal ulcer is the surest means of arresting it. As soon as there is evidence that the hæmorrhage is persisting there is urgent need for surgical measures. The indication to operate is in my judgment more imperative than it is in cases of gastric ulcer, for the bleeding more often implicates larger vessels and is less likely to cease spontaneously. In all my cases I have performed gastro-enterostomy alone and have not removed or sutured the ulcer; in all cases the hæmorrhage has ceased at once. There are cases, however, in which I think that an excision of the ulcer if easily accomplished would be desirable, and there may be cases where the ligature of a large vessel in the ulcer would be necessary. In some cases closure of the pylorus by infolding sutures may be practised. In many instances, however, removal of the ulcer would be impossible and in the great majority it probably is neither necessary nor desirable. Gastro-enterostomy in all cases is the operation of choice; and it must be performed whether the ulcer is treated separately or not in order to give rest to the duodenum.

2. *Perforation.*—The frequency of perforation in duodenal ulcer is given by Collin as 69 per cent. and by Chvostek as 43 per cent. It is generally stated that perforation is more likely to occur in duodenal ulcer than in gastric ulcer, and that having occurred its consequences are more disastrous. Pagenstecher estimated the mortality of perforation at 86 per cent. In my former paper I collected notes of 51 cases of perforation treated by operation with eight recoveries. My present list embraces a series of seven cases upon which I have operated, with five recoveries. The remarkable mimicry of appendicitis, to which I called attention, has been confirmed by the observation of other writers. It is due, as I have shown, to the direction which the extravasated fluid takes—down the hillock to the right of the transverse mesocolon, down the ascending colon to the iliac fossa. In my series of 51 cases no fewer than 19 had been operated upon after an erroneous diagnosis of appendicitis had been made. When chronic or subacute perforation occurs an abscess may form. Meunier describes a local abscess in his case as being bounded by the quadrate lobe of the liver, the gall-bladder, and the transverse mesocolon. Lennander relates a case where an abscess was hemmed in on all sides by intestine. The perforation of such an abscess may lead to acute septic generalised peritonitis, as recorded by Planchard. Perforation of the upper portion of the duodenum may lead to subphrenic abscess. Seven cases of this kind are related in Maydl's monograph. An ulcer may destroy all the coats of the bowel and its base be formed by the liver (Keyl, Herzfelder, Collin) or by the gall-bladder (Krauss, Moynihan). An ulcer may destroy all the coats of the bowel and perforate a hollow viscus forming an "internal duodenal fistula." Rokitansky describes a case of gastro-duodenal fistula; Hoffmann and Gross cases of cholecysto-duodenal fistulæ; Murchison, West, and Sanderson cases of duodeno-colic fistulæ; and Dudensing a case where the ulcer had perforated the pancreatic duct. An ulcer may destroy all the coats and lead to the formation of an abscess which bursts upon the surface of the body, forming an "external duodenal fistula," as recorded by Lumeau and Bucquoy. The duodenal wall may be ulcerated through by an abscess arising from without, as in a case of lumbar abscess bursting into the duodenum close to the biliary papilla, under the care of Davies-Colley.

3, 4, 5, 6, and 7 have been considered at length in my former paper; I have nothing to add to the detailed descriptions given therein.

8. *Diseases of the gall-bladder and bile ducts.*—The associated conditions of pancreatic and gall-bladder disease are of great interest. In ten cases in my series there was obvious evidence of disease in the gall-bladder or bile-ducts, with or without gall-stones. I have in some cases performed gastro-enterostomy and cholecystotomy or cholecystectomy. From one patient I removed 1885 gall-stones. The disease in the duodenum may be primary and that in the gall-bladder secondary, or that in the gall-bladder may be primary and that in the duodenum secondary, or the two may be entirely independent. Duodenal ulcer may dispose to the formation of gall-stones by giving rise to peritonitis. As a result of this there is stasis of bile and perhaps infection—the two conditions which we know to be essential to the development of gall-stones. On the other hand, a condition of cholecystitis, whether calculous or not, may cause disease in the duodenum in a manner well illustrated by one of my cases. The gall-bladder had contained a single large stone which had ulcerated through into the duodenum, which it blocked. The duodenum, gall-bladder, and stone were massed into one dense tumour which both felt and looked very like a malignant growth. The "gritty" surface which I have long felt to be an invariable accompaniment of malignant disease was not present and a closer investigation of the lump was made and the condition I have described was revealed. The symptoms and the signs of duodenal ulcer are in some cases not easy to distinguish from those which are due to cholelithiasis. The pain in both may be colicky or it may be persistent; the direction in which the radiation extends may be similar; there is in both conditions, as Ewald has shown, an excess of free hydrochloric acid. The discrimination between the two may, therefore, not always be possible, but in the cases, as I have seen them, there has been little or no difficulty in making a correct diagnosis. Happily in both cases surgical treatment offers the speediest and safest relief.

9. *Diseases of the pancreas.*—The association of disease of the pancreas with duodenal ulcer has not received attention. It was present in three of my cases. A duodenal ulcer may in its gradual deepening destroy all the coats of the bowel until the pancreas is reached. The base of the ulcer is then formed by the pancreas which is implicated in the inflammatory process. A localised chronic pancreatitis results, or if the inflammatory process be more acute an abscess may form. A condition of chronic pancreatitis may be present in cases of duodenal ulcer and be caused by the same condition as gave rise to the ulcer—alcohol for example, or perhaps syphilis.

The following is a brief extract from the notes of the cases upon which I have operated. The cases are arranged in three series: Series 1 includes the cases of perforating ulcer; Series 2 includes the cases of duodenal ulcer; and Series 3 includes the cases of associated gastric and duodenal ulcers.

SERIES I.—*Perforating Duodenal Ulcer (Seven Cases).*

Males	4	Deaths	2
Females	3	Recoveries	5

CASE 1.—April 26th, 1900; male, aged 44 years. Symptoms had been present for 18 months; the chief of them was pain two, three, or four hours after food. Blood had been observed when the patient vomited; vomiting was frequent but irregular. There was no melæna. On the 25th while in the infirmary the man became suddenly worse; pain came on acutely in the whole abdomen. Distension and rigidity were soon observed. Collapse was pronounced. The respirations were 28 and the pulse was 128. A diagnosis of perforating ulcer was made and the abdomen was opened. The ulcer was found at the beginning of the second part of the duodenum; its diameter was about three-quarters of an inch. After stitching the ulcer up the gut seemed narrowed to at least half its diameter. A gastro-enterostomy, with the aid of a Murphy's button, was therefore performed. The patient never rallied from his collapse. Time of operation after perforation about 26 hours.

CASE 2.—June 18th, 1901; male, aged 25 years. The patient, a sturdy robust labourer, stated that for about four weeks before admission he had suffered from indigestion and vomiting. On the 18th, while climbing a ladder he was suddenly seized with intense abdominal pain. He was seen at once by a medical man who happened to be near and was sent to the infirmary. He was then profoundly collapsed. Breathing was quick and short; his pulse was 128; the abdomen was rigi[illegible] agnosis of perforated ulcer was made. At the [illegible] equal in diameter to a No. 8 or 9 catheter was [illegible] m one inch from the pylorus. The ulcer was stitched and the abdomen was cleansed and drained. The patient recovered. Time of operation after perforation 3 hours 50 minutes.

CASE 3.—April 20th, 1902; female, aged 17 years. For several weeks she had had slight indigestion and epigastric pain but not in sufficient severity to send her to a medical man. On the night of April 19th at 9 P.M. she had a sudden attack of acute epigastric pain. Morphine was given. She was seen at 7 A.M.; the abdomen was very rigid and rather tender, especially over the gall-bladder. She had vomited once. The pulse was 112. Respiration was very shallow. At the operation an ulcer was found to have perforated on the anterior surface of the duodenum, about three-quarters of an inch from the pylorus. There was some fluid above the stomach. The ulcer was closed by suture and the peritoneum was cleansed by wiping with swabs wet with sterile salt solution. There were no lavage and no drainage. The patient recovered. Time of operation after perforation about ten hours.

CASE 4.—Dec. 27th, 1903; female, aged 17 years. She had always been pale and anæmic and for 12 months had complained of indigestion and occasional vomiting. I[illegible] enly four days before admission with pain i[illegible] ss the abdomen. There was vomiting. At the [illegible] denal ulcer was found. An incision was mac[illegible] fensive pus was found. Tubes were inserted. The patient recovered and is now in sound health. (A case of subacute perforation.)

CASE 5.—March 24th, 1904; female, aged 25 years. She had had indigestion for 12 years. For many years she had had acid eructations and for the last two years had vomited after food. She had had many severe attacks of pain in the epigastrium. Four days prior to admission and again one day before she had attacks but not any more acute than many she had had previously. During the last three years her weight had dropped from 9 stones to 5 stones 8½ pounds. At the operation there was found to be a perforation of the size of a small pea in the upper part of the first portion of the duodenum. The ulcer was of about the size of a half-crown. There was a little local plastic peritonitis but no general infection. The perforation was closed by Lembert's sutures and a posterior gastro-enterostomy was performed. The patient recovered.

CASE 6.—May 11th, 1904; male, aged 22 years. He had been quite healthy up to the beginning of April, 1904, when he felt a slight pain in the abdomen. This only lasted a few minutes and then passed off Three weeks l[illegible] Within three [illegible]

[illegible] ptoms of a similar kind again [illegible] At the operation an incision was made over the appendix. The appendix was found lying along the [illegible]

and rigidity [illegible] the area of [illegible] was present [illegible] was not so [illegible] pulse was 1[illegible] tenderness and dulness as before. On the 11th his general condition [illegible]

tines. In the anterior wall of the first part of the duodenum an aperture of the size of a large quill was found. This was closed by sutures and sequestrated by stitching that surface of the duodenum to the stomach wall. Free drainage was made through both loins and from the pelvis. The patient died 11 hours after, despite infusion (twice) and the usual stimulants Post mortem an ulcer on the posterior wall of the duodenum, just beyond the pylorus, was found. It was an ulcer on the anterior wall which had perforated.

SERIES II.—*Duodenal Ulcer (22 cases).*

Males	14	Hæmatemesis and melæna ...	4
Females	8	Hæmatemesis alone	3
(There was 1 death.)		Melæna alone	2

CASE 1.—August 7th, 1902; male, aged 31 years. There was a ten months' history of pain after food and gradual loss of weight. All solid food had been abandoned little by little and now a fluid diet caused pain, occasional vomiting in large quantity, and distension. He had twice had hæmatemesis The pain was frequently felt about from one and a half to two hours after food; it was slight at first but gradually increased in intensity. It was always relieved by a meal or by taking small quantities of biscuit He was often wakened at 2 or 3 o'clock in the morning by the pain. He had sour and bitter eructations. He had lost exactly 4 stones in the last 19 weeks. He had a very dilated stomach. Free hydrochloric acid was present in excess. At the operation, while lying under the anæsthetic on the table, the dilated stomach showed prominently. It descended a hand's breadth below the umbilicus. On opening the abdomen a thickening of the duodenum above the bile papilla was felt, the first portion of the duodenum and the stomach were very markedly dilated. Posterior gastro-enterostomy was performed The pati[illegible] ood before leaving hospital. [illegible] and slight pain but has eate[illegible] eight. On Oct. 20th he ha[illegible] s "feeling stronger."

CASE 2.—Sept. 24th, 1902; male, aged 32 years. On April 9th of this year the patient was suddenly seized with an acute attack of pain in the right hypochondrium. He vomited frequently and some blood was noticed. The attack lasted two hours and subsequently the motions were seen to be tarry. Since then he had suffered almost constantly from flatulent distension of the abdomen, especially after food. On several occasions he had had very severe attacks of pain in the right [illegible] ibling him up." Each [illegible] and on two occasions [illegible] n was chiefly situated [illegible] painful spot could be [illegible] jaundice. He had lost [illegible] The stomach was a [illegible] ss. At the operation [illegible] portions of the duo- [illegible] a walnut, very thick and adherent to the pancreas. Posterior gastro-enterostomy was performed. The gall bladder was found to be [illegible] full of stones. [illegible]

CASE 3.—Sept. [illegible]th, 1902, female, aged [illegible] years. She had been failing in health for from nine to ten months. The chief symptom had been vomiting. At the onset she had a sudden seizure of vomiting, [illegible] health.

CASE 4.—Oct 4th, 1902, male, aged 29 years. He had suffered for several years from a "weak stomach," having pain after food, two or [illegible] "dead tired"; and the bowels were moving frequently and on all occasions blood was coming When seen he looked desperately ill. His face and mucous membrane of the mouth were blanched to the last degree. Chronic duodenal ulcer, with acute deepening and the opening of some large vessel, was diagnosed. Operation was advised as a last resort. On opening the abdomen the stomach was found to be very dilated and full of gas; it contained no blood. The first portion of the duodenum was also dilated. About one inch from the pylorus a dense hard mass equal in size to a walnut was felt adherent to the pancreas Excision of this ulcer [illegible] enterostomy was performed T[illegible] and cold and then [illegible] April of this year [illegible] a duodenal ulcer. [illegible] well but she was never able to take [illegible] two months the stomach had been [illegible] taken. Pain and discomfort after [illegible] and the ileum [illegible] free from adhes[illegible] stomach was found There was a duodenal ulcer equal in size to a sixpence Posterior gastro-enterostomy was performed The patient recovered. He had a severe attack of bronchitis after the operation, with high temperature and rapid pulse [illegible] ale, aged 31 years He had been [illegible] two or three years. He now had pain [illegible] s eased by food He [illegible] eal and belched very [illegible] began to feel a sinking [illegible] of the hand over the [illegible] to the right of the [illegible] gel. Gastric hyper- [illegible] duodenal ulcer about [illegible] ne surface and hard [illegible] nd Posterior gastro-enterostomy was performed. The patient recovered. (Dr Lammerer and Dr. Brewer of New York were present.) The result of the operation has been perfectly satisfactory.

CASE 8.—July 14th, 1903; male, aged 42 years. For many years he had had indigestion. He had pain, burning, and fulness after meals. The pain came on about two hours after a meal and lasted till the next meal, when he was easy for a time. The pain went round the right side of the abdomen and through to the back. He had recently become much worse and had a heavy, burning feeling in the pit of the stomach. He could not eat with comfort. There was no vomiting. He was very tender in the right of the epigastrium. At the operation a duodenal ulcer was found just beyond the pylorus. There was a circular reddened [illegible] area. There were a few adhesions on [illegible] omach. Posterior gastro-enterostomy was performed. The patient recovered and has since been perfectly well and able to eat ordinary meals heartily. He has gained one and a half stones in weight.

CASE 9.—August 7th, 1903; male, aged 39 years. Some years ago the patient had five or six attacks of severe abdominal pain with fainting. The last of these was four years ago. Since then he had suffered a good deal from indigestion, pain from two to four hours after food, sometimes earlier than this, though not usually. He suffered much from flatulent distension after a meal and had very sour eructations. On July 27th, 1903, he had another similar attack of pain and nearly fainted. The pain passed off in about half an hour. On August 1st his motions were quite black; he felt quite well. On the 8th while cycling home from business he felt faint and got off his bicycle. He vomited a large quantity of blood. On reaching home he collapsed. Next day he again vomited blood and had several black stools. He was anæmic and his pulse was 120. At the operation an ulcer was found on the posterior wall of the second part of the duodenum, adherent to the pancreas. Posterior gastro enterostomy was performed. The patient was severely collapsed after operation but he recovered. The result of operation was perfect. In June, 1904, he was quite well.

CASE 10.—Nov. 23rd, 1903; male, aged 30 years. The patient was quite well up to 18 months ago, when he had an attack of pain below, and to the right of, the umbilicus, accompanied by vomiting. These [illegible] intervals up to now; latterly he had only [illegible] early morning. The pain came on as a rule [illegible] after a meal; during this hour or more he was more comfortable than at any other time. The heavier the meal the longer his freedom from pain. Dieting did not improve the condition at all. No hæmatemesis or melæna had been noticed although looked for recently. At the operation there was found to be thickening and puckering of an old ulcer in the first part of the duodenum. Posterior gastro-enterostomy was performed. The patient recovered and has since been perfectly well. He eats heartily and has no discomforts.

CASE 11.—Dec. 2nd, 1903; female, aged 45 years. The patient had pain after food and occasional vomiting for ten years. She was much worse the last three months. She had lost one stone in weight [illegible] the last eight months. Examination of [illegible] showed absence of free hydrochloric [illegible] At the operation a thickened band was found across the front of the first part of the duodenum. There were many adhesions of omentum to the anterior wall of the abdomen. Posterior gastro-enterostomy was performed. The patient recovered.

CASE 12.—Dec. 3rd, 1903; female, aged 38 years. The patient had had symptoms on and off for ten years; they had been worse of late. There were vomiting, pain in the left side, and nausea. The pain was always present but worse after food. Vomiting made the pain worse. The patient said that she had vomited a little blood sometimes. The bowels were constipated. There was loss of weight. She now weighed 5 stones 4½ pounds. There were frequent vomiting and tenderness over the left hypochondrium. Free hydrochloric acid was in excess in the stomach contents after test meals. The urine was acid, of specific gravity 1018; albumin was present but no sugar. At the operation nothing abnormal was found. There were no scars. Posterior gastro-enterostomy was performed. The patient developed hæmaturia and uræmic symptoms and died on the 8th.

Necropsy.—There was no peritonitis and union was quite sound. "Kidneys are small and present cysts on their surfaces. The capsule does not strip readily, being adherent in some places. On passing the finger over the surface of the kidney a distinctly granular impression is imparted to it. The cortex is extremely narrow, almost all the kidney substance being made up of the pyramids. The pelves appear normal." There was ulceration without induration in the duodenum, probably uræmic in origin.

CASE 13.—Jan. 15th, 1904; male, aged 32 years. Symptoms had been present for three or four years. There was pain at first during a meal, later an hour or so after food. For 18 months there had been vomiting. The loss of weight amounted to one and a half stones. There was no hæmatemesis. At the operation there were adhesions of the pylorus and the duodenum to the gall-bladder. The duodenum was dilated. Posterior gastro-enterostomy was performed. The patient recovered.

CASE 14.—Jan. 20th, 1904; male, aged 40 years. The patient had suffered from pain in the epigastrium for 18 years. During the last three years this had been worse and he had had occasional attacks of vomiting. For six months the pain had been very severe. There had been a feeling of heat and oppressiveness in the epigastrium and there were [illegible] gurgitation of food. He had lost 14 pounds in [illegible] No free hydrochloric acid was present. At [illegible] l ulcer of the size of a threepenny-piece was found just beyond the pylorus. Posterior gastro-enterostomy was performed. The patient recovered. After the operation he could take food well but there were still a good deal of flatulence and distension of the abdomen.

CASE 15.—March 24th, 1904; female, aged 25 years. The patient had had indigestion for 12 years. For many years she had had acid eructations, distension, and for the last two years had vomited after food. She had had many severe attacks of pain in the epigastrium, beginning, as a rule, an hour or two after food. Four days before admission, and again one day before, she had attacks, but not any more acute than many she had had before. During the last [illegible] dropped from 9 stones to 5 stones 8¾ pounds. [illegible] of the size of a small pea was found in [illegible] portion of the duodenum. The ulcer, with the induration around it, was of about the size of a half-crown. There was a little local plastic peritonitis but no general infection. The perforation was closed with Lembert's sutures and a posterior gastro-enterostomy was performed. The patient recovered. Since the operation she had eaten better than ever before and had gained about three stones in weight.

CASE 16.—June 17th, 1904; male, aged 40 years. The patient had suffered from indigestion for 20 years. 12 months previously he had a sudden attack of faintness, followed by anæmia and great general feebleness. He noticed that the motions were black for some days after the attack. There was no hæmatemesis. Six months previously a recurrence of these symptoms and commencing dilatation of the stomach were noticed by Dr. R. H. Trotter. Two similar attacks had since been noticed; in the last there was "profuse hæmorrhage." Great tenderness was present along the costal margin on the right side down to the umbilicus. There was some dilatation of the stomach. The pain generally came on from one to one and a half hours after food. At the operation a large duodenal ulcer was found about three-quarters of an inch beyond the [illegible] and opacity around it. Posterio[illegible] The patient recovered and since [illegible]

CASE 17.—June 17th, 1904; male, aged 40 years. The patient had had stomach trouble over 20 years, flatulence and pain coming on from one to one and a half hours after food At Easter, 1902, he noticed that the fæces were black and he once vomited blood. Ten days before he vomited a ver[illegible] "half a bucketful." At the operation [illegible] in the anterior wall of the first part of the duodenum, with adhesions to its surface. Posterior gastro-enterostomy was performed. The patient recovered and his medical man reports that he has made remarkable progress since the operation.

CASE 18.—July 16th, 1904; female, aged 26 years. For three years the patient had suffered from pain in the epigastrium and between the shoulders. This came on almost immediately after taking food and was very often followed by vomiting which relieved the pain. There [illegible] great fulness and oppression and a burning pa[illegible] stomach after meals. There had been slight [illegible] or four occasions. At the operation a somewhat dilated stomach was found. There was a cicatrix on the anterior wall of the first part of the duodenum about a quarter of an inch beyond the pylorus. No obvious stenosis was present. There were adhesions to the under surface of the liver. Posterior gastro enterostomy was performed. The patient recovered.

CASE 19.—August 4th, 1904; male, aged 55 years. The patient had been subject to occasional attacks of pain for several years. The pain was very definitely localised over the upper part of the right rectus. It came on at night and lasted two or three hours. He rarely vomited He had occasionally been slightly jaundiced. While in hospital he passed a considerable quantity of altered blood per rectum. He was very thin, anæmic, and prematurely aged. At the operation a mass of indurated tissue of about the size of a hen's egg was found involving the first part of the duodenum. It was considered to be an ulcer with surrounding inflammatory thickening. Posterior gastro-enterostomy was performed. The colon was quite blue in colour from contained blood. The patient recovered.

CASE 20.—August 17th, 1904; male, aged 52 years. The patient had been ailing for about 12 months severely but slightly for nearly three years. He first noticed pain in the stomach on waking at 2 or 3 o'clock in the morning; he would then vomit "nasty sour stuff." The pain had since increased very much and was now all to the right of the middle line, where there was tenderness. The pain came on from one to three hours after food. "Heaving," retching, and foul eructations were present. He had several attacks of severe vomiting but never of hæmatemesis. The stomach was large but there was no visible peristalsis. At the operation a duodenal ulcer was found. There were many adhesions of the stomach, duodenum, and omentum to the anterior abdominal wall high up. Posterior gastro-enterostomy was performed. The adhesions were not separated. The patient recovered.

CASE 21.—Sept. 2nd, 1904; female, aged 44 years. There was an indefinite history of an attack of abdominal pain after confinement about 11 years previously. The patient was in her usual health at the beginning of this year, though occasionally she had had attacks of dizziness and abdominal pain. In January, 1904, she began to feel pain after food. Soon vomiting began which relieved the pain. The vomit was very offensive. She had lost about two stones in weight. Free hydrochloric acid was present in the stomach contents. The stomach was much dilated and greatly hypertrophied. Contractions were constantly seen. At the operation the stomach was found to be much dilated. There were extensive adhesions between the pylorus, the gall bladder, and the lower margin of the liver. Gall stones were felt in the gall-bladder. Posterior gastro-enterostomy was performed; then the adhesions between the liver and the first part of the duodenum were separated. The gall-bladder was intimately adherent to the duodenum In separating this the duodenum was opened. A gall-stone of about the size of a pigeon's egg was found projecting into the duodenum but covered completely, or almost completely, by duodenal mucosa. The wound in the duodenum was sequestrated by suture. The gall-bladder, which contained another stone, was small and shrunken; it was removed. A drainage-tube was left in the cystic duct. A split tube with a gauze wick was left in the kidney pouch. The patient recovered.

CASE 22.—Sept. 3rd, 1904; female, aged 40 years. The patient was confined 11 weeks previously. Three weeks after labour she began to feel very weak and languid and one day she noticed that her motions were quite black. They continued to be so for eight or ten days. She had only vomited once, the vomit, according to her medical attendant, containing about one ounce of blood. She had never had any pain in the abdomen but she had been unable to take solid food on account of its bringing on palpitation. At the operation an ulcer was felt in the first part of the duodenum. The stomach was a little dilated. Posterior gastro-enterostomy was performed.

SERIES III.—*Gastric and Duodenal Ulcers (22 patients; 28 operations).*

Females	8	Hæmatemesis and melæna	6 cases.
Males	13	Hematemesis alone ...	4 "
(There was one death.)		Melæna alone	3 "

CASE 1.—January, 1900; *female*, aged 41 years. At the age of 16 years the patient had an illness attended with vomiting of *blood*, on one occasion in large quantity. She had had pain after food over

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ting stomach was seen.
At the operation the
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5 years The patient had had dyspepsia for ten or 12 years, culminating five years ago in an "attack" which lasted for two weeks and was remarkable for the severity and continuance of epigastric pain and the persistence of vomiting Since this attack he had had periodic seizures of copious vomiting at intervals of from 24 hours to three weeks He had pain after fo
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powders the outline of the greater curvature descended behind the symphysis pubis An ulcer was found extending onward into the duodenum, cicatricial contraction was very marked, there was

CASE 4 —Feb 16th, 1901; female, aged 51 years. For some years the patient had had pain after food and diarrhœa For the last five or six months the pain had been much more severe after every meal It came on about half an hour after food and lasted for three hours or more. Vomiting was infrequent unless self induced to obtain ease On two occasions she had noticed blood but only in small quantities She had lost health and strength
treatment for five months had pr
ness on pressure over the pylor
"Had tried all the usual drugs,
taken without great pain, and she
stomach was a little dilated, there

seen three months after the operation she had gained ten pounds in weight. 12 months later she

CASE 5 —March 19th, 1901,
present for five or six years
meals most severe in bed at night, and slight pain between the shoulders Vomiting had been present for 12 months, almost regularly on alternate days, the vomit consisted of "watery phlegm, very sour," and once of blood He had lost nearly a stone in weight He had always been careful in his diet He had attacks of faintness

stones 9 pounds

CASE 6 —Nov 2nd, 1901, male
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CASE 8 —Feb 3rd, 1902, male, aged 43 years The patient had had long-standing stomach trouble which began 20 years ago, he had pain after food and vomiting. He had been more or less subject to indigestion and had carefully limited his diet, vomiting from time to
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On the anterior surface there was
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blood was ever observed For seven years she had continual indigestion At the end of that period she had alarming hæmorrhage and was in hospital for five weeks Vomiting and pain have continued intermittently since She was advised by a consultant to undergo operation last year. She had a dilated stomach, for several months she had noticed occasionally that her stools "were black as ink" At the operation numerous adhesions were found at the pylorus and the duodenum, especially on the posterior surface The stomach was found to be very large There was some marked local thickening on

In February, 1905, she had gained six pounds more

CASE 10 —July 2nd, 1902 male aged 47 years The patient had had indigestion for four or five years, which had been gradually increasing in severity until the present time, when he was disabled from work Pain after food was the first symptom coming on about one and a half hours after a meal and increasing in severity for an hour unless eased by vomiting, which always afforded relief There had never been
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the abdominal wall Posterior gastro enterostomy was performed. The patient made a rapid recovery and within three weeks was eating ordinary meals with great relish

CASE 11 —Oct 6th, 1902 male, aged 30 years The patient had had

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the patient had a severe attack of melæna Several years before this he had been subject to indigestion and inability to eat heartily, but for a few months before this attack of bleeding had been in better health than usual Since this attack he had had many others of melæna and hæmatemesis He had been in a nursing home in London for 13 weeks under treatment for duodenal ulcer and while there had had occasional severe bleedings and his hæmoglobin count was only 18 per cent. On examination he was very thin and anæmic. A dilated, obviously contracting, stomach was seen, from which he shortly afterwards vomited a quart of fluid containing blood. This patient looked very worn and ill. It was necessary to infuse saline solution during and after the operation. The day and night before operation he had copious melæna. At the operation an enormous stomach, slightly hypertrophied, was found. The first portion of the duodenum was imbedded in a mass equal in size to a lemon; there was inflammatory thickening round an ulcer. On the greater curvature there was an induration equal in size to a shilling near the pylorus. Posterior gastro-enterostomy was performed. The patient recovered. He was soon able to take ordinary diet. By March he had gained seven pounds. He had a severe attack of diarrhœa lasting four days in the fifth week. In July, 1903, he had gained four stones and could eat heartily. He was quite well in July, 1904.

CASE 15.—Feb. 9th, 1903; female, aged 56 years. In February, 1892, the patient was in the infirmary for removal of an ovarian cyst. In the notes it is said that she then suffered much from indigestion and on one occasion had melæna. Since then Dr. Woods had attended her for chronic indigestion. On several occasions there had been severe melæna. In December, 1901, hæmatemesis occurred. In 1887 a medical man diagnosed an acute illness as "ulcerated stomach." She now had pain two or three hours after a meal all over the upper part of the abdomen and frequently "heaving and vomiting." She could take nothing solid except biscuits, which she took to relieve the pain as soon as it came on. During the last twelve months she had lost over three stones in weight. attack of melæna. She had mass of the size of a the duodenum. Th he overlying peritoneum. In the sto about four inches from the pylorus, was an ulcer equal in size to a sixpence. The omentum was crumpled up and adherent over it. The patient recovered.

CASE 16.—Feb. 19th, 1903; male, aged 62 years. He had suffered from indigestion and vomiting for several years. He said that he did not remember when he was able to take an ordinary meal in comfort. Three years ago he was seen by a physician who diagnosed pyloric stenosis and gastric dilatation and advised operation. Since then the vomiting and pain had increased to such a degree that the patient said he "cannot go on any longer." On examination there was an enormous stomach actively contracting. At the operation a large hypertrophied stomach was found. There were several scars on the stomach. The pyloric region on both gastric and duodenal sides was scarred and stenosed. Posterior gastro-enterostomy was performed. The patient recovered. In May, 1904, he had gained two and a half stones in weight.

CASE 17.—April 11th, 1903; female, aged 19 years. Her first symptoms were observed in September, 1901. She had quite at the beginning an attack of hæmatemesis. She was then under careful treatment for over six weeks. When she began to take solid food the pain was noticed, generally half an hour after a meal. Vomiting and pain were constant after all solid foods, so that for "several months" she had lived entirely on fluids. For over three months now the pain had been increasingly severe and she had given up her work. Recently she had had a slight attack of hæmatemesis. The stomach was slightly dilated. At the operation ulceration was found near the cardiac end about one inch below the lesser curvature. There were some adhesions round the pylorus and duodenum involving the gall-bladder and surroundings. Posterior gastro-enterostomy was performed. The patient recovered.

CASE 18.—June 9th, 1903; male, aged 30 years. About 15 months ago the patient first noticed a sharp burning pain in the epigastrium a little to the left of the middle line. This was worse after food at first but latterly he had had most pain when fasting. He now felt easy when a moderate meal was taken, but in about an hour had "very bitter belching and waterbrash," and then pain became steadily more acute. He had vomited rarely until recently. He was now losing weight—one stone was lost in the last five weeks. The stomach was slightly dilated. At the operation a duodenal ulcer in the first portion about one inch beyond the pylorus was found. There was a hard pellet of scar tissue in the posterior wall of the stomach about two to three inches from the pylorus. The patient recovered. His weight before operation was 8 stones 3 pounds. On Sept. 9th, 1903, it was 8 stones 8 pounds; and on Sept. 3rd, 1904, it was 9 stones 1 pound.

CASE 19.—July 25th, 1903; male, aged 30 years. For several years he had suffered on and off from indigestion and had to be careful and sparing in his diet. Two months ago he had profuse hæmatemesis and for several days melæna. He fainted. Since then he had been kept in bed on very small quantities of liquid food but these give him pain and any attempt at increase caused vomiting. At the operation a duodenal ulcer was found immediately beyond the pylorus. There was a gastric ulcer near the greater curvature about three inches from the pylorus—a dense, white, very hard scar. Posterior gastro-enterostomy was performed. The patient recovered and has since been perfectly well.

CASE 20.—Dec. 2nd, 1903; male, aged 35 years. For two or three years the patient had had slight pain and discomfort after food, with foul and sour eructations. He began to vomit about one year ago, the act being sometimes induced in order to relieve his pain. No hæmatemesis or melæna was noticed. The stomach reached one inch below the umbilicus. At the operation the scar of an old ulcer was found on the posterior surface of the stomach near the lesser curvature. An ulcer of about the size of a sixpence was also found in the concavity of the first part of the duodenum. The patient recovered. Since the operation he has gained over two stones in weight and "can eat anything."

CASE 21.—Dec. 23rd, 1903; male, aged 28 years. The patient had suffered for six years from indigestion. There was pain in the epigastrium and between the shoulders after food. He was much troubled by a feeling of distension. There was no vomiting. At the operation a large scar with thickening on the posterior surface of the stomach was found, also considerable thickening in the duodenum. Posterior gastro-enterostomy was performed. The patient recovered. For some weeks after the operation he complained of a burning pain in the pit of the stomach, especially when fasting. Large doses of alkalies relieved him and he was in good health and free from pain in July, 1904.

CASE 22.—Jan. 27th, 1904; female, aged 61 years. For the last three months the patient had pain and fulness after food but no vomiting. The pain came on about half an hour after food. On examination a large stomach was found. A tumour was felt beneath the upper part of the right r deposit was found round us. There were no gall-st which was greatly indurated and enlarged at this part. There was a big and thick stomach. Posterior gastro-enterostomy was performed. The patient recovered.

CASE 23.—July 15th, 1904; male, aged 25 years. The patient had had indigestion for three years. He had a feeling of fulness before he had taken half a meal, followed by severe pain. He had never vomited except when he made himself sick in order to get rid of the fulness. At the operation the stomach in the pyloric region and the first part of the duodenum were found to be adherent to the under surface of the liver. Scars were also found on the posterior surface about two inches from the pylorus. ? Recent perforation. Posterior gastro-enterostomy was performed. The patient recovered.

Leeds.

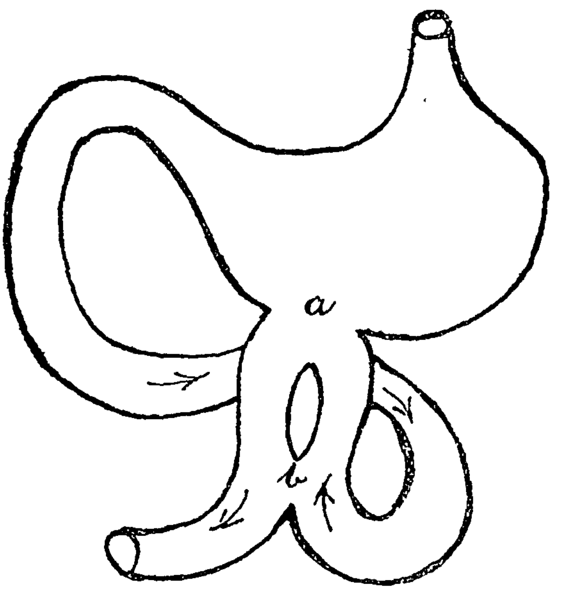
THE SEPTIC ORIGIN OF GASTRIC AND DUODENAL ULCERS.

BY W. BRUCE CLARKE, M.B. OXON., F.R.C.S. ENG.,

SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

IT is pretty generally acknowledged that the cause of gastric and duodenal ulcers is wrapped in obscurity. Any facts, therefore, that tend to elucidate this question are worthy of notice. This must be my excuse for the following few remarks on a case on which I have recently performed a gastro-jejunostomy.

The patient, a man, aged 55 years, was admitted under my care early in November, 1904, suffering from a gastric ulcer for which he had been treated at intervals during the last six years. His history, which has been fully verified by subsequent inquiries, is as follows. He is a sailor, an occupation which he has followed for many years. Just six years ago he was shipwrecked and spent 16 days in an open boat before he was picked up. During that time he suffered greatly from exposure and had nothing to eat but some mouldy maggoty bread and the water he drank was putrid. Two days after he was rescued he suffered from violent pains in the stomach and vomited everything he took for five days. He said that the vomit at that time was yellow and then became black. He had never been well since for any length of time but had suffered from attacks of pain and vomiting, usually about once a fortnight, and had always been obliged to be very careful about his diet ever since. Previously he enjoyed the best of health and could eat anything. He had been under medical treatment off and on during the whole time, in addition to being under the care of Mr. J. R. Kingdon in the wards of the Lynn Hospital, where rest, rectal feeding, and washing out of the stomach had had full trial but without any permanent benefit. In these circumstances I decided to explore the abdomen and to perform a gastro-jejunostomy if necessary. When the abdomen was opened and the finger was



introduced a large amount of thickening was felt in the region of the pylorus, extending both towards the stomach and the duodenum. The stomach was somewhat dilated. The operation of retrocolic gastro-jejunostomy was performed, the portion of jejunum selected being about seven or eight inches from the commencement of that part of the intestine. The stomach and jejunum were joined by a double row of continuous stitches, the mucous membrane being united by catgut and the peritoneal and muscular coats by silk (see diagram (*a*)). In addition to this, a jejuno-jejunostomy (*b*) was performed at the same time so as to avoid any chance of a vicious circle being set up, a plan which I now generally adopt. The arrows indicate the direction of the natural flow of intestinal contents and the purpose which is served by the double opening, (*a*) serving for the passage of stomach contents directly into the jejunum and (*b*) allowing the bile and pancreatic fluid to pass directly down the intestine without first mounting into the stomach.

Mayo Robson and Moynihan[1] make the suggestion that oral sepsis is responsible for many gastric ulcers, a view with which I quite concur, but I have never before come across a case in which the clinical evidence of this view was presented in so striking a fashion. It seems to me, therefore, worthy of record. Anything which emphasises the dangers of oral sepsis deserves to be recorded.

Harley-street, W.

THE RÔLE OF AN EXCESSIVE MEAT DIET IN THE INDUCTION OF GOUT.

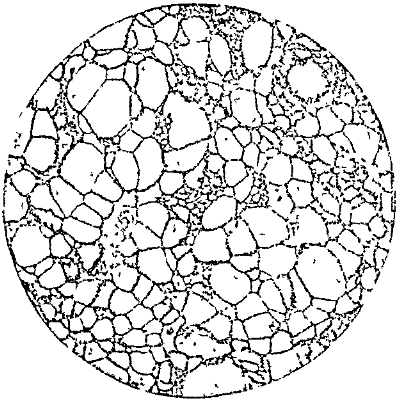
BY D. CHALMERS WATSON, M.D. EDIN., F.R.C.P. EDIN.,
LATE PHYSICIAN, MARSHALL STREET DISPENSARY, EDINBURGH.

IN 1904 I submitted evidence in favour of the view that there is an infective element in gout. This evidence was obtained from the examination of the tissues from a case of acute gout in a fowl[2] and from the histological examination of the tissues in chronic gout in man.[3] It may be some time before conclusive evidence of the existence of an infective element is available. If we provisionally accept this view the question naturally presents itself as to how far its adoption is in harmony with a well-established fact of the disease—viz., the importance of diet (solid and liquid). It appears to me that a belief in the infective nature of gout in no way minimises the importance of a study of diet and for this reason: if there is an infective element in the disease the main source of infection is the digestive tract and there is good reason to believe that the activity of the bacteria in the intestinal contents must depend largely on the character of the foodstuffs.

In view of the generally admitted fact that an excess of meat diet is prejudicial to most gouty subjects I have sought to determine by observations on animals whether an excessive meat diet exerted a specific action on any of the ductless glands. My results have shown that a diet of raw meat and water (Salisbury diet) exercises a very marked effect on the thyroid glandular system. The results obtained from investigation in poultry were communicated to the Physiological Society in March, 1904, and in December the results of a similar investigation on rats were communicated to the same society. The present paper is a *résumé* of the more salient features of these investigations from the clinical standpoint.

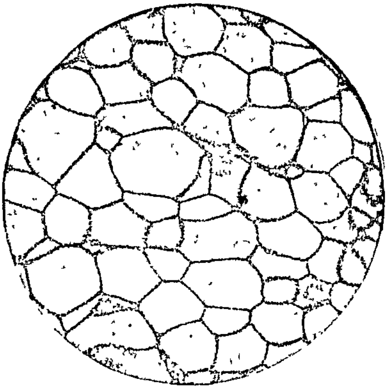
The effect of an exclusive raw meat and water diet on the thyroid and parathyroid glands in poultry.—As a result of feeding three healthy fowls on an exclusive raw meat and water diet for periods ranging from 13 to 16 months, a very striking hypertrophy of the thyroid and parathyroid glands was induced in all the animals. The parathyroid glands, instead of being microscopic structures, appeared as large glands, considerably larger than a pea; the thyroid glands were much enlarged and weighed from eight to ten times or more the weight of the normal gland. Histologically the parathyroid glands showed the normal appearance of parathyroid tissues; the thyroid glands presented the appearances characteristic of simple parenchymatous goitre in the human subject—viz. (see Figs. 1 and 2), great enlargement of spaces which were distended with colloid material, enlargement of the wall of the vesicles, and in some areas proliferation and shedding of the epithelial cells, with hæmorrhage into the vesicles. So far as I am aware, this is the first time that there has been induced experimentally in animals an enlargement of the thyroid gland similar to that seen in simple parenchymatous goitre in the human subject.

FIG. 1.



[illegible] (× 50) Observe [illegible] the walls of [illegible] ar glandular

FIG. 2.



Thyroid gland of fowl fed on raw meat and water. (× 50) Observe (1) the increase in size of the vesicles, (2) the increased thickness of wall of the vesicles; (3) the diminution in amount of intervesicular glandular tissue Cf Fig 1.

The effect of an exclusive raw meat and water diet on the [illegible] *glands in rats.*—As the result of an [illegible] which were fed on an exclusive [illegible] periods ranging from six weeks [illegible] was found that definite changes [illegible] gland in the great majority of [illegible] nature of the change was, however, quite different from that observed in the case of the poultry. The distinctive features were observed on histological examination (see Figs. 3 and 4), which showed (*a*) diminution in colloid material; (*b*) proliferation of the epithelial cells and also of the connective tissue; (*c*) evidence of rapid degeneration of the colloid into a mucinoid material; and (*d*) congestion of blood-vessels. Professor W. S. Greenfield kindly examined some of these specimens and pointed out to me that in the more marked cases the appearances bore a striking resemblance to those seen in exophthalmic goitre in the human subject. In the case of the one *adult* meat-fed rat, which succumbed after three weeks of the diet, the appearances of the gland were those of an advanced atrophic catarrh with complete absence of colloid. In the great majority of cases the parathyroid glands were normal. So far as I am aware, this is also the first occasion on which it has been directly shown that a particular diet induces distinct histological changes in the thyroid gland of an omnivorous animal (rat), and, further, that these changes are of a nature similar to those seen in the gland in cases of exophthalmic goitre in the human subject. It should be stated that the animals showed no other signs or symptoms of this disease.

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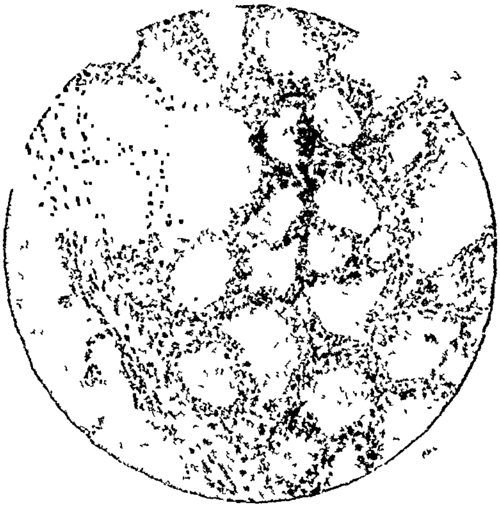
[1] Diseases of the Stomach and their Surgical Treatment. 1904 Second edition, p. 165.

[2] Observations on the Pathogenesis of Gout, Brit. Med. Jour., Jan 9th, 1904.

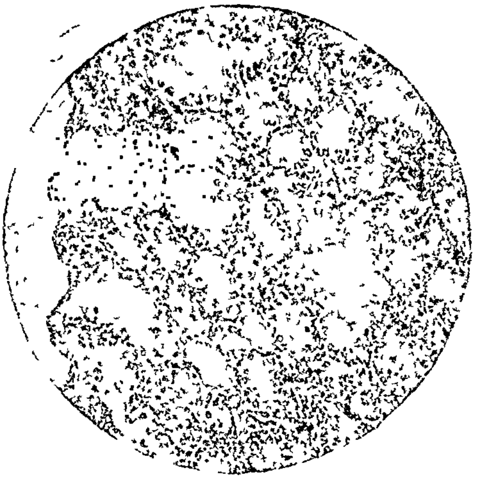
[3] Further Facts in Favour of an Infective Element in Gout, Brit. Med. Jour., July 16th, 1904.

FIG. 3.



Thyroid gland of rat fed on bread and milk. (× 200) Observe (1) the size of vesicles and regularity of outline; (2) the colloid material in the vesicles. Cf. Fig. 4.

FIG. 4.



Thyroid gland of rat fed on raw meat and water. (× 200) Observe (1) catarrhal changes in the epithelium; (2) diminution of the colloid material.

Remarks.—The results obtained from the two investigations agree in showing that a diet of meat and water profoundly influences the thyroid gland. In poultry the diet induced a striking hypertrophy of the gland with great increase of colloid material which appeared for the most part normal. In the case of rats the striking change was the alteration in the character of the secretion with catarrh of the epithelial lining of the vesicles, the general appearance of the gland indicating exhaustion of its functions. Further investigations are necessary before the difference in the results obtained in the two classes of animal can be explained. In the meantime it appears to me that these new facts have some practical interest and importance. There are figures in the Blue-book which conclusively prove that there has been a great increase in the consumption of meat in this country in the past 30 years. Evidence is also accumulating to show that thyroid medication is of value in a number of diseased conditions which have no known relationship to the thyroid gland—e.g., skin diseases, mental affections, eclampsia, and other disorders. May not the new facts recorded in the present paper explain the value of thyroid medication in those cases? It is, I believe, possible that as a result of the excessive use of meat there has been established in many subjects an alteration in the character of the thyroid secretion, which defect is remedied in the cases in question by the administration of thyroid gland. The adoption of this view has led me in the past year to try the effect of the administration of small doses of thyroid extract in two inveterate cases of chronic gout which had not been amenable to dietetic measures aided by skilled balneological methods. In both cases the symptoms were relieved to a striking degree, this relief having been so far of a fairly permanent nature.

Edinburgh.

CARBONIC ACID AS A FACTOR IN THE GENESIS OF THE GOUTY STATE.

BY DONALD F. SHEARER, M.B. OXON., F.R.C.S. ENG.

THE origin of the gouty state, in which it is usual to group together clinically gout, arterio-sclerosis, and chronic interstitial nephritis, is commonly attributed to the over-production or the retention of uric acid or its salts within the body; and a bewildering wealth of chemical experiment, of pathological record, of physiological research, of clinical observation, and of polemical argument awaits him who seeks for further enlightenment. So overwhelming is the mass of literature on the subject that one is justified in putting it all aside in order to consider the question *de novo* and in avoiding the narrow purview of the test-tube or the microscope in order to seek a solution in a less restricted field of vision. We have learnt empirically that these pathological conditions are wont to follow long-continued excesses in diet and also upon deficient muscular activity and we also know that lead poisoning has a definite etiological relationship to them. On the first two we have built our prophylactic and our curative treatments and from them it is possible to trace the genesis of the diathesis. It is interesting to note that notwithstanding all our investigations the modern treatment follows exactly the lines laid down in the days when uric acid was unheard of or had not been causally related to gout This fact, moreover, which can be verified by a reference to Sir T. Watson's lectures, indicating as it does that uric acid has led us into a blind alley barring further progress, is an additional reason for a wider review.

Now when we have to deal with a common phenomenon following upon diverse antecedents so various as undue indulgence in alcoholic drinks, excessive consumption of nitrogenous food, excess of carbohydrate diet, and insufficient exercise, when we find a mitigation of the symptoms succeeding to an alteration of each separate antecedent as well as of all combined, we may rightly seek for a causal factor common to all the antecedents rather than make the assumption that the cause is other than the known antecedents. A reference to any text-book of physiology tells us that the one factor common to all the antecedents of gout is the tendency to the production of an excess of carbonic acid in the blood. The cardinal feature of muscular exertion is the large increase in the output of carbonic acid without affecting the nitrogenous excreta. Alcohol and carbohydrates can only produce as the end products of their combustion water and carbonic acid Nitrogenous diet increases metabolism not only of proteid but of carbohydrate and hydrocarbons and thus leads to an increased amount of carbonic acid. And just as the action of the antecedents tends towards an excessive manufacture of carbonic acid, so the treatment we prescribe, whatever object we have in view and whatever may be our preconceived theory, is actually directed to the diminution or the elimination of this waste product

There is further an *a priori* probability, derived from a consideration of the anatomical distribution of the lesions, that if there be any toxin circulating in the blood to which the lesions may be attributed that toxin will be one that should normally be eliminated by the lungs in respiration For the brunt of the disease is borne not by the joints in articular gout but by the arterial system and the kidneys to which are assigned the work of conveying the purified blood and of further purifying it, and when we remember that the chief, if not the sole, portal of exit for uric acid is through the kidneys [illegible] t all the organic phe [illegible] vell owe their genesi [illegible] normal excretion through the agency of the lungs It is not hard to conceive that such a toxic blood should have the power to inhibit the excretion of uric acid and lead to an accumulation in the tissues such as precedes the gouty paroxysm, while the actual paroxysm itself may be dependent on local deposition initiated by local causes There is then a natural likelihood that the toxin of gout is or ought to be, an excretion of the respiratory function and there is an actual factor common to all the antecedents—the excess of carbonic acid If carbonic acid is to be considered the *fons et origo mali*, if not the *materies morbi* it must be shown that the excess is sufficient to be appreciable and to alter the composition of arterial blood deleteriously, but it is not necessary that the excess should be large, for, to use a mathematical figure the integration of an infinite number of infinitesimal divergencies from the normal yields a finite result, and in the second place the toxic action of carbonic acid must be such that the sum of a large number of such intoxications would produce the organic and functional lesions characteristic of the gouty state

The normal daily excretion of carbonic acid is 800 grammes corresponding closely to the amount which the oxidation of typical normal diets would yield A man doing hard work will excrete much more largely—say, 1200 grammes—and in order to maintain his weight would have to consume food of corresponding weight and quality If now we supply such a quantity of food without permitting the muscular activity necessary to excrete it the man will either not assimilate it, or he will convert it into fat, or he will metabolise it and excrete it as carbonic acid We know that he does assimilate it, we know that only a very small part is converted into fat, and we are compelled to the conclusion that he does excrete it as carbonic acid In the absence of the muscular activity, which would naturally increase the rapidity of the pulse and the frequency and depth of respiration, and therefore the quantity of blood exposed to aeration, the exchange of carbonic acid with the air must be greater than normal Under normal conditions of feeding and blood tension six out of 48 volumes of carbonic acid escape, in the altered circumstances nine must be evolved, other conditions being equal, and in order that nine may be evolved the carbon dioxide tension of the blood must be increased, that is, it must contain something like 72 volumes per cent, since the exchange of gases is proportionate and not a mere overflow If that be so the arterial blood in such a case will contain over 60 volumes of carbonic acid per cent, and making every allowance for the increased respiration from other automatic agencies there is obviously a large balance of carbonic acid which can only be accounted for on the supposition that during a portion of the day at any rate the carbonic acid tension is such as to allow an extra excretion and in consequence an excessive accumulation of it in the arterial blood with such deleterious consequences as its toxicity may give rise to The important fact in this connexion is that whereas the normal and healthy man regulates to some extent his diet by his activity, the man whc [illegible] keep the necessary balance and [illegible] soaks his arterial system and l [illegible] charged with carbonic acid All the modes of computing the discharge of carbonic acid point to the same result, whether we estimate it directly or by the oxygen inhaled or by the carbon ingested In all cases we find that muscular activity, excessive discharge of carbonic acid, and increased diet go together and we are forced to the conclusion that the gouty individual who on an excessive diet produces, by virtue of the increased metabolism consequent on a nitrogenous diet or by an excessive consumption of carbon compounds, an increased quantity of carbonic acid which is not removed by the direct cardiac and pulmonary effects of exercise must rid himself of it by means of an increased carbonic acid tension of the blood

As corroborative evidence let me adduce the well known gout producers—ale and port A pint of ale contains an ounce of alcohol and an ounce of saccharine matter A pint of port contains also an ounce of sugar and some five ounces of alcohol The former will produce by combustion 100 grammes of carbonic acid and the latter 340, so that a pint of ale or a quarter bottle of port are approximately equivalent gout producers and raise the total carbonic acid to be excreted by 12 per cent It remains to ascertain what, if any, is the effect of an excess of carbonic acid in the blood It appears that it augments the activity of the vaso constrictor centre, thus leading to a general contraction of the small arteries The heightened blood pressure thus produced is increased by the direct irritative action of venous blood on the muscular coats of the arterioles and by the increased peripheral resistance which occurs within the capillary area One cannot but be struck by the correspondence between this description of the action of venous blood and that which obtains in the gouty condition under consideration and it is obvious that a frequent repetition of such a state would inevitably induce hypertrophy of the muscular coat And the analogy of lead, a marked vaso constrictor, which is admittedly a cause of gout, and of adrenalin, which has recently been adduced to account for arterio sclerosis, shows that there is no need to labour this point We may conclude then, that the sum of the small additions to the blood pressure which are consequent upon the excessive presence of carbonic acid is sufficient to account for the muscular hypertrophy But we have also to account for the fibrosis, for the hyperplasia of connective tissue which exists both in the outer coat of the arteries and in the stroma of the kidney If we assume that carbonic acid in excess in arterial blood is an irritative toxin, as the cause evidently must be we can see by analogy how these tissues which are the first directly subject to the action of arterial blood and are therefore the first to [illegible] action [illegible] l its [illegible] but on the supporting structure in which the venous channels run So, too, with the irritation of the secretion from carcinomatous cells, the effect is also to produce hyperplasia of connective tissue with subsequent shrinking, and we may therefore easily believe that the effect of the chronic irritation of blood overcharged with carbonic acid would be increased connective tissue

From the nature of the case it is not possible to show by direct experiment that either fibrosis or muscular hypertrophy follows upon excess of carbonic acid, nor is it any more possible to show that carbonic acid possesses an inhibitory function upon the renal secretion but there are examples which go to show that this is so in general and in particular with regard to uric acid We can show from the experience [illegible] excess of carbonic acid will produce a [illegible] certain well marked symptoms [illegible] miting and partial suppression [illegible] takes place we get a soft pulse and a return of cutaneous heat—i e, vaso dilatation instead of constriction—accompanied by profuse diuresis, the urine laden with urates And this form of migraine is attributable either to over consumption of food, especially alcohol, with insufficient exercise or to exposure to a vitiated atmosphere charged with excess of carbonic acid In addition to such cases of the temporary toxic action of excess of carbonic acid there are cases where persistent excess leads to chronic nephritis and arterio sclerosis An example of this occurred in a patient in whom one lung had been collapsed entirely for many years In her case any symptoms of uric acid if they existed escaped notice and must have been of the slightest, for she was practically an abstainer from meat Her difficulty in getting rid of the carbonic acid, made greater by the little exercise she took, led in the aggregate to the organic lesions Many other such cases could be adduced, as well as others of different nature, to show that all the three classes—gout arterial sclerosis and chronic interstitial nephritis—and in general all so-called uric acid conditions are inseparably bound up with antecedent conditions, of which the main factor and the common factor is the excess of carbonic acid in the arterial blood. One would argue, of course, from such cases that carbonic acid is the determining factor which decides whether or no uric acid shall be eliminated or retained. It is worth noting also that its power to limit the water secreted by the kidneys is not absolute, for it may be, and is in the later stages, entirely overborne by the high tension in the glomeruli while still retaining its controlling influence over uric acid. This latter, then, in this view, occupies a secondary place, it remains no longer an etiological factor but becomes merely a retained normal secretion which under certain conditions obtains a pathological importance by being deposited in the neighbourhood of a joint and becoming the active cause of a local inflammation. The primary place must be assigned to the unnatural excess of carbonic acid in arterial blood as the most potent factor in bringing about those changes which go to make up the gouty state.

Putney, S.W.

THE RATIONAL TREATMENT OF FRACTURES.

BY J. STAFFORD MELLISH, M.R.C.S. ENG., L.R.C.P. LOND.,
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RECENTLY I wrote a rough draft of a letter on the rational treatment of fractures which I intended to forward to THE LANCET when I had had time to elaborate it. The leading article on the subject which appeared in THE LANCET of Jan. 21st last, p. 172, at once confirms my opinion that there is much room for improvement in this branch of surgery and emboldens me to send for publication what I had written. The leading article in question says:—

> The lack of completeness in many of our results opens a way, and is responsible, for much of the bone-setting which abounds in this country to-day and it is necessary to consider closely the situation which presents itself. We can all treat with success an uncomplicated fracture, say, of the tibia. The fragments of the broken bone are carefully replaced, splints are bandaged on, and a few weeks' rest in bed produces a firm osseous union of the two portions of the bone. Hardly any deformity can be detected on rigorous examination or even with the aid of a skiagram. Yet when we regard the case from another aspect we see that the result leaves much to [illegible] there may be little fault to be found with th[illegible] it is far from being a perfect member. The [illegible] could before his accident. The knee-joint and the ankle-joint are stiff; the long confinement between splints has resulted in the formation of numerous bands of adhesions, whether within the joints themselves or in their neighbourhood; muscles and tendons may have shortened from the enforced rest and the pain and tenderness combine with the adhesions in limiting movement. The patient can hardly after six or eight weeks of rest do more than get about feebly with the aid of crutches After some months an increased mobility of the limb may be obtained and work may be resumed.

I am convinced that this state of things can, and ought to, be prevented in the vast majority of cases of fracture and would be if the methods which I follow and try to describe were commonly adopted. These methods include rubbing and as much freedom and movement as can be permitted in each individual case. Having been dissatisfied with the results of fractures which I have seen treated both in hospitals and in private practice by the ordinary methods of splints and so-called passive movement "administered by the surgeon" I have been at some trouble to apply any hints on the treatment of injuries which might tend to avoid the subsequent stiffness of joints and the muscular wasting which invariably follow the continued use of splints, plaster-of-Paris, and other rigid apparatus, and from a treatise on bone-setting by Dr. Wharton P. Hood, as well as from a later work by the same author on the treatment of recent injuries, I have learnt much which has been of the greatest practical use and which varies widely from the general tenor of the usual text-books.

We have all seen stiff and wasted limbs "go on strike" and become œdematous and painful on being called upon to perform their wonted movements, often taking a longer time to get into a healthy working condition physiologically after the bone was firm than the bone itself had taken to unite. For my part I have come to look upon the bone as being quite able to take care of itself if the surgeon, after having approximated the fractured ends, will give his chief attention to keeping the circulation of the limb in a healthy condition. For this purpose I find that the less splinting one can do with the better and dependence must be placed upon rubbing and movement of a voluntary kind. Where a splint has to be used as in fracture of the humerus, of the femur, or of both bones of the leg, rubbing must be practised and the patient be induced to move his joints voluntarily every day, the splints being taken off for this purpose and then being replaced. The rubbing must commence at the proximal end of the swelling in the region of the fracture and be directed towards the body—i.e., in the direction of the venous circulation, gradually working down to the distal portion of the swelling. As a student I was always taught that the joints above and below a fracture were to be secured and kept rigid, but this course invariably produces stiffness which has to be got rid of after the bone is united. For some time past I have followed the recommendations of the author of the works mentioned above and it is now my practice to endeavour to give the joints free play where possible and in this manner to prevent both wasting and stiffness, by encouraging the patient to move the joints, merely supporting the bone. The patient must be persuaded to flex, to extend, to rotate, and, in short, to execute all the movements that the joints are in the habit of performing voluntarily. This is a much more efficacious and to my mind a more rational proceeding than waiting a stipulated time from the occurrence of the accident, as is generally done, and then beginning so-called passive movement to be performed by the surgeon, for in the voluntary movement the nervous stimuli are called into use, while in the passive they are not and, in fact, there is generally more or less antagonism on the part of the patient. I will describe two cases which have recently come under my care, in one of which I saw the patient two hours after the accident and treated the case according to the plan already enunciated. The other patient had been treated in the more classical manner and I was called in eight months after the accident, when I found her suffering from a stiff knee and ankle, muscular wasting, and pain on attempting to walk.

CASE 1.—The patient, a man, aged 42 years, and weighing 15 stones, had fallen down and broken his leg. On seeing him some two hours after the accident I found the tibia fractured at the junction of the middle and lower thirds, the fibula being fractured somewhat higher up. There was a good deal of swelling. I first flexed the knee and rotated the thigh outwards, resting the knee on a pillow to check muscular spasm, and gently rubbed at the swelling for an hour, beginning at the upper end and gradually working downwards, but always rubbing in an upward direction, in this manner squeezing out of the tissues and passing on the effusion which had gathered there. One who has not tried this would be surprised to find the reduction in size that he will produce and the comfort that it gives to the patient. It is as well during rubbing to take advantage of gravity by elevating the limb when able to do so. I then, as I always do in cases of simple fracture, strapped the leg. To do this I used pieces of strapping about two inches wide, and having placed the broken bones in as good a position as possible I applied the plaster to the leg *from above the break downwards* to the ankle, not tightly, but just so as to support the limb, letting each succeeding piece of strapping overlap its predecessor by about one half. It will be noticed that the limb was strapped from above downwards. This is done in order that in the daily upward rubbing of the limb afterwards the strapping may lie the right way and its edges may not become displaced by the hand of the rubber. In some cases where it is difficult to apply the strapping with equal pressure on account of the shape of the limb, advantage may be taken of the American method of bandaging the legs of racehorses—i.e., by surrounding the limb with a layer of cotton wool or Gamgee tissue, filling up cavities with the wool and strapping over it, thereby producing equal pressure. Having strapped the injured part I applied a pair of Cline's splints and rested the leg on a pillow with the knee flexed in the ordinary way. The splints were removed twice daily and the limb was rubbed for half an hour, morning and evening, the leg being supported and the patient being persuaded to flex and to extend his knee and ankle. On the evening of the fourth day the plaster, being loosened by diminution of the swelling, was taken off and replaced, this being done at intervals as the case demanded. The splints after a week were kept in position merely by two webbing straps and the patient's wife (an intelligent woman) was instructed to undo the straps and to remove the top or inner splint night and morning for the rubbing. The patient being a very heavy and unwieldy man I did not let him have crutches till the fourth week. Previously to this he got out of bed with help and sat in a chair with his leg resting on a sloping stool made for the purpose; and five weeks after the accident he walked out with crutches, putting his toes to the ground. In another week he could put his weight on the leg and stand without crutches. *There was no wasting of the muscles or stiffness of the ankle* or knee.

CASE 2.—In the second case which I saw eight months after the fracture had occurred I found the patient in bed with a wasted limb, rigid ankle and knee-joint, and some swelling round the knee, especially over the inner side in the region of the internal semilunar cartilage. I carefully examined the limb and found that the fracture had been a very similar one to that which I have described above. The *history given me was that the patient had walked with a* stiff limb since the accident and could not get about except with a crutch and then with considerable pain. She was also suffering from crutch palsy. The limb was in a position of eversion and she complained of pain when it was moved. I suggested an anæsthetic, with permission to do what I considered necessary when she was under it. This, however, was refused but I was requested to try to do what I could without an anæsthetic. I first of all began with the ankle rotating and flexing it and felt some small adhesions give way, after which the patient could move the joint. I then proceeded to the knee, adopting the position described by Dr. Hood—i.e., placing the foot between my knees with the inner condyles on either side of the calcaneum, the whole length of the foot resting between the adductor muscles of the thigh. I rotated the leg and the thigh by means of turning my knees in a lateral direction, both internal and external, flexing in each position, meanwhile having kept my thumb on the tender spot on the inner side of the head of the tibia. When flexing the joint I felt and heard the adhesions give way. After this movement I placed my right forearm at the back of the kneejoint, flexing the knee still further with the other hand. There was some pain but the patient could at once flex both joints herself. I got her out of bed and made her hold the back of a chair for support and in this manner she walked across the room and back, bending both joints. The limb was rubbed every day and the patient was made to walk and now she gets about with a stick.

These, I think, are the cases which are somewhat neglected by the profession and which, as a rule, ought never to occur if the recent injuries were dealt with in the first instance in a rational manner. If they were handled with common sense (that rarest of qualities) we should no longer see the daily press teeming with the marvellous cures of the so-called bone-setter fraternity.

Tetbury.

PYLOROPLASTY.

REMARKS ON 17 CASES OF PYLOROPLASTY, WITH AFTER-HISTORY FOR PERIODS VARYING FROM TEN YEARS TO FIVE YEARS AND THREE MONTHS AFTER OPERATION.

BY RUTHERFORD MORISON, F.R.C.S. ENG. & EDIN.,
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SINCE Feb. 16th, 1895, when my first case of pyloroplasty was published in THE LANCET, I have never ceased to believe that pyloroplasty was the best operation for stricture of the pylorus and it has been with some surprise that I have observed it steadily falling into disuse among the majority of surgeons in this country and in America. The reason for this, so far as I can discover, is that it has been tried and found wanting. If this be true no better reason could be given and the last word would have been said, but my experience does not confirm this idea. An operation which is simple and safe and which interferes in as small a degree as possible with the normal anatomy and physiology of the organs concerned ought, in my opinion, to be rejected only after weighty evidence against it has been produced. In suitable cases I have found that the operation may be relied upon to remove pyloric stricture. With regard, however, to my earlier statement that the stricture will not recur, increased experience has taught me that it was too optimistic; it is not invariably true. It will now be generally admitted that no known treatment will prevent the formation of fresh gastric ulcers and that the scar of the old ulcer or its neighbourhood is a favourite site of recurrence. There is no limit to the contraction of a healing ulcer and the largest pylorus may be closed by it.

The cases suitable for pyloroplasty, as I have previously frequently pointed out, are those with a history of long-standing stomach trouble, foul abundant vomiting towards night, thin patients with dilated stomachs and with a palpable moveable nodule in the pylorus. No other operation, in my opinion, is justified in these cases. They have much diminished in frequency, however, of late years; probably for the same reason as huge ovarian tumours have done the same—viz, that it is so easy to recognise them that they are "worked out."

The brilliant results of gastro-enterostomy obtained by Mayo Robson, Moynihan, and others in the treatment of gastric ulcers have caused quite a boom in this operation, and it seems to be almost as much in fashion to undergo a gastro-enterostomy as to have an appendix removed. But is it not time to call a halt? It takes time to find that there may be objections to new operations. It took ten years for surgeons to discover that myxœdema might follow removal of the thyroid gland. It has taken longer to discover that every diseased ovary does not require removal and that an operation upon it may leave a "cure" worse than the disease. The appendix, too, since Sir William Macewen came to its defence a short time ago, is no longer to be condemned universally as a structure mischievous and useless. (The first and incomplete gall-stone operations occasionally led to the escape of all or a greater part of the bile through an external biliary fistula and this result was said to be attended by no evil result. Where are these patients now? So far as I know none of them survived for ten years.) Is it, then, probable that such a revolution of the chemical and physical processes of digestion as is involved in a successful gastro-enterostomy is likely to be followed by no evils? I do not think that any first-class insurance office would accept at ordinary rates the life of any patient, however apparently well, after this operation. Personally I restrict its use to cases of serious gastric ulceration which have resisted an honest trial of ordinary measures and then I undertake it with a feeling that I should like to know a great deal more than I do of the after-history of patients who were operated upon five years ago.

I have already published in THE LANCET[1] and the *British Medical Journal*[2] the histories of the first 20 consecutive cases on which I had performed the operation of pyloroplasty and the after-history of these cases up to date. All of these patients recovered from the operation, as indeed did the first 23 on whom I operated, and it seemed to me to be a matter of some surgical importance and interest to give a further account of the 20 patients whose history has already been recorded

For the following notes and abstracts I am indebted to the surgical registrar of the Royal Infirmary, Newcastle, Mr. G. Grey Turner, and the indebtedness is not a small one, for the difficulty of tracing some patients is very great. Of the 20 patients one cannot be found and two are dead. These deaths were both referred to in the report in the *British Medical Journal* above referred to. One (Case 4 in the old lists), a woman, aged 59 years, died 18 months after the operation from cancer of the pylorus (a malignant stricture having been mistaken for a simple one); the other (Case 8 in THE LANCET and Case 7 in the *British Medical Journal*) died from phthisis pulmonalis two years and four months after the operation. In this case there had been no recurrence of stomach symptoms when she died.

There remain 17 cases, of the after-histories of which, varying in length from 10 years to five years and three months, I am able to give the following brief particulars. In three the symptoms have recurred, necessitating a further operation. In two of these cases (Nos. 7 and 9) recurrence was due to stricture; in the third (No. 16) the patient has complained more or less ever since her first operation and it is to be observed that it was then specially noted that there was no organic stricture. She has always looked healthy and well in spite of her stomach complaints.

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[1] THE LANCET, Feb 26th, 1898, p 561.
[2] Brit. Med. Jour., Oct. 19th, 1901.

At the second operation the pylorus easily admitted three fingers. Of the remaining 14 patients, in eight the result may be said to be perfect; in six symptoms more or less troublesome are complained of. On critical examination of these six cases we find that in one (No. 6) no definite organic obstruction was found at the pylorus and that in spite of some trouble (probably of alcoholic origin) the patient has gained weight. In one (No. 8) the patient occasionally vomits but her health is better than before and she is still gaining weight. In one (No. 10) the symptoms are slight and the gain in weight is maintained. In one (No. 12) the symptoms are also slight but the patient has lost weight during the last three years. In one (No. 13) the only complaint is of slight bilious attacks. In one (No. 14) the miserable condition of the patient before operation has been converted into one of comparative comfort.

Newcastle-on-Tyne.

GENERAL GONOCOCCAL INFECTION.

By W. H. WYNN, M.D., B.Sc. Lond., M.Sc., B.Ch. Birm.,
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To the original idea of gonorrhœa as a purely local disease with acute manifestations and possible chronic complications also of a local character, is now being added that of a general malady, sometimes having an acute septicæmic or pyæmic character, at others producing important inflammatory lesions in many different tissues. A review of the literature shows that practically no tissue can claim immunity from attack; endocarditis, pleurisy, arthritis, meningitis, neuritis, and myositis, inflammations of bone, the eye, the nose, and the skin have all been attributed to this infection. In this gonorrhœa seems to me to show a great family resemblance to such diseases as pneumonia, acute rheumatism, and cerebro-spinal fever, in all of which a diplococcus has been more or less conclusively proved to be the etiological factor. In each case opinion has passed with the growth of bacteriological knowledge from the idea of a local condition to that of a systemic malady. Scarlet fever also has a great resemblance to the members of this group, and although it is never safe to prophesy in pathology, yet one cannot help wondering whether the organism of this disease too will not also prove to be a diplococcus. In each case, although the germ has a different seat of election, the disease often becomes generalised and produces a septicæmia or lesions of various organs and in particular of the serous surfaces (e.g., pericarditis, endocarditis, pleurisy, peritonitis, meningitis, and arthritis). All have in common a marked leucocytosis, and various affections of the skin, the nerves, and the eyes. It is also interesting to note that an attack of one of these diseases appears to predispose to the others. The association of pneumonia with rheumatism, scarlet fever, and cerebro-spinal fever, and of rheumatism with scarlet fever is well known. Rheumatic subjects also seem to suffer severely from gonorrhœa and are difficult to treat.

I had the opportunity a few months ago of examining three cases of gonococcal pyæmia. In one the condition was diagnosed and conclusively demonstrated during life by obtaining the gonococcus in pure culture from the blood. In the other two pyæmia of obscure causation was present and post mortem the only source found was in connexion with a gonorrhœal urethritis; in one of these the gonococcus was cultivated from the blood immediately after death, and in both the organism was demonstrated in the urethral pus and that of various lesions.

Case 1.—A male, aged 19 years, was admitted into the General Hospital, Birmingham, on March 30th, 1904, under the care of Mr. Gilbert Barling. The patient had been ill for five weeks before admission with an abscess over the right hip; during this time he had become very weak, rapidly lost weight, and had remained in bed. On admission he was extremely emaciated and slightly delirious. There was considerable swelling around the left knee and the joint itself was painful and fluctuating. There were also large painful fluctuating swellings over the left calf, the right hip, and the right calf. He complained of scalding on passing urine and there was a moderate muco-purulent urethral discharge. The probable date of infection could not be ascertained, as the pati denied the existence of gonorrhœa even when it was c clusively established by bacteriological examination of urethral pus. The temperature was 99·7° F. and the pr was 144, regular but of low tension. The respirations were and there was considerable bronchitis with abundant mu purulent sputum. The lungs were everywhere resonant on cussion and auscultation showed only the presence of coa and fine rhonchi. The apex beat of the heart was in the fi space in the nipple line; the superficial dulness showed sli extension upwards and to the right. A soft systolic murn was heard at the apex; it was badly conducted towa the axilla and was regarded as functional. A functio pulmonary systolic murmur was also present. Mr. Barli regarded the case as one of general gonococcal infection a requested me to make a bacteriological examination of blood. This was done on April 1st. Blood was taken fr the left median basilic vein in a sterile hypodermic syri and added to sloped agar tubes and also to a tube of mel agar at 40°C. which was afterwards plated. At the sa time Mr. Barling aspirated the left knee, drawing off seve ounces of turbid fluid. Incisions were made into b calves and over the hip, a large quantity of thick yellow pus being evacuated. Films on cover slips and cultures simple and blood agar and in broth were made from t pus and the fluid from the knee. Colonies were visil on the cultures from the blood in 24 hours; in 48 ho they appeared as small round semi-transparent discs with slightly undulated margin. Microscopically these were se to consist of diplococci in pure culture resembling a giving all the tests for gonococci. The films from the fl taken from the knee showed gonococci in large numb both extra- and intra-cellular, the former being oft arranged in large clumps; the extracellular germs were numerous as the intracellular ones. The films from the p showed gonococci similarly arranged but numerous sh bacilli were also present. The tubes of plain agar inoculat with the fluid from the knee gave no growth but the blo agar tubes showed gonococci in pure culture. The pus ga a vigorous growth of bacillus coli in pure culture on t simple agar but mixed growths of bacilli coli and gonococ on the blood agar, the former predominating and so overgrowing the latter.

The patient's condition improved for a time; the kn became free from fluid but remained tender and there w much discharge from the abscesses. On April 3rd t urethral discharge was again examined and typical gon cocci in large numbers were found. No effusion appeared any of the other joints. On the 14th the knee was aga much swollen and two ounces of turbid yellowish fluid we evacuated. This fluid gave the same bacteriological resul as before. The systolic murmur at the apex was mo pronounced but still not definitely organic. On the 16 the knee was still much swollen and the left ankle and wri became affected. A diffuse patch, swollen and tender, al appeared just below the margin of the ribs on the right sid On the 21st the knee was opened by incision and drained; contained several ounces of pus.

The temperature throughout was irregular and showe evening rises to 101° and 102°. At first it was intermitte but later became remittent, the morning temperature bein always above 99°. The pulse varied from 130 to 160 an was soft and feeble. The respirations averaged about 3 By April 21st the patient had become still more emaciated weak, and delirious. The apex beat of the heart was half a inch outside the nipple line and the dulness had increased t the right. Loud rhonchi were heard over both lungs an there was diminished resonance at both bases with fin crepitations. On the 24th he became unconscious an died.

Necropsy.—A post-mortem examination was performed th next day. The body was extremely emaciated and showe a bedsore over the left scapula. The heart weighe 11½ ounces and there was considerable dilatation of both ventricles. The myocardium was pale and showed cloud swelling. The endocardium was blood stained; there wer no vegetations but the edges of the mitral valve were cloud and opaque, suggesting early endocarditis. The right lung weighed 12 ounces and the left weighed 19 ounces. The left pleura was adherent at the base and there was slight exces of fluid in both pleural sacs. There were large areas of collapse in the right lung and the bronchi showed some dilatation. The lower lobe of the left lung contained considerably dilated bronchi forming tubal cavities with thick

muco purulent contents
dilated bronchi The h
gested and œdematous
and the mucous membrane was catarrhal, the intestines were normal The liver was enlarged, weighed 75 ounces and showed marked cloudy swelling with recent venous congestion The right kidney weighed nine ounces, there was considerable dilatation of the pelvis and its calyces The kidney substance was pale and showed cloudy swelling with commencing fatty degeneration The left kidney also showed some dilatation of the pelvis, neither contained any pus The spleen was soft and almost diffluent The bladder was slightly dilated and showed general catarrhal inflammation Pus could be squeezed out of the vesiculæ seminales The prostate and testicles were healthy to the naked eye The urethra showed an acute purulent urethritis Films were made from the pus in the urethra, the vesiculæ seminales the knee joint and the abscesses in the legs In all the gonococcus could be demonstrated Smears from the mitral valve showed typical gonococci but cultures from the valve remained sterile

CASE 2 —*A man, aged 24 years* was admitted to hospital under Mr Barling on April 8th 1904 complaining of pain in the back *This* had been *first* noticed six months previously after an attack of hæmaturia The pain was at first most marked on the left side but latterly it had been on the right There had been four attacks of hæmaturia before admission *the first two* lasting for about nine days There was slight pain at the commencement of micturition and during the periods of hæmaturia the patient had noticed that the flow of urine would sometimes stop and then begin again suddenly accompanied by blood towards the end of the act He always lay *on the the right side, attempts to lie on the left* causing pain On examination there were slight pain and tenderness *in the region of the* left kidney on palpation but no tumour was felt, the right side was free from tenderness on manipulation *The* temperature on admisison was normal The urine

stone but was found with its pelvis and ureter quite normal A cystoscopic examination of the bladder at the same time showed a small nodule of about the size of a pea just behind the inter ureteral bar A second examination with the cystoscope was made on the 27th and a small translucent papillomatous mass was observed at the base it was doubtful whether this was growth or merely stringy mucus attached to the bladder wall On May 13th a small clot was seen at the base of the bladder A suprapubic cystotomy was then performed and a small circular ulcer about one sixth of an inch in diameter was found and scraped There was no evidence as to its cause The temperature from May 6th to 19th showed evening rises to 100° F with morning remissions, it then remained normal for a week but on the 25th rose quickly to 103 5°, the pulse being then 136 and the respirations 28 The temperature then continued very irregular and of a pyæmic character A few crepitations were heard at both lung bases and an apical systolic murmur was present Later dulness appeared at both bases with bronchial breathing and crepitations The spleen was palpable The suprapubic wound remained quite healthy The patient died on June 13th

Necropsy — A post mortem examination was held 16 hours later The body was considerably emaciated Rigor mortis was present in the legs only and post mortem lividity was slight The suprapubic wound was quite healthy On cutting through the chest wall numerous small subcutaneous and intramuscular abscesses were found The pericardium was normal, the heart weighed 11½ ounces There was a row of small warty recent vegetations on the margin of the auricular surface of the mitral valve and a few similar ones on the tricuspid valve The aortic and pulmonary valves were healthy The heart muscle was pale and showed cloudy swelling Both ventricles were moderately dilated The lungs were very congested and contained small patches of hypostatic pneumonia In the upper lobe of the left lung there were two small septic infarcts The liver was slightly enlarged and fatty Both kidneys were in a condition of suppurative nephritis the right contained several abscesses opening into the pelvis, and the left a few miliary abscesses The spleen was enlarged, it weighed ten ounces and contained a small white infarct at its upper end The bladder was of small size with a moderately hypertrophied wall There were a few small red velvety patches
n The posterior wall showed
and the mucous membrane
the base of the bladder in
the *connective tissue* of the pelvic wall there were two large abscess cavities These were burrowing between the bladder and the rectum and around the neck of the bladder *They* were entirely subperitoneal and had no connexion with the operation wound The se
communicated with the
brain were cloudy and the
in excess, these appearances resembled an early meningitis The brain substance was soft and œdematous but contained no abscesses Films were made from the pus *from the* urethra the vesiculæ seminales the pelvic abscesses and the abscesses in the chest wall All *these showed numerous* gonococci with bacilli and staphylococci No gonococci were found in films from the heart valves, the lungs the spleen the kidneys or the meninges but only bacilli and staphylococci Cultures were made on blood agar, *plain* agar and in broth The two latter media gave only mixed growths of bacillus coli and staphylococcus aureus A feeble growth of the gonococcus was obtained on the blood agar from the pus in the vesiculæ seminales and the pelvic abscesses but not from that in other situations In both cases the growth was mixed with colonies of bacillus coli and staphylococci

CASE 3 —A male aged 19 years was admitted under the care of Dr R M Simon on March 25th 1904 His friends gave the history that he was well until March 20th when he complained of pain in the back which was regarded as lumbago He went to work in spite of the pain and of feeling unwell but on the 22nd was obliged to stay in bed The following day he complained of cough, dryness of the throat, and of feeling 'stupid On admission he was delirious and unable to answer questions There was some slight twitching of the facial muscles and of the hands The temperature was 105° F the pulse was 124 soft, and very dicrotic The tongue was covered with a dirty brown fur Nothing abnormal was detected in the chest The abdomen was slightly distended but not tender There was retention of urine, specimens obtained by catherisation contained much albumin a few granular casts, 4 per cent of urea with a specific gravity of 1020 The spleen was just palpable A chronic urethritis with a gleety discharge was also present Enteric fever was at first suspected but there was no rash and the serum reaction gave a negative result On the 28th a bacteriological examination of the blood was made also with a negative result He became worse and the delirium increased The bowels were constipated and the stools were of a light yellow colour On the 30th he was in a state of stupor The hands were occasionally moved to the head as though he had pain there The neck was somewhat rigid and he resisted movements of the head The pupils were rather dilated but there was no muscular twitching Some dulness appeared at the lung bases with crepitations Respirations were 68 and the temperature rose to 105° and finally to 106° just before death which occurred on the evening of the 30th

Necr the next
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heart weighed [illegible] ed one ounce of clear fluid The myocardium showed marked cloudy swelling and the right side of the heart was dilated and contained mixed post mortem clot The valves were healthy and showed no signs of endocarditis The lungs weighed 20 and 24 ounces The pleuræ were non adherent and the cavities contained a little turbid fluid Both lungs showed scattered miliary abscesses over their surfaces The right lung was emphysematous and intensely congested Near the apex of the lower lobe was a septic infarct The lower lobe of the left lung felt shotty and contained numerous septic foci surrounded by small patches of pneumonia the rest of the lung was emphysematous The bronchi and trachea showed vascular injection The peritoneum was normal the stomach showed some catarrhal inflammation The Peyer s patches towards the lower end of the ileum were enlarged and the large intestine was distended with gas The liver weighed 74 ounces and showed cloudy swelling The right kidney weighed seven and a half ounces, it substance was pale with injected vessels and it contained numerous scattered miliary abscesses The left kidney weighed four and a half ounces and formed a large sac of the size of a fœtal

head from distension of the pelvis. The ureter entered the pelvis by a narrow opening just admitting a No. 8 catheter; the entrance was abrupt and towards the upper end of the pelvis; it had evidently acted as an obstruction and produced the hydronephrosis. The kidney substance was reduced to a mere shell a quarter of an inch thick; it was pale and injected but not fibrosed. The spleen weighed ten ounces; it was soft, purplish-red, but contained no abscesses. The bladder was distended and thin-walled; the mucous membrane was normal. The urethra contained a little thin pus from chronic urethritis and a small abscess was found in the prostate; the seminal vesicles also contained a little pus. There was no urethral stricture. The brain weighed 53 ounces. The subarachnoid fluid was in excess and turbid but there was no pus in the meninges or brain substance. The middle ears, nose, mouth, and frontal and other accessory cranial cavities were all examined but were found to be normal.

A bacteriological examination of the heart blood was made one hour after death by sterilising the skin and withdrawing blood from the heart with a sterile hypodermic needle. The blood was poured on to the surface of sloped agar and after 36 hours showed typical colonies of gonococci in pure culture. The blood from the spleen was examined in the same way but gave negative results. Films and cultures on blood agar were made from the urethra, the prostate, the seminal vesicles, the kidney, and the lungs. All the films showed typical gonococci together with short bacilli and staphylococci. In the urethra the organisms were nearly all intracellular but from the other situations the extracellular ones were as numerous as the intracellular. No colonies of gonococci were obtained from the cultures from the urethra, but a good growth was obtained from the prostatic abscess and a feeble growth from the lungs and kidneys; in all cases except from the blood immediately after death there were also abundant colonies of bacillus coli and staphylococcus albus.

In all three cases the primary seat of infection was the urethra. The date of infection was not determined but in Case 1 the urethritis was in an acute stage, in the other two it was chronic. The vesiculæ seminales were affected in all three cases and possibly the general invasion took place from them rather than from the urethra itself. In Case 3 the prostatic abscess was also a possible site of origin. I regard these secondary foci as more important than the urethritis, because the pus from them showed more numerous extracellular, and, therefore, presumably more active, gonococci than did that from the urethra. In the second case it is possible that the disturbances to the base of the bladder from the operation was the exciting cause of the general infection by lowering the resistance of the part and causing the spread from the seminal vesicles to the pelvic connective tissue. General gonococcal infection is much more common in males than females and the primary seat is almost always the urethra or metastases secondary to this in the neighbourhood. It is uncommon in females although it may follow primary infection as in males. Hamilton[1] suggests that greater resistance is offered to the general spread of infection in the uterus, the adnexa, and the pelvic peritoneum. But I would suggest that the difference is chiefly accounted for by the greater length of the male urethra and the presence of numerous diverticula and sinuses which provide an excellent breeding ground for the germs. Gonorrhœal ophthalmia may also give rise to general infection and many cases of arthritis in infants and even of pyæmia have been described.

The subcutaneous abscesses found in Cases 1 and 2 are among the rarest complications of gonorrhœa. It was once believed that pus was rarely if ever produced by the gonococcus alone but only by the addition of other organisms. In Case 1 although the gonococcus alone was found in the blood and the turbid knee fluid, yet the purulent foci also contained bacilli coli. In Cases 2 and 3 bacilli coli and staphylococci were also found in the pus, so that these cases would seem to favour the original view. Many cases, however, have been described in which pure cultures of the gonococcus were obtained from pus. Inoculation experiments have only given negative results. Wertheim[2] in 1892 introduced cultures under his own skin; a circumscribed inflammation without suppuration only resulted. Steinschneider[3] in 1893, in repeating the experiment, obtained only negative results. Putting on one side the peri- and para-urethral abscesses and inguinal buboes where the infection can spread by direct extension or lymphatic paths there are still some relatively rare cases resembling the three I have reported in which suppuration has developed far from the urethra and in some of these the gonococcus has been found alone. In some of these cases abscesses have developed at places previously bruised or damaged. In a case recorded by Cassel[4] in 1903 an abscess in the back containing a pure growth of the gonococcus followed purulent gonorrhœal ophthalmia in an infant.

Case 2 showed a condition which has generally been regarded as occurring only in women—pelvic cellulitis. In this case the peritoneum was not involved, but Battez[5] has collected 30 cases of gonorrhœal pelvic peritonitis in the male following secondary infection of the bladder, the prostate, or the seminal vesicles. Case 3 showed a typical pyæmia with abscesses, especially in the lungs and the kidneys. I have not discovered a case previously in which gonococci have been described in the lungs. The pus in the lungs and kidneys showed a mixed infection and no case has as yet been described in which the infection of the kidney was proved to be due to the gonococcus alone.

Recent endocarditis was present in the two first cases which had evidently developed during the course of the illness. In Case 1 it was quite early and was only revealed by slight cloudiness and opacity of the edges of the mitral valve; cultures from it were negative but smear preparations showed gonococci alone present. In the second case small warty vegetations were present but cultures and films showed no gonococci but only bacilli coli and staphylococci. The former I regard as an undoubted gonorrhœal endocarditis but the evidence for the latter is inconclusive; gonococci may have been present in the early stages and begun the process, these organisms later disappearing and being replaced by a mixed infection. This is in harmony with what we know of gonorrhœal arthritis in which gonococci are usually only present in the quite early stages.

Enough evidence has now accumulated to show that the lesions and symptoms of the general infection depend mainly upon three factors—viz., (1) direct infection with the gonococcus itself; (2) an absorption of a toxin, gonotoxin; and (3) mixed infection with other germs. There is now definite evidence that gonococci can circulate in the blood and produce the lesions found in the various organs; there is a true invasion by the organisms. As early as 1878 Bouchard and Capitan had positive results from examination of the blood; later Petroni, in 1883, and Julien, in 1886, obtained similar results. These early observers have been followed by many others, especially on the continent. In England the condition appears to have received but little attention and but few cases are described in which pure cultures have been obtained from the blood. On the other hand, some observers have met with uniformly negative results. Trapeznikoff,[6] in 1892, did not succeed with the blood in 32 cases. It may be that sufficient blood was not taken, but it is also probable that the organisms do not remain long in the blood but become localised in the organs and tissues. Bressel[7] in a case of pneumonia supervening on the decline of a gonorrhœa obtained a pure culture from the blood on the fourth day but failed later.

De Christmas[8] and Wassermann[9] have separately studied the toxins; the latter obtained them by growing the gonococcus on a special medium. To these toxins he attributes the general symptoms. Experimental inoculation resulted in a very lively reaction at the site of injection with fever, malaise, muscular and articular pains, and loss of weight. This general intoxication had already been hinted at by Pidoux as early as 1866, who had called attention to the disproportionate alterations in the face and general health of patients suffering from recent gonorrhœa, their pallor, slight rapid wasting, discolouration of the skin, and fever. Padrez,[10] in 1885, and Drobney, in 1898, observed that in those cases in which the gonococci were found within the pus cells the disease ran a milder course than when the organisms were free. They claim that the toxin inhibits phagocytic action and so affords an opportunity for general invasion My own observations would support this, for, as I have stated above, the more active the lesion the more extra cellular were the organisms On the other hand, I think that in many cases a mixed infection with other pyogenic germs plays an important part The gonococcus is rarely isolated in pure culture and if found at all it is usually only during the earlier stages It would be surprising if mixed infection did not occur, considering the ease with which pyogenic germs could invade the body through the primary gonorrhœal lesions The bacillus coli seems to be the organism most usually found, which is in correspondence with the fact that it is the commonest organism found in cystitis and other diseases of the urinary passages When found in lesions after death little importance can be placed in its presence as it is found so often in a variety of diseases from "agonal' or post mortem invasion But whatever organism be found in association with the gonococcus its action is, I believe, purely secondary It completes the work [illegible] re delicate [illegible] septicæmia [illegible] due to the [illegible] the possible gonorrhœal origin of pyæmia, but also because these cases do not often occur in connexion with an acute gonorrhœa but from secondary foci in the prostate or seminal vesicles which are often latent Gonorrhœa may be denied by the patient and the chronic gleety discharge overlooked by his attendant Ullmann[11] reported five cases of fatal gonorrhœal pyæmia, in four of which the necropsy showed the point of origin to be a prostatic abscess In three of the cases the clinical diagnoses were typhoid fever, malignant tumour of the prostate, and purulent cystitis and septicæmia of doubtful origin Such cases show the need for the routine examination of the urinary organs and especially of the prostate in all cases of pyæmia of obscure causation just as the middle ear is now always examined in similar cases Gonorrhœal infection has no special clinical features which differentiate it from other pyæmias and a positive diagnosis can only be made by a bacteriological examination of the blood or of any accessible lesions

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[1] Hamilton: [illegible] ry, 1902.
[2] Wertheir [illegible] p. 66.
[3] Steinschneider: [illegible] 1893, p. 729.
[4] Cassel: Verein fur inn [illegible] 1903.
[5] Battez: Brit. Med. [illegible]
[6] Trapeznikoff: [illegible]
[7] Bressel: Munchener Medic [illegible] March, 1903.
[8] De Christmas: Annales [illegible] 331.
[9] Wassermann: Berliner Kli [illegible] o. 32.
[10] Padrez (1885) and Drobney [illegible] Medical Annual, 1903.

Technique —For the examination of the blood stained films are not sufficient, cultures must be made upon suitable media The essential constituent of these media seems to be blood serum or similar albuminous material from the animal body Practically blood agar is the most convenient means of cultivating the gonococcus At least one cubic centimetre of blood should be taken with a sterilised hypodermic syringe from one of the large veins of the elbow No antiseptic must be used in sterilising the skin, simple cleansing with spirit and ether is sufficient for this purpose The blood should then be poured on to the surface of one or two agar "slopes,' the tubes being kept slightly inclined until the blood has coagulated A relatively large quantity of blood must be used as it is necessary to have, as Harris[12] has shown, abundant albuminous material present Another method is to mix the blood with one or two tubes of melted agar kept at a temperature of 40° C, the mixture then being slanted or plated in a Petri s dish The former method I think is preferable, as a freer access of oxygen is obtained than by mixing the blood with the agar I have failed with the latter method when the former has been quite successful For the same reason fluid media are unsuitable as the blood clots and falls to the bottom For cultivation from pus or lesions of the organs blood agar can also be used The blood must be liberally distributed over the surface of agar "slants and not simply a few drops smeared over it Serum agar is also an excellent medium one part of *blood serum being* used to *two or three* parts of agar Young[13] has used hydrocele fluid successfully, while Wright[14] ad [illegible] by mixing under asep [illegible] a temperature of 40° [illegible] a sterile mixture of [illegible] an urine (one part) I have had no personal experience of this last method The identification of the gonococcus is usually said to depend upon three characteristics (1) characteristic colonies are produced upon certain media, (2) it will not grow upon simple agar or in broth, and (3) it is not stained by Gram's method Of these, only the first is certain The colonies appear after 24 hours as minute, greyish, semi-translucent points In 48 hours they are well developed and under a low magnifying power each is seen to be circular with thin, translucent, sharply defined margins The margins are slightly undulated and in older colonies may send out slight processes The colonies become brownish, denser, and granular towards the centre Wildbolz[15] has succeeded in growing the gonococcus upon agar after cultivating on serum agar for four or five generations sometimes earlier This test cannot therefore be relied upon especially as the diplococcus meningitidis is also difficult to grow upon agar There are also fallacies in the test by Gram s method Colonies not more than 48 hours old must be used as other cocci usually staining by Gram's method may be decolourised in older cultures Mallory and [illegible] coccus in an arthritis [illegible] origin which in films [illegible] ultures proved that it [illegible] g suspected films by Gram s method it is useful to place a few staphylococci in one corner of the slide for a comparison Practically, then, most reliance must be placed on the appearance of the colonies grown on blood or serum agar and if these colonies are composed of cocci of characteristic appearance and decolourised by Gram s method the identification is certain

When in cases of obscure pyæmia the blood has been examined during life with negative results I would suggest that the blood from the heart and spleen should be examined as soon as possible after death Permission for this could often be obtained when an ordinary post mortem examination would not be allowed It is also useful when a necropsy is obtained as bacteriological examinations of the organs and blood 24 hours after death are made untrustworthy by the invasion of other organisms, especially from the intestines

I must in conclusion, express my indebtedness to Mr Barling and Dr Simon for their kind permission to make use of their cases

Birmingham

A HAT PIN 4¾ INCHES LONG IN THE ŒSOPHAGUS PRODUCING A FALSE ANEURYSM OF THE SUPERIOR MESENTERIC ARTERY

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A FEMALE child three years of age, who had been ailing for two months, was admitted into St George's Hospital on June 25th, 1904, with wasting, anæmia, rickets, inability to sit up, and a distended abdomen A diagnosis of tuberculous peritonitis was made and on July 6th the patient was transferred for further treatment to the Atkinson Morley Convalescent Hospital at Wimbledon While there the child did not improve, she lost weight, developed retraction of the head, and on August 18th vomited *some* fresh blood clot of the size of a grape and on two subsequent occasions brought up some dark discoloured blood She was re admitted to St George's Hospital on August 24th looking like a most advanced case of tuberculous peritonitis, and she continued to get worse On the 30th she vomited a clot of fresh blood of about the size of a walnut and becoming very collapsed, died at 8 P M

The diagnosis of tuberculous peritonitis rested on the swollen abdomen, the diarrhœa, the enlargement of the spleen and liver, and the wasting, while crackles at the apices of the lungs and retraction of the head suggested more widespread tuberculosis Hæmatemesis in tuberculous peritonitis is such an unusual event that a necropsy was highly desirable, as it was thought that it might disclose some rare condition, such as tuberculous ulceration of the stomach or of the œsophagus.

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[11] Ullmann Deutsches Archiv für klinische Medicin 1901, Band lxix S 309

[12] Harris Bulletin of the Johns Hopkins Hospital October 1902.

[13] Young Journal of Cutaneous and Genito-Urinary Diseases June, 1900

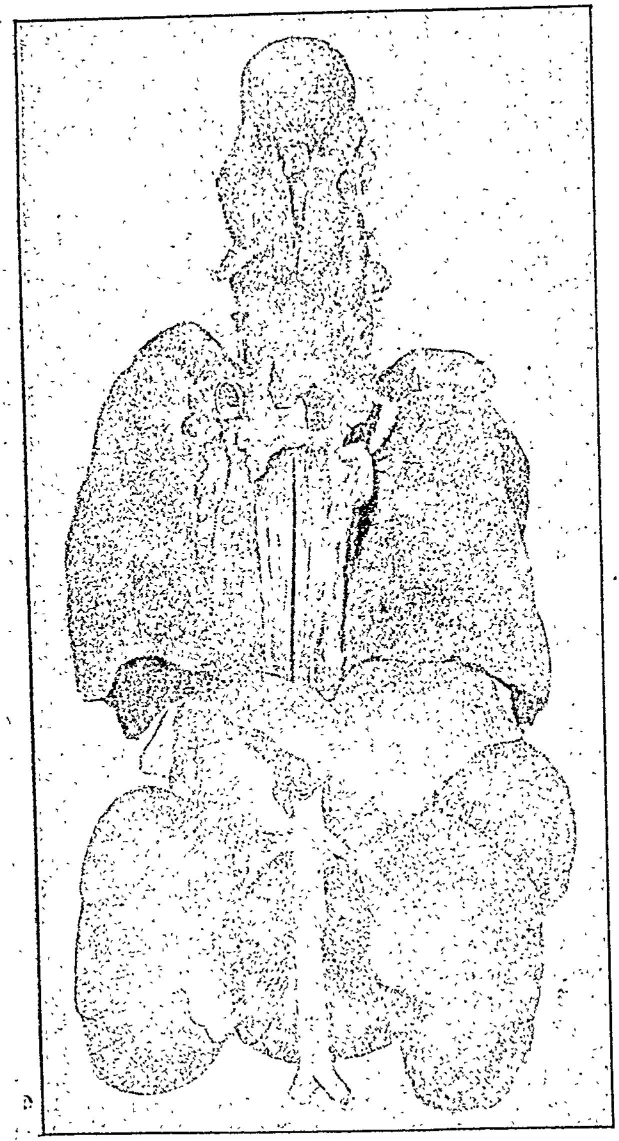
[14] Wright American Journal of the Medical Sciences January 1895

[15] Wildbolz Centralblatt für Bakteriologie Feb. 14th, 1902, and Brit Med Jour Epitome May 31st, 1902

[16] Mallory and Wright Pathological Technique p 14

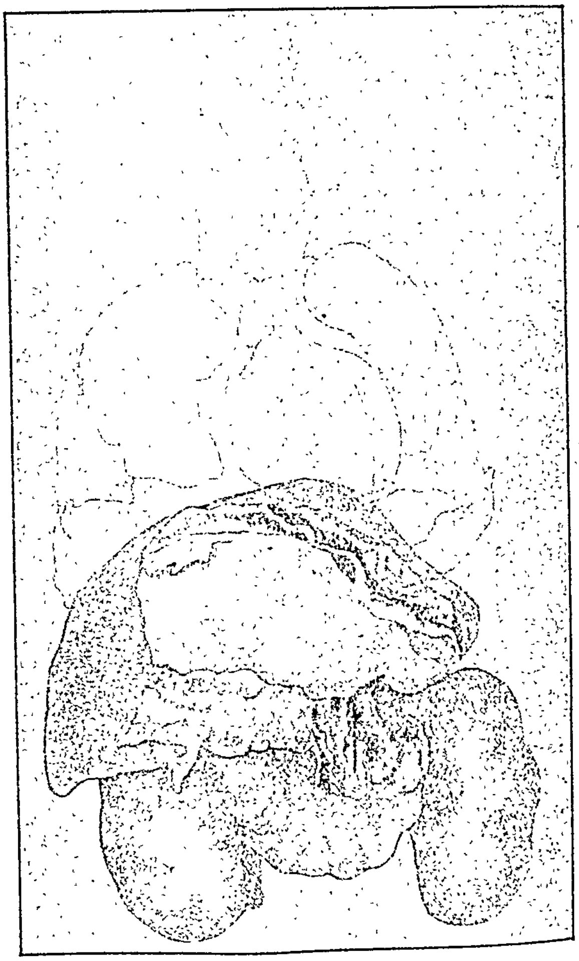
Necropsy.—The body was thin and showed marked signs of rickets. There was no external wound or lesion of the skin except some small quite superficial scars over the sacrum, probably the result of pressure sores. The œsophagus (Fig. 1) contained part of a long black pin, resembling a hat pin, of which two and a half inches of the pointed end projected upwards through a small hole in the wall of the gullet on the right side just above the level of the diaphragm. The pin, which was four and three-quarter inches long and partially eroded, had evidently been swallowed head downwards. The actual head of the pin, which was missing and could not be found, had probably become detached soon after swallowing and had been voided *per vias naturales*. The shaft was slightly bent with the concavity forwards and the head end, which was very sharp but not shaped to a point like the other, had penetrated the œsophageal wall at the point described and passing in front of the aorta had pierced the diaphragm and had travelled downwards behind the stomach without injuring it through the extreme posterior portion of the pancreas; thence it turned a little forwards to a point immediately above the duodenum where it had perforated the upper wall of the superior mesenteric artery (Fig. 2). Between the pancreas and the duodenum there was a small false aneurysm filled with blood clot and of the size of a cherry in the root of the mesentery. The track of the pin above this was also filled with blood. The superior mesenteric vein, which lay to the right and slightly in front of the aneurysm, was partially thrombosed with ante-mortem clot. The point or upper end of the pin lay in the œsophagus opposite the apices of the lower lobes of the lungs posteriorly. At this level there was a small suppurating lymphatic gland behind the œsophagus with a small abscess on either side of it; that on the left was the larger of the two and had invaded to a slight extent the lower lobe of the lung, causing several small foci of suppuration around. A direct communication was found between the œsophagus and the abscess on the right and a similar condition had possibly existed on the left side. Unfortunately in removing the contents of the thorax the œsophagus was torn in this position, so that this point could not be established; at all events the wall was much softened and very friable. From the abscess cavity on the right a sinus, large enough to admit the extreme tip of the little finger, passed upwards to the first dorsal vertebra. This sinus, which was apparently of some little standing, contained small flakes of necrosed bone. The body of the first dorsal vertebra was slightly necrosed and the bodies of the next four dorsal vertebræ were extensively carious, those of the third, fourth, and fifth having almost entirely disappeared; the process stopped at the upper part of the body of the sixth. The second to the sixth costal articulations on the right side and the third to the sixth on the left were also extensively eroded. There was recent fibrinous pleurisy over the posterior

FIG. 1.



Œsophagus opened from the back showing the sharp pointed end of the hat pin pointing upwards from the spot where it penetrated the œsophageal wall. To the right of the œsophagus in this situation a suppurating gland is seen.

FIG. 2.



Shows the end of the pin penetrating the superior mesenteric artery.

surfaces of both lungs with recent adhesions on the right. The lower lobe of the right lung showed some collapse. No sign of tubercle was visible in either. The pericardium contained an excess of serous fluid. The heart and other viscera were normal and presented no evidence of tuberculosis. The stomach was filled with blood clot and the intestines contained a considerable quantity. There was no ulceration or other lesion of the stomach or intestines, so that it seems probable that the blood had tracked up from the aneurysm along the course of the pin and entered the alimentary canal at the perforation of the œsophagus. There was no sign of injury, either recent or old, on the palate or in the pharynx. The brain was normal and there was no meningitis.

The lesions of the spinal column gave every appearance of being of lo[illegible] infiltration c[illegible] the sinus on [illegible] occurred me[illegible] *happened if the condition was due solely to perforation* by the point of the pin. The clinical history that blood had only been vomited during the last two weeks and the fact that only the upper wall of the superior mesenteric artery had been pierced indicate that the pin had only recently reached the position in which it was found post mortem. Before this it must have been above the level of the suppuration and therefore not the cause of it. Tuberculous osteitis of the dorsal spine and the suppuration in the adjacent mediastinal gland were therefore probably antecedent to, and independent of, the perforation of the neighbouring part of the œsophagus by the pin. In all probability the point of the pin perforated the wall of the œsophagus, softened by suppuration from the spine, shortly before death.

As has been pointed out, the presence of the pin in the œsophagus was not suspected during life. It, however, appeared at the inquest that the mother believed that the child had swallowed a pin and indeed had mentioned her belief at another hospital, but not meeting with much sympathy there had refrained from saying anything about it at St. George's Hospital. The pin was evidently swallowed head downwards and its rounded end and the flexibility of its shaft must have enabled it to glide along the posterior wall of the pharynx into the œsophagus. In a very similar case recorded by Holding[1] a female child aged 20 months probably fell on the head-end of a hat pin which passed into the stomach and after being localised by skiagraphy was successfully removed by gastrostomy. It is noteworthy that in our case the pin had been in the œsophagus for over two months.

It may be added that during the last few years there have been at least ten other cases of foreign bodies, other than food, impacted in the œsophagus at St. George's Hospital—viz., four cases of tooth plates, of which three terminated fatally, one case of a pin which perforated the aorta and proved fatal (recorded by Sir Isambard Owen),[2] three cases of halfpennies, one case of a whistle, and one of a brooch, all swallowed by children and all treated successfully. For the two illustrations we are indebted to the skill of Mr. Lawrence Jones.

MANDIBULAR PROCESSES ASSOCIATED WITH DOUBLE HARE-LIP AND CLEFT PALATE.

By WALTER LEY WOOLLCOMBE, M.R.C.S. Eng., F.R.C.S. Edin.,

SURGEON TO THE SOUTH DEVON AND EAST CORNWALL HOSPITAL.

Two children have recently been under my care for double hare-lip and cleft palate both of whom exhibited a peculiar deformity of the lower lip, which has been described and figured by Mr. J. Bland-Sutton[3] and others[4] and attributed by them to imperfect coalescence of the mandibular processes, but which I have never seen before in 18 years of hospital practice nor do many others seem to have described it.

CASE 1.—The patient was a boy, aged three months (sent by Mr. A. E. Gladstone of Newton Ferrers), whose father was born with hare-lip and cleft palate but who had two sisters without this deformity. The father and mother were not related. The boy had a complete cleft of the hard and soft palate and the worst looking hare-lip I have ever seen owing to the fact that the clefts on either side of the premaxilla were very wide and that the latter process was held forward by the vomer so that it stood out three-quarters of an inch in front of the rest of the upper lip. On the lower lip, which was perfect in outline, and at a distance of one centimetre on either side of the mid-line, were two depressions out of each of which protruded a nipple-shaped process about one centimetre in length which is diagrammatically represented in Fig. 1 These processes were capable of a good deal of movement and several times per minute were protruded and retracted in a most uncanny way like feelers. The recesses were always full of mucus. The upper lip was treated by peeling back the periosteum from, and excising three-quarters of an inch of the central part of, the vomer, pressing the premaxilla back into the interval between the separated alveolar borders of the superior maxillæ, suturing it in place after freshening the opposing surfaces, then uniting flaps from the lips on either side, utilising the soft parts covering the premaxilla to fill in the central gap. The lower lip was subsequently treated by excising an elliptical portion of it, including the two recesses and tubercles, going deeply enough to remove all [illegible] em.

FIG. 1.

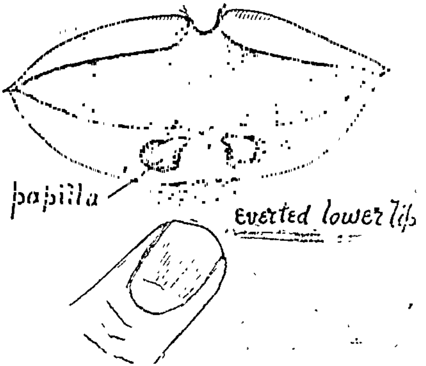


Diagram of the everted lower lip, showing the mandibular processes and recesses.

C[illegible] aged four months (sent [illegible] who came of a healthy [illegible] other member of the [illegible] condition was exactly similar to that in Case 1, except that the recesses and tubercles were much smaller and did not secrete nearly so much mucus.

The facts that these recesses and processes have never been observed apart from double hare-lip—i.e., imperfect coalescence of the naso-frontal and maxillary processes—and also that Feurer once found a similar recess in the upper lip at the junction of these processes make it appear likely that the deformity is in some way connected with the intermandibular fissure, but this reasoning does not seem to me to explain satisfactorily the following points: (1) There are always a pair of recesses and they always seem to be situated at an equal and definite distance from the mid-line (about one centimetre); (2) there is never any irregularity in the line of the lip, which is perfectly united at the mid-line; and (3) the large amount of glandular tissue grouped around the recess.

The excised part of the lower lip bearing the two papilla[illegible] processes was submitted for examination to Dr. Arthur Keith who reported as follows: "Each process is made of three elements: (1) a clump of mucous glands which forms the core: the ducts of these glands open close together near the apex of the process; (2) a layer of muscular tissue continuous with the orbicularis oris which surrounds the

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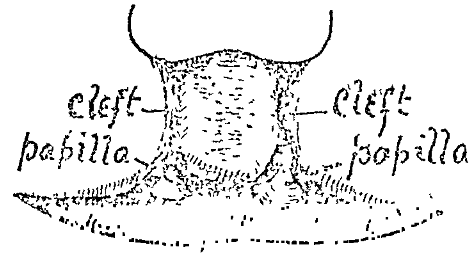
[illegible] nbeck's

glandular centre; (3) a covering of mucous membrane continuous with the mucous membrane of the lip. The depression described by Mr. Woollcombe as surrounding each process had become obliterated by the shrinkage caused by the preserving reagent.

Such deformities of the lower lip are very rare; they are always associated with double hare-lip. Comparative anatomy lends no support to any theory that regards these labial processes as atavistic structures. Embryology cannot account for their presence; they occur at some distance from the median line of the lower lip. The explanation of this anomaly given by Dr. E. Hamilton is the most satisfactory.[5] He noted that when the lips were closed the papillæ fitted within the clefts in the upper lip (see Fig. 2). During development the mucous surfaces of the lips are in contact; the developing tissue of the lower lip, lying opposite the clefts in the upper lip, is unrestrained in its growth and tends to fill the opposing gaps in the upper lip. On this interpretation the papillary processes represent attempts on the part of the lower lip to compensate for the defective development on the part of the upper."

FIG. 2.



Illustrating a condition similar to that in Case 1, described by Dr. E. Hamilton.

Plymouth.

A Mirror

OF

HOSPITAL PRACTICE,

BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus Morb.*, lib. iv., Proœmium.

UNIVERSITY COLLEGE HOSPITAL.

A CASE OF SEVERE ULCERATIVE COLITIS; RECOVERY

(Under the care of Dr. F. J. POYNTON.)

FOR the notes of the case we are indebted to Dr. A. J. Blaxland, house physician.

The patient, a man, aged 27 years, was admitted into University College Hospital on August 12th, 1904. The illness had commenced a month before this with severe abdominal pain and diarrhœa. The onset was sudden and in the first 24 hours he had noticed blood in the stools. Previously to the attack of pain the bowels had been loose for a week. The pain and diarrhœa persisted and as many as 20 stools were passed in the day, the great majority of which contained blood.

The condition on admission was extremely grave. The face was pinched and anxious, the eyes were sunken, the extremities were cold, and the voice was husky. The patient was greatly emaciated and over the sacrum there was a small bedsore. It was remarkable that although there was pain in the region of the colon, there was at no time any distension, the abdomen on the contrary being incurved. The temperature was 99·2° F., the respirations were 20, and the pulse was 96 to the minute. The tongue was dry and furred and the mucous membranes were anæmic. Nothing abnormal was discovered on examination of the abdomen but examination of the rectum through a speculum showed a polypoid condition of the mucous membrane and some superficial ulceration. The stools were offensive and were composed almost entirely of blood and mucus. From time to time small sloughs were visible. The blood was sometimes bright red and sometimes darker. During the first three days in the hospital from 17 to 21 stools were passed in the day.

The following treatment was adopted in addition to the most careful and skilful nursing. The patient was placed on a strictly milk diet. Bismuth carbonate in 30-grain doses combined with 15 minims of tincture of opium were given by the mouth every four hours. Rectal injections of a solution of silver nitrate (15 grains to the pint of distilled water) were administered every night. Two pints were injected very slowly through a long soft tube and funnel and when these were returned an enema of sodium chloride solution was given. Although administered with the utmost care these injections caused considerable pain. Progress was immediate. The pain was eased by the opium and the patient gained some rest between the actions of the bowels and more tranquillity throughout the day. In three days the number of motions was reduced to seven in the 24 hours and after a week to five. The mucus in them decreased and the offensive odour was diminished. Blood was still present in every motion but there was a distinct gain in the strength of the patient. The bismuth and opium, too, were exerting a good effect on the diarrhœa. This was shown by the fact that it was thought advisable at the end of the first week to stop the injections for some days. There was then no marked increase of the diarrhœa, although the motions became more offensive and unhealthy. The treatment was with this exception continued for seven weeks and during that time the condition of the patient improved very greatly. By that time the motions were diminished to three per diem and they were beginning to be formed, although even now there was occasionally a considerable amount of blood passed. At this date the discomfort produced by the injections—the patient himself being, as is so often the case with abdominal maladies, inclined to be depressed and unhappy—caused them to be left off again. In less than a week the motions became more unhealthy and contained a quantity of mucus and, what was even more convincing, the patient's face became pinched and drawn; there was also some little pyrexia. Accordingly the injections were resumed every other day and then on Oct. 13th were given every third day. From Oct. 6th to 30th his weight increased from 7 stones 5 pounds to 8 stones 6 pounds. When he left the hospital at the end of the month he was quite convalescent, and after a month at the seaside he returned weighing 9 stones 6 pounds and with the bowels acting naturally once a day.

Remarks by Dr. POYNTON.—This case is sent for publication because the result after the treatment was most striking and most encouraging in a condition that is admittedly one of the greatest gravity. It must be acknowledged that the administration of injections of some bulk in cases of ulceration of the bowel is always an anxious and hazardous undertaking, for it is not possible from clinical evidence to say how deeply one of the ulcers may have extended, but there can be no doubt in this case that a few more days without some improvement would have ended the patient's life. The case was one of an exceedingly severe type and the recovery was more complete than even the most sanguine could have expected.

HARROGATE INFIRMARY.

A CASE OF RUPTURED TUBAL GESTATION; OPERATION; RECOVERY.

(Under the care of Mr. ERNEST SOLLY.)

THE patient was a married woman, aged 38 years, who had had two children (now aged 17 years and four years respectively). The general health had been good and with the exception of a "slight miscarriage" three years after the birth of the first child and a certain amount of leucorrhœal discharge at times ever since—never enough to cause obvious effect upon the health or even to be considered worth noticing—there were no symptoms of disease of the pelvic organs. On Oct. 27th, 1904, the patient thought that she had another "slight miscarriage," as her period was a week or ten days overdue and there was some uterine hæmorrhage, dark in colour and with some clots. There was no pain or other disturbance and the patient kept about doing her housework. On the 30th, about 6 P.M., while pouring out tea, she felt a violent pain in the abdomen, mostly "low down," but also across the epigastric [illegible] She went to bed [illegible] although the former [illegible] doses of morphine a [illegible] All symptoms became [illegible] the next day and about [illegible] asked to see her by Mr. Christian. She was found to be collapsed and almost pulseless but the beats were able to be counted as about 90. The abdomen was distended and tender, especially in the hypogastric region, where there was some dulness. The liver dulness was not affected. Tenderness was certainly more [illegible] gion but as the patient [illegible] morphine it could not [illegible] tances made operation inadvisable in her own house so she was taken in a wheeled ambulance litter to the infirmary and on arrival there received ten minims of liquor strychninæ hypodermically and one ounce of brandy diluted to three ounces into the rectum. Mr. Solly opened the abdomen at about 8 30 P.M. by median incision below the umbilicus. There was free discharge of blood, both liquid and in clots (of the latter a 20-ounce measureful was easily collected), and some shreds of membrane were recognised. About half an inch from the uterine end of the right Fallopian tube was a swelling about one inch in diameter with a ragged rent on its upper surface; inside were some more shreds of fœtal membranes. The sac and the rest of the right Fallopian tube and the ovary were removed after the passing of ligatures of silkworm gut. The abdominal cavity was as far as possible cleansed from clots and blood, sterilised normal saline solution (about four pints) being used for flushing out the abdominal cavity. The peritoneum was closed by a continuous catgut suture, a glass drainage-tube being left leading down to the pelvis, and the external wound was closed by interrupted sutures of silkworm gut. The patient's condition was critical throughout and during the operation about one and a half pints of normal saline solution were introduced under the pectoral fascia. During the night three ounces of saline solution were injected per rectum—at midnight, at 4 A.M., and at 8 A.M., and nutrient enemata alternately with these. These injections were continued alternately during the next 24 hours, after which feeding by the mouth was commenced. Recovery was uninterrupted and uneventful. The glass drainage-tube was removed on the third day and all sutures on the seventh day as the wound healed by first intention. The patient was kept in bed for a month to avoid risk of embolism from detachment of possible clots in the veins but she left the infirmary perfectly well on Dec. 8th and has remained well. Although still pale she is said not to be much paler than before and she is quite able to attend to ordinary household duties.

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[5] See Ballantyne's Antenatal Pathology, vol. ii., p. 397, 1904.

Remarks by MR. SOLLY.—Successful cases of operation for the above condition, even when the patient has been apparently moribund, are fortunately becoming more frequent than they used to be but I think the case recorded above, in addition to its own points of interest, is worthy of publication as a further encouragement towards radical treatment of such emergencies however hopeless it may seem to expect success.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Some Observations on Pancreatic Secretion in Man.

A LABORATORY meeting of this society was held on Feb. 7th at St. Mary's Hospital Medical School, Dr. A. E. WRIGHT being in the chair.

Mr. W. H. CLAYTON-GREENE (introduced by Dr. WRIGHT) read a paper on Pancreatic Secretion in Man. The paper started with a brief description of a case of carcinoma of the pyloric end of the stomach. The patient, a man, aged 49 years, was admitted to St. Mary's Hospital in April, 1904, suffering from pyloric obstruction. A large mass was detected on abdominal palpation and laparotomy was performed on April 13th. The carcinomatous mass was found to involve a considerable amount of the lesser curvature of the stomach and to be slightly fixed to the posterior abdominal wall. The fixation appeared to have been produced by inflammatory adhesions. As the age of the patient and the state of the growth seemed to justify a radical operation it was decided to perform pylorectomy. This was accordingly done but in the separation of the malignant mass from its posterior relations a portion of the pancreas was torn and ligatured. The duodenum was joined to the cut edge of the stomach. The patient rallied well and went on favourably at first. On the 16th a certain amount of fluid was found to be escaping along a drainage track left in the abdominal wound. The fluid was alkaline. Methylene blue was given by the mouth to make certain that there was no gastric or duodenal leakage but no coloured fluid escaped, showing that the suture line was intact. The fluid from the fistula was carefully analysed by Dr. W. H. Willcox who found that it contained an amylolytic and a proteolytic ferment, both of which acted only in alkaline solution. Control experiments gave negative results. It was evident, therefore, that a pancreatic fistula had formed and it was decided that the effect of food on the secretion should be studied. Food, beef-tea, &c., were given by the mouth and some few seconds after they had been swallowed there was a definite secretion of pancreatic juice. The sight of food had a precisely similar effect, comparable in every way to that obtained when the salivary or gastric glands were similarly stimulated. The observations extended over some ten days, after which the patient became worse and died. Post mortem the pancreas was in a state of general suppuration but there was no fat necrosis. The evidence of this case supported Pawlow's original theory that pancreatic secretion was influenced by a nervous mechanism. The conditions under which the flow of pancreatic juice started were such that it could not be explained as the result of the formation and absorption of secretin. The work of Starling and Bayliss was conclusive as to the value of the intestinal contents—prosecretin and secretin—in maintaining a pancreatic flow but in this case there was support for the theory that stimulation of a sensory nerve could evoke a secretion here as in the case of the salivary glands.

OBSTETRICAL SOCIETY OF LONDON.

Vaginal Cystocele.—Exhibition of Specimens.—Presidential Address.

THE annual meeting of this society was held on Feb. 1st, Dr EDWARD MALINS, the President, being in the chair.

Dr. E. W. HEY GROVES read a paper entitled "A New Operation for the Cure of Vaginal Cystocele." After pointing out that the condition was one of hernia of the bladder through the interval between the levatores ani he proceeded to describe the anatomy of these muscles and to show how they formed the floor of the pelvis through the median gap in which the urethra and the vagina passed. Cystocele was accompanied by a divarication of the adjacent edges of the levatores ani. Dr. Groves suggested that the unsatisfactory results of all operations hitherto performed for this condition depended on the fact that they relied solely on the removal of the vaginal wall. He proposed, therefore, the following operation. A transverse incision [illegible] was made three centimetres behind [illegible] vagina was separated from the [illegible] the inner edges of the levatores ani were defined in each angle of the wound. The muscles were drawn together and stitched by two rows of suture. The vagina was united in the line of the original incision. The first case in which he had performed the operation occurred two years ago; the patient had since borne a full-term child and the cystocele showed no signs of recurrence. The patient's age was 35 years but he anticipated that the operation would be even more serviceable in old women because in them the levatores ani could be stitched together for a greater extent regardless of encroachment on the [illegible] in separating [illegible] the bladder.—[illegible] es upon which the operation was based appeared to be sound but he was inclined to think that at the age when relief was usually sought it would not be easy to find the separated borders of the levatores ani.

Dr. FRANK E. TAYLOR showed a Wandering Spleen which had simulated an ovarian tumour, had caused retroversion of the uterus, and had been removed by operation. It was completely contained within the pelvis and so had not given rise to any abdominal enlargement. The patient was a married nullipara, aged 29 years.—The PRESIDENT said that in the case of a patient whom he had seen some years ago with Sir Spencer Wells a diagnosis of ovarian cystic tumour was made but on operation it turned out to be a much enlarged spleen. He remembered a similar case of a spleen mistaken for ovarian tumour, where the spleen was much displaced and the pedicle axially rotated. He removed it with complete success.—Dr. HEYWOOD SMITH said that a similar case was sent to him as one of ovarian tumour. He made out that the tumour was a spleen displaced. Mr. J. Bland-Sutton removed it at his request. The patient recovered.

Mr. BLAND-SUTTON showed a specimen of Tuberculous Disease of the Body of the Uterus (probably primary). It had been removed by abdominal hysterectomy from a spinster, aged 46 years, who had suffered from menorrhagia for two years. A rounded body inseparable from the uterus could be felt in the hypogastrium. On opening the uterus a rounded sessile non-encapsuled tumour was found growing from the endometrium of the anterior wall. On section the tumour showed patches of caseation and on microscopic examination tubercle bacilli were seen. The most important clinical feature of the case was its similarity to a degenerating submucous fibroid.—Dr. P. HORROCKS said that he had seen several cases of tubercle of the lining membrane of the uterus but in all the cases the endometrium of the cervical canal and of the corporeal portion was affected. The clinical features more resembled cancer than fibroid.

The PRESIDENT delivered the Annual Address.

The following list of officers for 1905 was read:—President: Dr. W. R. Dakin. Vice-Presidents: Dr. A. H. Freeland Barbour (Edinburgh), Dr. Amand J. M. Routh, Sir William Japp Sinclair (Manchester), and Mr. Albert C. Butler-Smythe. Treasurer: Dr. George Ernest Herman. Chairman of the Board for the Examination of Midwives: Dr. John Phillips. Editor of the Transactions: Dr. Herbert R. Spencer. Honorary secretaries: Dr. Montagu Handfield-Jones and Dr. Robert Boxall. Honorary librarian. Dr. Arthur H. N. Lewers.

OPHTHALMOLOGICAL SOCIETY.

Malignant Disease of the Conjunctiva.—The Treatment of Corneal Ulcers by Quinine.—The Notation of Prisms.—Detachment of Retina.—Neuro-retinitis.—Exhibition of Cases and Specimens.

AN ordinary meeting of this society was held on Jan. 26th, Mr. JOHN TWEEDY, the President, being in the chair.

Dr. A. FREELAND FERGUS, in a paper read in his absence by Dr. F. R. HILL, related a case of Malignant Disease of the Conjunctiva. The patient was a girl, aged nine years, who was sent to him by Dr. Hill in November, 1903. On the lower part of the bulbar conjunctiva were some sprouting vegetations, with an appearance not unlike that seen in spring catarrh. The limbus and palpebral conjunctiva were unaffected. It had first been noted six months previously. The vision was $\frac{6}{9}$ and a portion was removed for examination. The pathological report was indefinite. Shortly after the rest was removed and the patient was sent back to Carlisle under Dr. Hill's care. The pathological reports of Professor R. Muir and Mr. C. Devereux Marshall showed the growth to be of an unusual character, probably a sarcoma, but its appearance left no doubt as to its being malignant. On March 21st, owing to its rapid extension, the whole contents of the orbit were removed and the patient was sent back on April 14th. On May 23rd she was again seen but the recurrence was so extensive that no operation was possible. The neighbouring glands were also involved and even at this time there were cerebral symptoms. The child died in October with the tumour of enormous size. The post-mortem examination showed extensive involvement of the brain. The growth was apparently a leuko-sarcoma.—Mr. J. H. PARSONS, who had examined the growth, said it appeared to him to be one of those rare cases of nævus or mole taking on malignant growth and he looked upon it as being probably an epithelial growth rather than a connective tissue one.

Mr. ARNOLD LAWSON read a paper on the Treatment of Corneal Ulcers by Quinine. He said that up to the present time the use of quinine in ophthalmology had been restricted to a very limited class of conjunctival and corneal affections but his observations, which had extended over four years, showed that it was a very powerful curative agent in a large variety of corneal ulcers not amenable to ordinary routine treatment, to which much more drastic measures were commonly applied. The sulphate of quinine dissolved carefully in just sufficient sulphuric acid to hold the salt in solution was recommended to be used in a 1 per cent. solution. The eyes should be soaked in the solution for five minutes four or five times a day and in addition a thorough irrigation daily by an undine filled with the solution was advised. It caused very little discomfort and patients used it readily but stronger solutions gave rise to pain and had no advantage. When the treatment was going to be successful improvement showed itself within a few days and if no manifest benefit was effected within a week it might be discontinued. The rapidity of healing under this treatment was at times remarkable and Mr. Lawson had seen many formidable looking ulcers heal by this treatment alone within a week. A list of several cases of corneal ulceration treated by this method within the last three years was appended to the paper.

Mr. CLAUD A. WORTH read a paper on the Notation of Prisms. He said that when they ordered a spherical or cylindrical lens they did not concern themselves with the refractive index of the glass of which it was made. They specified that it should have a certain definite effect upon a pencil of light and bring it to a focus at a certain specified distance. But prisms were numbered by most opticians according to the geometrical angle, so that if they wanted a prism which should deflect a pencil of light say four degrees they had to order a prism of eight degrees geometrical angle. The optician then supplied a prism the actual deflecting power of which was somewhere between three degrees and five degrees, according to the kind of glass of which it was made. It was much more convenient and accurate to number a prism according to the number of degrees which it deflected a pencil of light. Although this matter had been discussed before, yet he brought it forward in the hope that the society would make some definite pronouncement which would be accepted by spectacle makers in this country and inconvenience would thus be avoided.

Dr. D. J. WOOD (Cape Town), after referring to a case of Detachment of the Retina recorded by him in vol. xii. of the Transactions, described another case which he had recently seen which bore a strong likeness to the previous one. The patient was a Dutchman, aged 35 years, whose right eye had been lost five years before from perforating ulcer and the eye had been removed. Since that time the sight of the left had been failing but had rapidly deteriorated during the last five weeks. His vision was perception of light and he could just see large objects moving below. The pupil was active and the tension was normal. The ophthalmoscope showed two rounded detachments meeting and widening out above. The vitreous was clear. The vessels were more than double their natural size and were tortuous to a degree. Both arteries were constricted at frequent intervals, so that they looked like beads, while the veins had the appearance of strings of sausages. The constricting bands were retinal in origin and looked as if they were stitches holding the vessels down. In both cases it was difficult to follow the vessels, not only on account of the tortuosity, but also because the colour of the arteries and veins was so similar. There were no recent hæmorrhages but some patches that were seen probably represented old ones. The question was whether it was a proliferation of inflammatory material in the retina or a primary disease of the vessels. Probably serous exudation caused detachment of the retina but it was difficult to account for the lightness of colour of the veins which were seen in both cases.

Mr. LOUIS WERNER showed a sketch of a case of Neuro-retinitis of a severe type which occurred in one eye of an anæmic girl, aged 24 years. There was neither headache nor vomiting, the only symptom being a feeling of lassitude and for a time excessive thirst. There was no albumin present but the sugar reaction was doubtful. The left eye failed suddenly one morning and the vision was reduced to perception of movements of the hand. The field of vision was greatly contracted but the colour perception was good. The upper part of the disc was greatly swollen with large corkscrew-like vessels spreading out from it, while the lower part was white and atrophic but indistinct. In less than three days a perfect star of white lines appeared at the macula Under iron the swelling disappeared in three months and the vision improved to $\frac{6}{18}$ Dr Werner referred to a case reported by Sir W R Gowers in which retinal changes resembling those of albuminuric retinitis occurred in a chlorotic patient

The following case and specimens were exhibited —

Dr L COLE BAKER showed a Needle Holder for use with either straight or curved needles and a modification of Clark s Eye Speculum

Mr N BISHOP HARMAN showed a case in which there was Congenital Absence of the Internal and External Rectus Muscles

Mr H SECKER WALKER showed a radiograph of a case of Gunshot Wound in which two shots had entered the eye at the same hole and had lodged at the back of the orbit

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BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION —The general meeting of this society was held on Jan 13th in the rooms of the Medical Society, Mr W J Chichele Nourse, the President, being in the chair —Dr J Sim Wallace read a paper on Nasal Obstruction and Mouth Breathing —The President then delivered his address, of which the following is a *resumé* Having suitably acknowledged the honour conferred upon him the President referred to the former and the present work of the association He then alluded to the approaching celebration of the 100th anniversary of the birth of Senor Manuel Garcia, the inventor of the laryngoscope The rest of the address was devoted to the subject of Reason in Relation to Scientific Medicine The President pointed out the impossibility of arriving at truth except by the aid of the recognised rules of reason, for knowledge, he said, consisted of conclusions drawn by reason from the consideration of facts As, on the one hand records of facts alone did not constitute science, so, on the other the exercise of reason without regard to facts, as practised in the mediæval universities, was equally barren The principles of medicine were thus built upon accumulated records of facts by the methods of inductive reason, while the application of those principles to individual instances in the practice of the healing art was also dependent upon sound logic He then dwelt shortly upon the [illegible] composition and [illegible] I venture to think [illegible] place and on an [illegible] this association, stated in our constitution, is 'the advancement and diffusion of knowledge in all that relates to diseases of the throat nose, and ear' We are not merely students but professedly teachers of these subjects We teach, in the first place, by learning ourselves But, besides this, some of us are actually called upon to impart what we know to students in the course of hospital work It is our bounden duty therefore, to test and to re test the truth of our beliefs before imparting them to others Accurate and unbiased observation must be wedded to sound reason' —A vote of thanks was moved by Mr St George C Reid, seconded by Mr E Dennis Vinrace and carried unanimously —A number of clinical cases were then shown, each case being followed by a discussion dealing with its nature, treatment, and the like Among these cases were a case of Nasal Polypus with Deformity, shown by Dr W H Kelson, a case of Ulceration of the Palate for diagnosis, shown by Dr V H Wyatt Wingrave, and a case of Tertiary Syphilis of the Nose with Epiphora, shown by Dr D Mackenzie —The President showed a case of Fracture of the Larynx in a man aged 65 years He remarked that there was still some external deformity The accident occurred on Nov 23rd, or about seven weeks ago, so that there had been time for considerable repair to take place Dr Johnstone, who first saw the patient soon after the accident detected crepitus quite easily When the patient first came under his own notice crepitus could still be distinctly elicited Moreover an examination by the laryngoscope showed that the left cord was not only [illegible] istorted, it seemed as if the [illegible] outwards than it ought to be [illegible] the external deformity, the immobility of the cord, the crepitation and the great extravasation in the laryngeal tissues No doubt it was a case of simple and not of compound fracture Hence the absence of emphysema The mortality in recorded cases was very high Out of 69 cases of fracture of the larynx collected by Durham in his article in Holmes s 'System of Surgery' there were 53 deaths 30 cases were of fracture of the thyroid cartilage, of which 20 were fatal Almost all cases of which he had found records were compound fractures and it seemed as if this was one of the elements which produced the high mortality Some were the result of great violence and were attended by other injuries The œdema of the cords was an interesting point There was no doubt that the cords were very much swollen and infiltrated with fluid, particularly the left cord wh[illegible]

[illegible] in view of the infrequency of fracture of the larynx, thought it might be of interest to draw attention to a case which had been recorded by Dr G S Middleton of Glasgow[1] and which had for its clinical features two symptoms only—namely, hæmoptysis and subcutaneous emphysema The patient was a man aged 70 years, who, on rising from bed, slipped and in falling struck the right side of his head against the kitchen dresser He regarded the blow as entirely a trivial affair but shortly afterwards brought up about two teacupfuls of bright red blood In the course of a few minutes he was conscious of swelling of his neck and of some difficulty of breathing He was then taken to hospital and admitted to a medical ward Examination showed considerable subcutaneous emphysema of the face and the neck and this rapidly extended so as to involve the whole of the trunk There were urgent dyspnœa and cyanosis and it was impossible to obtain a view of the interior of the larynx but externally there was no evidence of injury Several surgeons who saw the case thought that the condition was due to fracture of one or more ribs with tearing of the lung substance, though no conclusive evidence in favour of this view could be obtained The patient died four days after admission At the necropsy there was discovered below the left vocal cord a cavity having a necrotic wall and leading to a necrosed thyroid cartilage It was by this avenue that air had reached the subcutaneous tissue The appearances were not those of syphilis, tubercle, or malignant disease and it was suggested that some small foreign body might have been responsible for the ulceration and necrosis, though no such body was discovered The patient had never made any complaint of symptoms suggestive of laryngeal disease and until the date of the hæmoptysis his friends had regarded him as a man in exceptionally good health Such a record might be said to have a special interest to members of that association, but, in addition, it aptly illustrated the necessity of keeping a wide outlook in whatever branch of practice a medical man might elect to engage It showed how a case which was essentially one of local disease in the larynx might present clinical features which brought it under the care of the general physician Specialism in some measure was, no doubt a necessity but to be conducted in harmony with the claims of sound practice it must maintain the wider outlook which had been defined in the President's thoughtful and earnest address However severely the practitioner might restrict the line of his practice he could not absolve himself from a responsibility which included the entire welfare of the patient

LIVERPOOL MEDICAL INSTITUTION —A meeting of this society was held on Feb 2nd Dr James Barr, the President, being in the chair —Mr F T Paul exhibited a patient suffering from Popliteal Aneurysmal Varix which had resulted from a bullet wound —Dr M Loewenthal demonstrated a specimen of Bothriocephalus Latus and mentioned the treatment he had adopted in the case from which it was obtained —Mr Paul read a note on Enterectomy for Cancer of the Colon Three recent cases were men[illegible] of the operation he had not lost a single case except when intestinal obstruction was present since he had brought the ends of the bowel outside at the time of the operation He would very much like to know what the real mortality was after primary end to end anastomosis of the large bowel

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[1] Clinical Records from the Glasgow Royal Infirmary Alex Macdougall Glasgow 189

As a palliative operation he advised short-circuiting whenever it was possible rather than performing colotomy.—Mr. W. Thelwall Thomas had taken advantage of the method of operating described by Mr. Paul in several cases of colectomy and considered it a valuable advance. Cases being so often seen when marked obstruction had supervened he had found it impossible to unite the dilated proximal end of the divided gut to the atrophied and collapsed peripheral portion. —Mr. E. M. Stockdale, Mr. G. P. Newbolt, Dr. J. Hill Abram, Dr. G. C. Walker, Dr. W. Blair Bell, Dr. W. Carter, Dr. R. Humphreys, and the President also took part in the discussion.—Mr. T. C. Litler Jones related a case of Acute Hæmorrhagic Pancreatitis. The patient was a healthy woman, 26 years of age, subject to constipation. She was suddenly seized with severe abdominal pain and vomiting 46 hours before admission to hospital. Laparotomy was performed and there were found to be fat necrosis and about three pints of blood serum in the peritoneal cavity. This fluid was removed and the pancreas was incised in its long axis with a view to prevent further tissue necrosis due to the action of the ferment. The incision in the pancreas was packed with gauze which was removed 36 hours later. Except for some trouble with the abdominal incision owing to the digestive action of the pancreatic discharge the patient made an uninterrupted recovery.—Dr. W. B. Warrington read a paper on Compression Paraplegia with especial reference to Tumour of the Spinal Cord, and an account of a case of Endothelioma removed from the Cauda Equina. He pointed out that in any case of paraplegia the possibility of compression of the cord was to be considered. Tumours of the spinal cord were about ten times less frequent than cerebral tumours, but about half could be successfully removed, as against 4 per cent. of cases of cerebral tumour. The symptoms were progressive pain, motor paralysis, and sensory paralysis The clinical picture of a total block of conduction between the cord and the brain was described and reference was made to the splanchnic and somatic symptoms in these cases. Cases were then quoted to show that this "block" might be physiological and remediable, calling in selected cases for operative interference In the case of the patient with a tumour of the cauda equina there were symptoms of symmetrical affection of the sacral roots—pain, paralysis of the muscles moving the feet, loss of sensation in all the sacral and last lumbar area, disturbance of the bladder and rectum and loss of the bulbo- and ischio-cavernosi reflex. The tumour, which was removed by Mr. R. W. Murray, proved to be a malignant endothelioma and though marked relief occurred for some months the symptoms then reappeared and the case could only end fatally. The importance of differential diagnosis between lesions of the last part of the cord (conus medullaris) and the cauda equina was emphasised as in the latter case the surgeon often could operate satisfactorily. A brief account of the diagnostic features of the different lesions and their distinction from each other was given. In many cases of nervous disease the coöperation of physician and surgeon was most desirable.—The President Professor C. S. Sherrington, Mr. Damer Harrisson, Dr. Nathan Raw, Mr. Murray, and Dr. Hill Abram took part in the discussion.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 27th, Dr. A. Bronner being in the chair.—Dr. J. B. Hellier read a paper on Secondary Post-partum Hæmorrhage and described a recent case. The patient was a young married woman who was treated for partial placenta prævia at the seventh month by podalic version. For ten days she progressed without a bad symptom, there being no sign of sepsis and no lochial excess. On the tenth day she had a very severe flooding. This recurred on the seventeenth day after a further interval in which no bad symptoms were present. There was no further hæmorrhage and she made a good recovery. It is certain that no part of the secundines were retained in this case. Dr. Hellier discussed at length the causation and the treatment of this condition —Dr. A. G. Barrs, Dr. J. E. Eddison, Dr. H. Johnstone Campbell, and others took part in the subsequent discussion—Mr H. Collinson made some remarks on a case of Fibroid Polypus of the Bladder. The patient, a man, aged 33 years, was admitted to hospital, under the care of Mr. H. Littlewood, in a semi-conscious condition with dribbling of foul, blood-stained urine. He had suffered from occasional hæmaturia for 12 months and from great frequency of micturition and pain at the end of the penis for the last nine months. He died on the fifth day after admission from septic pyelonephritis. The [illegible] polypus of the bladder two inches in [illegible] on the upper and outer margin of the [illegible] This had obstructed the flow of urine from the right ureter, producing dilatation of it and the pelvis of the kidney. The tip of the polypus also obstructed the internal meatus of the urethra. Attention was drawn to the prominence, amongst the symptoms, of pain and frequency of micturition, and the physical characteristics of the tumour were cited as explanation.—Mr. Littlewood discussed the paper.—Dr. Campbell referred to the fact that in recent years the mortality from croupous pneumonia had not only shown no signs of diminution but had on the other hand considerably increased, in spite of the advance that had been made in the treatment and in the case-mortality of most other diseases. He insisted upon the necessity, in the matter of treatment, of recognising that pneumonia is a general disease with a local manifestation and said that he considered that the main indications were to take off pressure upon the heart and to lessen the work that it had to perform rather than by stimulating it to try to increase its motive power, to keep the kidneys well flushed by the administration of plenty of water, and to avoid overloading the stomach with food. He deprecated the routine use of drugs like digitalis and strychnine and recommended the use of potassium iodide as a vaso-dilator and in suitable cases creasote to prevent fermentation in, and consequent distension of, the stomach. He further dwelt upon the necessity of avoiding any disturbance of the patient that could possibly be avoided and especially thought that examination of the lung should be made to the smallest possible extent when once the diagnosis had been established. —Dr. Barrs and Dr. Eddison discussed the paper and Dr. Campbell replied.—Various cases and pathological specimens were shown by Mr. A. L. Whitehead, Dr. Barrs, Dr. T. Churton, Mr. E. Ward, Mr. W. H. Brown, Dr. C. M. Chadwick, Dr. Hellier, Dr. E. F. Trevelyan, Mr. Littlewood, Dr. Carlton Oldfield, Mr. G. Constable Hayes, Dr. T. Wardrop Griffith, and Mr. R. Lawford Knaggs.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held at Birmingham on Feb. 1st, Dr. E. W. Wood White, the President, being in the chair.—Dr. J. G. Emanuel showed a case of Spina Bifida Occulta in a child, aged two years. In the dorsi-lumbar region of the spine there was a diffuse overgrowth of long [illegible] ed by this hair seemed in no way [illegible] the spine at the juncture of the co [illegible] was evidence of incomplete closure of the primitive medullary groove in the form of a well marked dimple in the middle line. The child, otherwise perfectly well developed, suffered from incontinence of urine but this was held not to point to any defect in the cord, as there were no other signs such as talipes, altered knee-jerks, &c.—Mr. George Heaton showed a Sarcoma of the Epididymis removed from a man, aged 28 years, who had noticed a tumour at the back of the right testicle for eight weeks It increased rapidly in size at first but latterly had not enlarged much. The testis could be felt in front of the lower part of the swelling. The tumour on removal was of about the size of a large orange. The testis, normal in size and appearance, was situated at the front part and not involved in the growth. There was no enlargement of the vas deferens or other constituents of the cord. Microscopically the tumour was a mixed round-celled and spindle-celled sarcoma.—Dr. A. Stanley Barnes showed specimens from a case of Cerebral Tumour in which there was secondary growth in the spinal pia mater. The patient was a boy, 11 years of age, who [illegible] suffered from morning vomiting, slig [illegible] of sight. After an illness [illegible] symptoms abated and his [illegible] was able to read large print. The symptoms recurred [illegible] months before admission to the Queen's Hospital, the patient having been practically well during the interval. In hospital he grew gradually worse, his main symptoms being headache, vomiting, loss of sight (due to post-neuritic atrophy), wasting, and convulsions. All the reflexes were lost several weeks before death. Post mortem there was found a large sarcoma of the frontal lobe, apparently growing from the ependyma of the anterior cornu of the lateral ventricle. The floor of the fourth ventricle and parts of the other ventricles showed secondary growths and at the base of the brain and

around the spinal cord the pia mater (and to a
the arachnoid) were enormously thickened to form
continuous mass of sarcomatous growth, constituting a
for the spinal cord The posterior root ganglia and some of the roots of the cauda equina were greatly enlarged by growth The secondary affection of the ventricular walls and pia mater probably occurred as a result of rupture of the tumour —Dr J Douglas Stanley read a paper on Syphilitic Disease of Some Viscera

CLINICAL SOCIETY OF MANCHESTER —A meeting of this society was held on Jan 10th Dr E S Reynolds the President being in the chair —Mr E Stanmore Bishop read a paper on the Surgical Aspect of Biliary Calculi, illustrated by means of patients and specimens The progress of abdominal surgery he said, had been great since asepsis had permitted surgeons to substitute ante mortem for post mortem examinations of the viscera therein contained and both diagnosis and treatment of biliary calculi had shared in the general advance The diagnosis of these conditions had become much clearer since greater emphasis had been laid upon the fact that gall stones as such had no existence for the surgeon It was only when associated with inflammatory conditions in the channels containing them that they became appreciable both by the patient and the surgeon Just in the same way the stercoliths in an appendix had no pathological significance until associated with some inflammatory change in the appendix itself Such a combination necessitated the existence of certain symptoms which were pathognomonic rise of temperature in a certain manner—the steeple chart of Moynihan and the cholangic angle of Murphy, pain of a definite kind and radiation in a definite way followed by tenderness of the affected region appreciable by Murphy's test and certain reflexes Murphy's test was described In regard to treatment, the advances in technique were illustrated by the different operations practised in 22 cases and their results The necessity of at least temporary drainage in all cases was shown to be a consequence of the conditions present Operation *à deux temps* as formerly practised by himself in common with other operators was shown to be wrong in principle and the difficulties necessarily dependent upon such a method were illustrated by cases Preliminary dosing with calcium chloride after the method of Robson was strongly supported by his experience The patient separation and ligature of all adhesions before any attempt at removal of calculi were emphasised Various methods of drainage were discussed The two main incisions of Robson and Rutherford Morison were described and illustrated by cases in which they had been used Amongst the patients shown was one in whom operation had been carried out at the fifth month of pregnancy without disturbance and the child born at full term was also shown Mr Stanmore Bishop expressed his obligation to Dr R A Paton of Harpurhey and to Mr Harold J Moon of Levenshulme by whose courtesy these patients were shown

ROCHDALE AND DISTRICT MEDICAL SOCIETY —A meeting of this society was held on Feb 2nd Mr W Pooley the President being in the chair —Mr R Burdett Sellers opened a discussion on Ambulance Work and its Relation to General Practitioners After a historical survey of the origin and subsequent development of the ambulance movement Mr Sellers described the objects kept in view by the St John Ambulance Association emphasising the fact that in case of accident the aim was not to supplant the medical man but to prevent death and to minimise suffering pending his arrival Mr Sellers described several typical cases in which he claimed that lives had been saved by ambulance men He also cited the testimony of army surgeons and distinguished medical civilians in favour of ambulance work during the recent Boer war and elsewhere —Dr A Wallace believed that ambulance work did some good but thought that the instructors should be paid by the State —Mr S T Lord insisted on the amount of good done by ambulance men and also on the opportunity given to the lecturers to expose quackery —Mr W Stanwell admitted the value of ambulance work but pointed out that
there were cases of ambulance
down by Mr Sellers —Dr J A
the opposition to ambulance w
disapproved of the movement while admitting that it did a certain amount of good His disapproval was due to the conduct of ambulance men, one of whom, e g , after treating an obvious fracture for some time as a sprain, disputed
was obvious
n with
more or less
e army
medical staff
to do
He disapproved of the ambulance movement and thought that many cases which received first aid would be better if left alone until the medical man arrived —Mr Sellers, in reply repeated his main contention that the chief advantage of ambulance work was that it lessened loss of life and suffering

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY —A meeting of this society was held on Feb 2nd, Mr G Morgan the President being in the chair —Mr R F Jowers showed a Renal and a Ureteral Calculus which he had removed together with a large hydronephrotic kidney, from a woman who made a good recovery The renal calculus weighed seven drachms, the ureteral one which weighed half an ounce was situated at the lower end of the ureter and had been felt per vaginam before the operation He also exhibited a Fractured Patella which he had wired two and a half years before the patient's death and which showed perfect bony union —Dr Walter Broadbent showed a case of Leucocythæmia in which there were a very large spleen and also numerous enlarged glands The blood contained one white corpuscle for every three red, 40 per cent of the leucocytes were myelocytes Hypodermic injections of arsenate of iron having been given for six weeks without any good effect a trial was now being made of the x ray treatment He also exhibited a Fusiform Aneurysm of the Second Part of the Arch of the Aorta which had ruptured into the trachea —Dr F Hobhouse brought forward a case of Sporadic Cretinism The patient was a child aged six years who weighed 1 stone 10 pounds had not learned to walk and was deficient in intellect He also showed a case of Cerebral Diplegia in which the legs exhibited spastic movements with exaggerated reflexes but the arms were hardly affected The sphincters were paralysed and there was internal strabismus of the right eye The head was small and an abnormal depression could be felt on the vertex Intelligence seemed fair the squint had existed when the child was six months old but the parents had not noticed the spasticity of the legs till three months later —Mr W Turner showed a Fibroid Tumour of the Ovary weighing seven pounds removed by operation —Mr T. H Ionides exhibited a Two and a Half Months Fœtus found in the abdominal cavity during an operation for ruptured extrauterine fœtation

GLASGOW MEDICO CHIRURGICAL SOCIETY —A meeting of this society was held on Jan 27th Dr D N Knox being in the chair —Dr J H Nicoll by means of a lantern demonstrated the steps of an operation for the Radical Cure of Inguinal Hernia —Dr Nicoll also showed specimens from a series of cases of Hernia of the Ovary —Dr A Freeland
Fergus read a paper on Some
logical Investigations of the
Pollock gave a lantern demo
Organisms found in the Conjunctival Sac —Dr J Walker

(2) a Hard Piece of Bone which was impacted in the subglottic region of the larynx in a child aged eight months These bodies were removed by opening the trachea and passing a narrow strip of gauze through the larynx into the pharynx The end in the pharynx was caught by forceps and the gauze gently pulled upwards and the foreign body was dislodged and entangled in the meshes of the loose gauze

BRITISH ELECTRO THERAPEUTIC SOCIETY —The annual meeting of this society was held on Jan 27th when the following were elected as officers for the ensuing year —President Dr Donald Baynes Vice Presidents Dr Dawson T D Turner and Mr Chisholm Williams Council Dr J Allan, Dr D Arthur Dr G L Batten, Dr James Berry, Dr T A Codd, Mr R H Cooper, Mr Hall Edwards Dr G H Graham Dr W S Haughton, Dr G Herschell Dr T Donald Pollock Mr A D Reid, Dr S Sloan, Dr Septimus P. Sunderland and Mr C A J Wright Treasurer Dr H
Assistant treasurer

Dr. H. Lewis Jones. Honorary secretaries: Dr. H. E. Gamlen (West Hartlepool) and Dr. E. R. Morton (London).—The annual address by Dr. J. Macintyre of Glasgow was read by the retiring President, Dr. H. Lewis Jones, Dr. Macintyre being unavoidably absent through illness.—At the annual conversazione which followed there was a full attendance of members. Among the novelties shown an ingenious arrangement of an induction coil and electrolytic break for heating cauteries from the continuous main current was especially noted. It was shown by Mr. A. C. Cossor. The temperature of the burner was under perfect control and its consumption of current was very small.—Messrs. Watson and Sons showed a Glove for use by x ray workers as a protection against dermatitis and also a new form of X Ray Tube.—Mr. Leslie Miller showed the Apparatus for Winding his Jointless Section Coils and also instruments for Measuring the Current through an X Ray Tube.—Various interesting and novel instruments and apparatus were shown by other exhibitors and, taken as a whole, the exhibition gave evidence of distinct advancement during the past year.

KIDDERMINSTER MEDICAL SOCIETY.—A meeting of this society was held on Feb. 3rd, Mr. J. L. Stretton being in the chair.—Mr. Stretton showed: 1. A man, aged 42 years, whose Wrist he had Excised for Tuberculous Disease. The whole of the carpus, the ends of the metacarpal bones, and the ends of the radius and the ulna were removed through a single dorsal incision. The result was satisfactory; within two months of the operation he was able to use a spade. 2. A man, aged 75 years, who Fractured his Patella Transversely. It was brought together with wire after the method of Mr. Barker and he was able to walk about in ten days. 3. A woman, aged 35 years, treated successfully with Professor Sclavo's serum for Anthrax.[1] 4. A Dermoid Cyst of the Right Ovary removed from an unmarried woman, aged 53 years. It contained a mass of hair and fixed to the upper end of the cyst wall was a portion of bone resembling an upper jaw with a row of six teeth.—Dr. Bertram Addenbrooke showed: 1. Temperature Charts of Three Cases of Pneumonia under his care in one week, all following influenza. One subsided by lysis and two by crisis. 2. An Aural Polypus. 3. A large Cancerous Tumour removed from the Abdominal Wall. 4. A large Mushroom-shaped, Phosphatic Vesical Calculus which had formed in a vesico-vaginal fistula which resulted from the operation for vaginal hysterectomy.—Mr. A. C. Oldham read a paper on Peripheral Neuritis. He described at considerable length a case which he had had under his care complicating pregnancy; the child was born at full time and was healthy and the mother made a good recovery.—Some new ethical rules having been adopted the meeting terminated.

ROYAL MEDICAL SOCIETY, EDINBURGH.—At a meeting of this society held on Feb. 3rd Dr. W. E. Carnegie Dickson demonstrated some specimens of Pathological Marrow conditions. He prefaced his remarks by an account of the anatomy and the histology of the marrow and then proceeded to show specimens of various degenerations. He next discussed more fully the development, the physiology, and the pathology of the various marrow cells and concluded by describing the changes in the marrow which accompanied various pathological conditions of the blood.—Dr. H. J. Dunbar read a paper on the Value of Examination of the Blood in Diagnosis. He commenced by discussing the histological examination of the blood in various conditions and then went on to describe the value of other methods of examination, such as the determination of the freezing point or of the alkalinity of the blood and the various bacteriological reactions.—Dr. L. S. Milne read notes of a case of Adherent Pericardium.

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[1] THE LANCET, Feb. 4th, 1905, p. 292.

NATIONAL DENTAL HOSPITAL.—The annual general meeting was held at the hospital in Great Portland-street, W., on Jan. 31st, Mr. Alfred Farquhar, the treasurer, being in the chair. Among those present were Mr. W. Ward Cook, Mr. W. H. Grabham, Mr. F. Canton, Mr. Herbert J. Relph, Dr. James Maughan, Mr. S. F. Rose, and Mr. Sidney Spokes, Dean. The report for 1904 unfortunately shows a deficit amounting to £774 and the committee of management earnestly appeals for aid to decrease this debt. The quality and the quantity of the work done have been well maintained.

Reviews and Notices of Books.

Human Embryology and Morphology. By ARTHUR KEITH, M.D. Aberd., F.R.C.S. Eng., Lecturer on Anatomy, London Hospital Medical College; Examiner in Anatomy, University of Aberdeen, and in the Natural Science Tripos, University of Cambridge. Second edition, revised and enlarged. Illustrated with 316 figures in the text, of which 64 are new in this edition. London: Edward Arnold. 1904. Pp. 402. Price 12*s.* 6*d.* net.

THIS the second edition of Dr. Arthur Keith's most useful volume has undergone careful revision and, without being materially enlarged, has kept pace with the work of other embryologists, has been rendered more precise, is more fully illustrated, and has been in every way improved. The author states in his preface that in this edition the chapters dealing with the early development of the human embryo and the formation of the placenta have been entirely rewritten; that much of the chapter dealing with the uro-genital system has been amended; that many additions have been made to the chapters on the central nervous system; and that additions have been made to the remaining chapters on the bones and epiphyses, heart, blood. lungs, diaphragm, peritoneum, cæcum, and appendix.

We consider the production of a good work on embryology to be one of the most difficult tasks that the physiologist can undertake. Its satisfactory execution demands great powers of accurate observation and unwearied patience, for the object of his research is undergoing constant change, while the parts are extremely delicate, require for the most part great familiarity with the microscope, and easily break down or become displaced when sections are required, however sharp the knife may be and however steady the hand. Then the several regions of the rudimentary organism not only alter in form and position but they are in process of development and that which is at one time little more than a minute and an amorphous mass of cells rapidly assumes the form and the proportions as well as the structure of a complex organ. But even if he be a good observer the embryologist must not only comprehend what he sees but he must be a good draughtsman possessed of much literary skill and power of expression so that he may build up for the learner in stereographic fashion, if the term may be allowed, the concomitant structural and morphological changes which have been observed in a succession of sections in such a manner that a concrete conception of the growing and developing organism at different periods of its life may be obtained.

Dr. Keith pursues a different track from the majority of writers on embryology, for instead of commencing with a description of the ovum he begins with an account of the outgrowths which form the face at about the middle of the first month of fœtal life, pointing out the teratological results of their imperfect development or non-union as seen in harelip and cleft palate. The modes of formation of the nasal duct, of the naso- or anterio-palatine canals, of the Vidian, pterygo-palatine and infra-orbital canals, with the relations of the rudimentary organ of Jacobson, are all fully and instructively given. The development and the ossification of the mandibular arch, with the relations of the palate and pterygoid processes and quadrate bones, as well as the derivation of the malleus and the auditory ossicles, are shown with a clearness that would have gladdened the heart of Kitchin, Parker, and Huxley.

The author has had the advantage of the coöperation of Dr. G. Elliot Smith in the section on the development of the brain and the spinal cord. The cause of the oblique course of the roots of the spinal nerves is shown to be the rapid growth of the spinal column and the degree to which the obliquity extends in different parts of the vertebral column is given on the authority of Professor R. W. Reid. It varies from two vertebræ in the lower cervical region to five in the lumbar and ten in the coccygeal region. The differentiation of the spinal part of the neural tube is described, showing that of the cells which at the sixth week form the medullary plates some become neuroglial—or elongated and branched supporting—cells; others situated in the outer zone of the tube wall form a meshwork; others more centrally placed form the ependyma, and some situated in the middle zone have their interspaces filled with neuroblasts. The neuroblasts are produced from germinal cells lying in, or near, the inner zone. Those in the roof and floor of the neural tube scarcely undergo any proliferation but two lateral centres of proliferation appear, one of which, the dorsal lamina, contains cells that are connected subsequently with the ingrowing fibres of the dorsal root, and a ventral lamina, at which the cells of the anterior horn are produced and from which the fibres of the anterior root arise. The development and the date of *myelinisation of the columns of Goll, Burdach, Flechsig*, Clarke, and Gowers are given with those of the intermediate and pyramidal tracts. The middle zone, above mentioned as filled with neuroblasts, forms the horns and the grey matter of the cord. The cerebellum is described as developed in lateral plates or folds proceeding from the dorsal laminæ of the anterior part of the hind brain; these fuse in the middle line, the line of fusion becoming the vermis. Towards the end of the third month the cerebellar plate becomes demarcated into anterior, middle, and posterior lobes which are separated by two transverse fissures and are recognisable in nearly all mammalian cerebella. The parts in the fully developed adult cerebellum proceeding from each of these lobules is given with the mode of formation of the three cerebellar peduncles which are shown to be highly complex. Dr. Keith points out that the cerebellum reaches its greatest development in primates amongst mammals and in swimming vertebrates, in both of which groups the equilibrium of the body is finely adjusted.

A much fuller account of the development of the respiratory organs is to be found in Dr. Keith's treatise than elsewhere, for he shows the mode in which the branchial system and the swim bladder of fishes and amphibians undergo evolution into the mammalian respiratory system. This is effected by the formation of a respiratory passage leading from the pharynx to the incipient lungs, by modifications of the last pair of branchial arches, and by changes taking place in the branchial muscles of the lower animals leading to the formation of a muscle of inspiration or diaphragm and in the muscles of the body wall ending in the formation of the muscles of expiration.

The development of the uro-genital system is given in considerable detail, the description of the successive changes being founded on the researches of Keibel, Berry Hart, J. P. Hill, and F. Wood Jones. It is shown that in the first instance an organ termed the pronephros appears in the intermediate cell mass or solid protrusion into the cœlom on either side of the incipient mesentery and in the cervical region. It consists of tubules which open externally into the cœlom or peritoneal cavity by trumpet-shaped ciliated ends representing the segmental or nephridial tubules of the Vermes. Internally they are connected with the anterior part of the Wolffian duct and soon disappear. In the second month of intra-uterine life the mesonephros or Wolffian body is fully developed. This consists of numerous tubules which have a blind extremity containing a glomerulus and open internally into the middle part of the Wolffian duct. These tubules secrete urine which the Wolffian duct conveys to the cloaca of the hind gut just as in the frog. Finally, the tubules opening into the lower or posterior part of the Wolffian duct persist, becoming part of the genital system *in the male but functionless in* the female. In the male the Wolffian duct forms (1) the tube of the epididymis which is coiled up in the globus major, the body, and the globus minor of the epididymis, (2) the vas deferens and common ejaculatory duct, and (3) the vesiculæ seminales. The stalked hydatid frequently seen on the upper extremity of the testicle is the upper or anterior extremity of the Wolffian duct. The genital tubules of the Wolffian body become the rete testis, vasa efferentia, and coni vasculosi. The renal tubules of the Wolffian body form (1) the vasa aberrantia found in the globus minor and (2) the paradidymis or organ of Giraldès sometimes discoverable in the cord above the globus major. The permanent kidney is derived from two elements: (1) a diverticulum of the Wolffian duct which gives origin to the ureter, pelvis of the kidney, calyces, and collecting tubes, and (2) the posterior segment of the intermediate cell mass, whence arise the glomeruli, vessels, and connective tissue. In the female a second tube forms in the intermediate mass named the Mullerian duct, the upper part *of which becomes the Fallopian tube. When the ovary* and the tube migrate to the pelvis the Wolffian mesentery which comes to form the meso-salpinx is also drawn within the pelvis and with it all the Wolffian remnants; a hydatid attached to the meso-salpinx (part of the broad ligament) represents probably the pronephros and may become cystic; the Wolffian duct runs in the meso-salpinx to the uterus and terminates in the vulval cleft behind and to the outer side of the urethra. The upper part of the duct only remains in women; the lower parts disappear or if they persist constitute the duct of Gaertner. The genital tubules of the Wolffian duct, those, namely, which are connected with the ovary, persist and form the epoophoron or parovarium or organ of Rosenmuller and frequently form large cysts. The renal Wolffian tubules persist, lie between the ovary and the uterus, and form the paroophoron. This account, which we have condensed, gives the results of recent researches and is a good piece of work, constituting a considerable advance on the statements usually made in text books.

The formation of the placenta is very interestingly given. It is shown that the chorion arises from a combination of two elements, the trophoblast or enveloping layer of epiblast and an extension from the somatic mesoblast. The trophoblast is divisible into a basal layer and a mass of cells to which the term "syncytium" is applied. The cells possess remarkable phagocytic power and burrow into the thickened and vascular mucous membrane of the uterus in a systematic and regulated manner; they absorb the tissue with which they come into contact and lay open the blood vessels of the uterine mucous membrane. The maternal blood escapes into spaces inclosed by the syncytial processes or into lacunæ formed by the vacuolation of the processes. In certain circumstances, he adds, at present unknown, syncytial cells escape into the general *circulation and form malignant* growths. Drawings are given showing the relation of the syncytium and the blood spaces of the placenta.

We have no further space to give to Dr. Keith's treatise except to add that it should be in the hands of every physiologist and gynæcologist in the kingdom.

Syphilis de l'Œil et de ses Annexes. (Syphilis of the Eye and its Adnexa.) Par le Dr. F. TERRIEN, Ancien Chef de Clinique Ophtalmologique de la Faculté de Paris. Paris: G. Steinheil. 1905. Small 8vo, pp. 316. Price 4 francs.

THE manifestations of syphilis in the eye and the parts adjoining constitute a large and important chapter in the history of that disease. The eye seems to absorb more than its due proportion of syphilis as compared with other regions of the body but it is to be borne in mind that in this limited area are crowded together nearly all the tissues found elsewhere, as skin and connective tissue, blood vessels, nerves, muscles, bone, and gland, besides some special structures like the cornea, the lens, and the vitreous humour which, however, rarely present any appearances that are directly attributable to the action of the syphilitic virus. It is fortunate, however, that when the eye is attacked owing to its exposed position the onset of the disease is recognisable at an early period and appropriate remedies, if skilled assistance is at hand, can be applied.

In Dr. Terrien's treatise there is an introductory chapter entitled "Notions Anatomiques" which gives a short account of the nomenclature and disposition of the parts entering into the formation of the eye and the parts adjoining. There are also a few paragraphs describing the use of the ophthalmoscope. The volume is divided into three parts, the first discussing hereditary syphilis; the second dealing with symptoms of acquired syphilis, as seen in primary, secondary, and tertiary syphilis; and the third giving the treatment of the various forms and stages. The author thinks that the distinction between early or infantile hereditary syphilis and delayed hereditary syphilis or the syphilis of youth should be preserved. He intimates that considerable caution should be exercised in speaking of syphilis transmitted to a third generation through a mother who is only the subject of hereditary syphilis, since there is always the possibility of the father being infected. He cites the observations of Mr. E. Treacher Collins, M. Huguenin, and others, but is of opinion that, however likely it may be, the fact has not been scientifically established. The various forms of infantile hereditary syphilis are well given and include iritis with its several forms of serous and acute iritis, iritis combined with keratitis, and gummatous iritis; retino-choroiditis, which presents itself under the various types of smaller or larger pigment spots in the retina, affecting both sides; peripherally situated accumulations of pigment with little impairment of vision; yellowish-white masses which, if they fuse together and advance towards the centre, may seriously embarrass vision; and, lastly, that type in which the pigment either disappears or becomes greatly hypertrophied and vision is much impaired, though blindness is not produced. Then follows a description of optic neuritis, of changes in the retinal vessels, of various congenital malformations, such as coloboma, buphthalmia, microphthalmia, and of that form of nystagmus to which he has applied the term "nystagmus of intra-ocular origin." The manifestations of syphilis in youth are next considered and a particularly good account of interstitial keratitis is given. The author observes that whilst Hutchinson thought that this affection was almost always a sign of inherited syphilis later authors have assigned a smaller proportion of cases to heredity as a cause, Saemisch considering that 62 per cent. of cases of interstitial keratitis were due to inherited syphilis, Alexander 36 per cent., and Michel 55 per cent.

A long section is devoted to affections of the eye due to acquired syphilis. The most frequent seat of chancre is stated to be the inner angle owing to the stagnation of the tears in this region. The diagnosis between primary chancre and hordeolum, tuberculous ulceration, lupus, epithelioma, and malignant pustule is given in full. Dr. Terrien does not mention the atrophy, the bleaching, and the falling out of the cilia and of the hairs of the eyebrows which often accompany or follow a chancre of the lid. The secondary lesions occurring in the choroid, optic papilla, and nerve are illustrated by good woodcuts. Under the secondary lesions he includes exophthalmia and various affections of the accessory organs, such as roseola and exanthema of the lids, papular and mucous affections of the conjunctiva, affections of the lacrymal apparatus, and such affections of the orbit as osteoperiostitis, gummata of the orbit, and exostosis and osteomata. The conditions which he attributes to tertiary syphilis are gummata, motor paralysis and contractures, and neuralgia especially of the fifth nerve. The sequelæ of syphilis, tabes and general paralysis, with the numerous and remarkable modifications of the reflex actions of the iris which are usually associated with lesions of the central nervous system, are very interestingly described. We have only space to add that in regard to the treatment of syphilis Dr. Terrien considers that iodine and mercury are the sheet anchors on which reliance must be placed. Taken internally or applied by friction neither is to be depended on, but daily injections made in the gluteal region prove of the greatest service and the best solution for use as an injection is the following: mercury biniodide, 20 centigrammes (about three grains); pure sodium iodide, 20 centigrammes; and distilled water, 10 cubic centimetres. Dr. Terrien's book is very sensibly written and is evidently the outcome of much experience.

Orthodontia and Orthopædia of the Face. By VICTOR HUGO JACKSON. London and Philadelphia: J. B. Lippincott and Co. 1904. Pp. 517. Price 21*s.* net.

DURING the last few years many books have been published on the irregularities of the teeth but only a few of these volumes have treated the subject in anything like a satisfactory manner. Treatment to be rational must be based upon a correct understanding of the underlying causes but this fact seems to have been totally disregarded by many of the authors who apparently are imbued with but one main idea—namely, to bring irregular teeth into a correct line whether there is or is not room in the arch. Too often works have been published with the idea of advocating this or that system of treatment, the difference in the systems lying not in the application of different underlying principles but in the slightly varying methods of applying force to teeth. The present volume is not an exception. Etiology is but scantily dealt with, even the views enunciated are open to question, and the main part of the book is devoted to a description of the author's so-called system of regulating. We quote the author's words: "*Jackson System of Anchorage.*—Attention is called to the method devised by me for anchoring appliances to the teeth with spring-clasp attachments. These are fitted to one or more of the molars or bicuspids on each side of the arch, in some cases depending entirely on them for anchorage; in other cases using in conjunction with them partial clasps on adjoining teeth. The appliance is made in such a manner that it can be removed or replaced when desired for cleansing on putting on more pressure.' Beyond the anchorage the methods recommended differ but little from those used by many others. A detailed description is given of plates for mechanically correcting the various irregularities met with in practice. As an appendix there are 44 plates containing illustrations of regulating apparatus.

LIBRARY TABLE.

Manual of Serum Diagnosis. By Dr. O. ROSTOSKI, University of Wurzburg. Authorised translation by Dr. CHARLES BOLDUAN. London: Chapman and Hall, Limited; New York: John Wiley and Sons. 1904. Pp. vi.-86. Price $1 net.—This little book gives a very clear account of the present state of our knowledge on the subject of agglutination and precipitation and their application to diagnosis. The first chapter deals with the principles upon which the technical procedures used in the different tests are founded. In the second chapter the Gruber-Widal test for the presence of enteric fever is considered; the author recommends the use of a pipette, such as that belonging to the Thoma-Zeiss hæmocytometer, for the purpose of making the requisite dilution of the serum and considers that to be called positive the reaction should take place in a dilution of 1 in 60. As a rule, the agglutinating power passes off quickly after the cessation of the disease. The existence of a strong reaction in a case which clinically is not enteric fever may point to some unusual localisation of typhoid bacilli, as in a case of nephritis and in one of pneumonia here alluded to, both of which turned out to be due to infection with this organism. Dead bacilli may be used for the agglutinative reaction and we may thus avoid the danger of using virulent cultures. "Ficker's diagnostic," a preparation of this nature, has given very satisfactory results; it is to be regretted that so far the exact manner of its preparation has been kept secret. In cases which are clinically enteric fever but fail to give a Widal reaction the serum of the patient should be tested for its agglutinating action on paratyphoid bacilli. In diseases other than enterica (Chapters 3 and 4) agglutination is not, according to this author, of any diagnostic value; he does not, however, make any allusion to Malta fever in which practical use has been made of this phenomenon. On the other hand, agglutination is valuable in many cases to the laboratory worker as a proof of the nature of a particular organism. The precipitation test for human blood (Chapter 5) seems now to have taken its place as a valuable procedure in medico-legal investigations. The book before us has no index, though a table of contents at the beginning serves to supply most of the references required. An appendix records some interesting observations by Dr. R. J. Wilson on the distribution of bacilli, normal and agglutinated, in fluid media For a volume of 66 pages, of some 220 words each, the price seems somewhat high.

A Manual of Toxicology. By ALBERT H. BRUNDAGE, A.M., M.D., Phar.D., Professor of Toxicology and Physiology in the Rhode Island College of Pharmacy and Allied Sciences. *Fourth edition, revised and profusely* illustrated. London: Baillière, Tindall, and Cox; New York: The Henry Harrison Co. 1904. Pp. 401. Price 8*s.* 6*d.* net.—That three editions of this manual have been absorbed in as many years and that this fourth edition is now called for is the best evidence of its popularity amongst students of toxicology. In his various capacities as student, pharmacist, physician, and teacher the author has been impressed with the importance of illustration and the immeasurable advantages to be derived from it. He has therefore endeavoured to provide that this edition should present ample pertinent illustrations. Dr. Brundage hopes that through this association of fact and illustration many of the toxicological facts may be simplified and better disseminated. The ten coloured plates showing the conditions of the stomach in cases of poisoning are beautifully executed and faithfully portray the states of that organ. The whole book is clearly written and so well arranged and indexed that rapid reference may be made to it. Part VIII., which deals with coma, its interpretation and treatment, is valuable, as is also Part X., which treats of chronic poisoning and drug habits. The Dose Table and the Table of Maximum Daily Doses should both prove of great utility.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

ALPHOZONE.

(FREDERICK STEARNS AND CO., DETROIT, MICHIGAN. AGENTS: THOMAS CHRISTY AND CO., 4, 10, AND 12, OLD SWAN-LANE, UPPER THAMES STREET, LONDON, E.C.)

"Alphozone" is an organic peroxide and occurs in the form of a white crystalline powder soluble in water. It is decidedly more stable than the metallic peroxides or peroxide of hydrogen itself. On adding solution of permanganate of potassium to "alphozone" no change takes place until the fluid is warmed when mutual decomposition sets in and oxygen gas is evolved. "Alphozone" does not *respond to the chromic acid test for peroxide of hydrogen* until it is neutralised (for it is strongly acid to test paper) with ammonia. There is then slight effervescence and on adding sulphuric acid and chromate of potassium and shaking up with ether the characteristic blue colour of perchromic acid is obtained. "Alphozone" consists in reality of a *substitution product of hydrogen peroxide in which the* hydrogen atoms are replaced by two succinyl radicles, its formula being $(C_4H_5O_3)_2O_2$. It is stated to be non-poisonous whilst exhibiting powerful germicidal properties. According to bacteriological tests "alphozone" shows a germicidal power or efficiency equal to that of corrosive sublimate.

PINE TAR SOAP.

(THE PACKER MANUFACTURING CO., NEW YORK. AGENTS: MAY, ROBERTS, AND CO., 9 AND 11, CLERKENWELL ROAD, LONDON, E.C.)

This is a very agreeable soap to use and, moreover, according to our tests, it contains no free alkali. The soap has a pleasant odour of pine oil and whilst giving a satisfactory lather *is economical in use. It is free from* ingredients of an irritating nature and is therefore harmless to delicate skins

KALITZER SPARKLING WATER.

(NATHANIEL SMITH AND CO., 373, HIGH STREET, CHELTENHAM.)

According to the results of our examination this agreeably effervescent water is made with perfectly clean and pure distilled water On evaporation a residue of potassium carbonate was obtained which gave absolutely no sign of organic contamination. Calculating the salt present as bicarbonate of potassium the amount was equal to just under 15 grains per pint. The preparation of the water is evidently conducted with great care as we could get no *evidence of impurities* Sparkling Kalitzer affords a very agreeable way of administering an alkaline water when alkaline treatment is *indicated, as in gouty and rheumatic* conditions.

OFFLEY'S "DUKE" VERY OLD PORT

(OFFLEY FORRESTER AND CO., 66, MARK-LANE, LONDON, E.C.)

This is a well-matured, delicate, tawny wine. Analysis gave the following results: alcohol, by weight 18·08 per cent., by volume 22·18 per cent., equal to proof spirit 38·87 per cent.; extractives, 7·69 per cent.; mineral matter, 0·19 per cent.; fixed acids reckoned as tartaric acid, 0·18 per cent.; volatile acids reckoned as acetic acid, 0·09 per cent.; and sugar, 5·27 per cent. The analysis shows for port wine a minimum of sugar, extractives, and alcohol. This indicates a wine that has been long matured. The bouquet and flavour are excellent. The wine is exactly opposite in character to what is called a "heavy" and "heady" port. We believe it to be a pure and genuine wine.

ROBB'S SOLUBLE MILK FOODS

(A. ROBB AND CO., 79, ST. MARTIN'S-LANE, LONDON, W.C.)

According to our analysis these foods exhibit a chemical composition consistent with the physiological requirements of infant life Both foods are free from starch or cane sugar. Food No. 1, *which is intended for the use of* infants for the first four months of life, exhibits the following composition: moisture, 3·80 per cent.; fat, 18·00 per cent.; proteid, 13·67 per cent.; mineral matter, 2·10 per cent.; and carbohydrates, 62·43 per cent. The carbohydrates consisted of milk sugar with the hydrolysed products malt sugar and dextrose. The food is, therefore, largely soluble and, as a matter of fact, we found that over 70·00 per cent. was soluble in cold water. The amount of fat is satisfactory as is also that of the mineral matter containing phosphates. Food No. 2 contains a larger proportion of soluble sugars but is free from starch and cane sugar. No less than 83·60 per cent. of the food proved to be soluble in cold water. The larger proportion of carbohydrates necessarily reduces the percentage amounts of the other elements. Analysis gave the following results: moisture, 3·00 per cent.; mineral matter, 2·00 per cent.; fat, 4·80 per cent.; proteid, 7·60 per cent.; and carbohydrates, 82·60 per cent. The proportion of carbohydrates might, we think, be reduced with advantage and that of the fat and the proteid correspondingly increased.

KRESOPHEN.

(Willows, Francis, Butler and Thompson, Limited, 40, Aldersgate-street, London, E.C.)

We find that the statement in regard to the percentage of pure cresols in this preparation is correct. Thus on acidifying the preparation (which is alkaline) with hydrochloric acid the cresols separated to the extent of half the volume of the original fluid. This compound cresol is evidently prepared from materials of good and pure quality. It is free, for example, from inert tar oils and we can quite believe the statement that its bacteriological efficiency is superior to that of carbolic acid since cresols combined with alkali are known to be so and, moreover, they are less poisonous than is phenol.

ALL-MALT STOUT (GROUSE BRAND).

(Michell Goodman, Young, and Co., Stamford Hill Brewery, London, N.)

Nowadays it is refreshing to learn of instances in which malt liquor is really made from malt and we believe such to be the case with this stout. On analysis the following results were obtained: alcohol, by weight 4·62 per cent., by volume 5·78 per cent., equal to proof spirit 10·13 per cent.; extractives, 7·53 per cent.; and mineral matter, 0·33 per cent. This malt liquor contains an excellent proportion of nourishing constituents, as is evident from the amount of extractives which contain, moreover, just over 10 per cent. of proteid. The mineral matter was rich in phosphates found in malt. The stout was in good condition, free from excessive acidity, and satisfactory to the taste. It contained no substitutes.

CAPE HERMITAGE WINE.

(E. Westmacott and Co., 150, Leadenhall-street, London, E.C.)

Undoubtedly good and wholesome wines are produced in Cape Colony; they are, at least, the genuine fermented juice of the grape and they also possess distinct merit from the point of view of flavour and bouquet. It is, of course, an error to take as a standard for all wines the wines of France, just as it would be to regard all cigars from the point of view of the Havana crops. Cape Hermitage Wine is of burgundy type, somewhat full and fruity, with a slightly bitter flavour. Chemically speaking, it should be dietetically sound, as in particular both the sugar and the acid are almost negligible quantities. This will be seen from the following analysis: alcohol, by weight 11·62 per cent., by volume 14·37 per cent., equal to proof spirit 25·18 per cent.; extractives, 2·58 per cent.; mineral matter, 0·23 per cent.; sugar, 0·15 per cent.; fixed acids reckoned as tartaric acid, 0·30 per cent.; and volatile acids reckoned as acetic acid, 0·078 per cent. The wine possesses the invigorating qualities characteristic of wines of burgundy type.

CAILLER'S SWISS MILK CHOCOLATE.

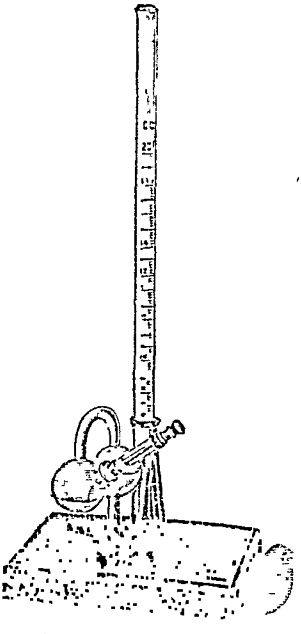
(Ellis and Co., 15, King-street, Cheapside, London, E.C.)

Some amount of proof that this chocolate is prepared with milk is afforded in the fact that it contains nearly 30 per cent. of fat, associated with the proteids of both milk and cocoa. Part of the fat is of course butter fat and part cocoa fat. The moisture amounted to 1·30 per cent. and the mineral matter to 1·0 per cent. This milk chocolate is evidently prepared from excellent materials and the flavour is particularly satisfactory. The preparation may be used conveniently for preparing a cup of hot chocolate.

New Inventions.

A NEW APPARATUS FOR THE ESTIMATION OF UREA.

The instrument shown in the illustration has been designed with a view to facilitate the estimation of urea for clinical purposes by means of the hypobromite method. The novelty consists in measuring the nitrogen by means of a column of water which rises in a graduated tube instead of measuring it by the volume of fluid displaced, as is done in previous ureometers. The glasswork, which is composed of two bulbs and an upright graduated tube, is in one piece. The outer bulb is for holding the hypobromite solution and in it the nitrogen is generated. The other bulb contains distilled water, coloured, if need be, with, say, three drops of red ink. This fluid will, when the bulb is full, be above the level of the lowest reading in the upright stem and when the nitrogen is given off by the action of the hypobromite in the former bulb it passes over and displaces a corresponding volume of water which rises in the graduated tube. In addition to the glasswork there are provided a perforated india-rubber stopper which fits into the mouth of the outer bulb and a small vulcanite syringe similar to those used for hypodermic purposes, with a mark on the stem of the piston to indicate when one cubic centimetre of fluid has been expressed from it. The indicating fluid is introduced into the long upright arm to the level already indicated. This may be allowed to remain permanently. In the next place from five to ten cubic centimetres of freshly made hypobromite solution are poured into the outer bulb and the stopper is firmly inserted. The syringe being then quite filled with the urine to be examined is inserted in the opening in the stopper. The nozzle of the syringe fits tightly into the opening so as to prevent the escape of any nitrogen. The reading on the graduated tube having been noted in order to identify the starting point of the rise, the piston of the syringe is slowly pushed inwards until the mark on the stem indicating one cubic centimetre of fluid expressed comes flush with the barrel. The empty syringe with the piston in the above position is left *in situ* and the instrument is gently rotated from side to side catching hold of the arch above. It is therefore unnecessary to touch the bulb containing the mixture evolving the gas after the urine has been introduced. When the evolution of nitrogen ceases the apparatus is left at rest for a minute or two in order to cool and a second reading is taken. The difference between the two readings less one cubic centimetre for the fluid injected from the syringe gives the volume of the nitrogen evolved, from which the weight or percentage of urea is obtained from a table in the usual way. When the estimation is completed the syringe and stopper are withdrawn and the indicating fluid falls back to its original level. With this instrument the froth causes no trouble, even if a little passes over into the second bulb. This is a decided advantage in dealing with albuminous urines. Messrs. Alexander and Fowler, surgical instrument makers, of Liverpool have made the instrument and supply it.



William G. Little, M.B. Edin

Great Crosby, near Liverpool.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 11, 1905.

The Building By-laws.

THE subject of physical deterioration, or rather of physical inefficiency, is so much before the public mind at the present moment that almost every factor in our social life is by turns held responsible for the lack of physical fitness among the poorer classes and in this general ebullition of public sentiment the building by-laws have come in for, perhaps, more than their fair share of attention. As we recently pointed out in the Public Health section of our Annus Medicus, there is a tendency to insist that the reason above all others why the rural districts are becoming largely depopulated is the alleged prohibitive cost of building cottages to comply with the requirements of local by-laws. To those who are familiar with all the economic and social forces making for the exodus from country to town this by-law question seems hardly worth discussion in connexion with the subject. But as the lay press has been somewhat diverted from the real issue by Mr. Justice GRANTHAM'S alleged failure to comply with the one solitary provision of the by-laws, that detailed plans of cottages about to be built must be submitted to the local authority for approval, it may be useful to state briefly the facts relative to building by-laws in rural districts generally. In the first place it has to be pointed out that in something like 40 per cent. of our rural districts there are no building by-laws whatever in force and we are not aware that anyone has attempted to demonstrate that in such districts where there are no restrictions on building the population is increasing. It may also be added that the adoption of any by-laws whatever relative to building is an entirely voluntary matter, so that district councils wishing to befriend the local jerry builder are quite at liberty to do so. These facts do not appear to be appreciated generally. It is not quite clear to us which special provisions of the by-laws those who write so voluminously concerning them wish to keep and which they desire to relinquish. For instance, are they anxious to build houses on damp sites without drainage and without a damp-proof course and are they wishful to be entirely free from all restraint in the construction of cesspools and wells sunk in a pervious formation? Do they, too, seriously urge that houses shall be indiscriminately crowded together without light, air, or ventilation, and without any open space in connexion with each house? Is it their object at this juncture to recommence the erection of slums and hovels which it has been the pride of the latter half of the nineteenth century to have removed in large part? It would be well if those who wish to do away *in toto* with building by-laws were to inspect the dwellings in our poorer rural districts in a critical spirit. They might talk to the occupiers and encourage them to show the defects of their dwellings, with the floors rotten from damp, the papers peeling off the walls from a similar cause; low, leaky roofs and defective light and ventilation; pervious, filthy cesspits and pervious and imperfectly protected wells. These are some of the conditions which may be found in all parts of the country and those persons who are endeavouring to perpetuate them and to erect similar structures at the present day are the enemies of sanitation. It is earnestly to be hoped that the Local Government Board, which is sometimes in need of being reminded that it is the central *health* department of the State, will show itself proof against lay social pressure from without. In any circumstances it might be well, seeing that Mr. LONG has already heard the case from the landowners' point of view, if medical officers of health were to seek an interview with him by way of equalising the pressure already exerted upon him in one direction. But although we are strongly opposed to any interference with so much of the by-laws as relate to health, we are quite willing that the restriction relative to construction and to the prevention of fire should where practicable be relaxed and in this connexion we desire to draw attention to a letter from Dr. FRANCIS T. BOND which appeared in the *Times* of Jan. 19th.

Dr. BOND contends that the distinction which obtains in the matter of by-laws between "urban" and "rural" districts is in some degree illogical. This contention is quite sound and for the simple reason that large parts of many "urban" districts are really quite rural in character, while the conditions which obtain in some of the larger villages, in "rural" districts, or in "rural" districts abutting upon towns are, to all intents and purposes, urban in nature. In other words, there is ample room for the application of both the urban and the rural series of by-laws in the same sanitary district. It does not, however, appear to be known generally that it is now the practice of the Local Government Board, when local authorities apply for sanction to adopt either the urban or the rural series of building by-laws, to invite such authorities to reconsider the application with the view of determining whether the whole of either series is applicable to the whole district or whether there may not be parts wherein the new rural code will suffice and other parts where a modification of the urban code is not called for. It is, too, observed in the introduction to the new rural model of the Local Government Board that the series in question "contains no clauses dealing with questions of stability or the prevention of fire, or with the level, width, and construction of new streets" and the district council is invited "to carefully study the clauses and select those that are appropriate to the needs of the district or the portion of it under consideration." We would strongly urge all those who are seriously interested in the discussion as to the building by-laws to invest 6*d.* with Messrs. EYRE and SPOTTISWOODE and to secure a copy of this new model code. It is, we believe, possible under this series, or some variation thereof, to erect wooden buildings in rural districts. But Dr. BOND further suggests that the distinction as regards by-laws should be established not between urban and rural districts but between "detached and non-detached houses." While allowing very considerable latitude with respect to detached houses the by-laws should, he says, insist in the latter case "that such agencies as fire, wind, rain, and infection shall when affecting one house have as little chance of damaging the inmates of the house or houses connected with it as possible, and that in regard to the disposal of solid and liquid refuse each house shall be as independent of its neighbour as it is practicable to make it." This suggestion is one with which a large number of medical officers of health will agree, but a difficulty arises with regard to the latitude to be allowed in the case of detached houses. So long as a house is detached, well and good, but it would be necessary in order to perfect Dr. **BOND'S** suggestion that the detached house should remain so and the letter by Mr. **DOUGLAS ALLPORT** in the *Times* of Feb. 7th does not in our view meet this difficulty. There are places in large towns where the houses were once detached but have been since built on to in such fashion that what was once a suburban road of detached villas is now a street of continuous bricks and mortar. This is a contingency that will have to be provided against in all rural districts which are within the sphere of the probable expansion of large towns and in this connexion regard will also have to be had to the width of roads.

It has been suggested that all by-laws should be done away with and that the essential provisions relating to health which they contain should be embodied in a statute applicable alike to town and country. It is thought by some that there would be thus less interference with individual liberty. While seeing much in this proposal we hesitate to advocate it as a practicable measure at the present time, as we think that certain of the restrictions which are contained in the London Building Act would press somewhat heavily on rural districts; nor do we think that what is suitable for the country would suffice for the metropolis. As we opened this article with a reference to physical deterioration, we may fittingly close it by quoting recommendation No. 6 of the report of the Inter-departmental Committee on Physical Deterioration which is as follows:—

> *Building and open spaces.*—Local authorities in contiguous areas which are in process of urbanisation should coöperate with a view of securing proper building regulations, in furtherance of which end the making of building by-laws to be approved by the Local Government Board should be made compulsory on both urban and rural authorities; attention should also be given to the preservation of open spaces with abundance of light and air. By the use of judicious foresight and prudence the growth of squalid slums may be arrested, and districts which hereafter become urbanised may have at least some of the attributes of an ideal garden city.

The Care of the Feeble-minded.

THE problem of the care of the feeble-minded may be said first to have received attention on anything approaching a general scale in Europe and America towards the middle of the last century. In France the attempt to deal with this question may be traced to the beginning of that century and that country has been called the birthplace of the new education as it applies to the mentally defective class. Switzerland is another country which earlier than most occupied itself with the welfare of such defectives, being no doubt largely prompted thereto by the wretched condition of the cretins in its valleys. It is true that isolated efforts to collect the feeble-minded, together with the homeless and the outcast, for the purpose of care and supervision can be traced to much earlier dates but the general movement is associated with the period mentioned. In ancient times it is well known that the congenitally weak-minded were either destroyed outright or allowed to perish, being deliberately exposed to the risk of death, unless, perchance, they were tolerated for the sake of diversion. The drastic methods of the ancients find a milder modern counterpart in suggestions for the asexualisation of the mentally defective, suggestions which have already in a limited way been put into practice in the United States. In the Middle Ages the feeble-minded appear often to have wandered unmolested, being regarded with a certain superstitious reverence ("les enfants du bon Dieu"), and doubtless some of the fools and the jesters of mediæval times were recruited from this class. The village "fool" is still to be found, although there has of late years been a growing tendency to sweep all such feeble-minded persons into asylums for the insane, which is undoubtedly a mistaken course.

All schemes for dealing with the feeble-minded are necessarily based upon their classification and also upon the fact that cure does not take place but that even the best of them require a certain amount of supervision at the expiration of the period of training. For practical purposes these defectives may be classified as idiots and low-grade imbeciles, unimprovable or improvable in but slight degree, and mainly in self-help; imbeciles of higher grade, capable of being trained to such a degree as to be partially self-supporting; and the mentally feeble, capable of training to the extent of being self-supporting. The needs of the first class are met by the Idiots Act of 1886, which permits the detention of idiots and imbeciles in special institutions. These, however, are far too few, large areas of the country being unprovided for. In default of special institutions these cases, as well as many of the trainable classes, are relegated to workhouses and asylums where they are totally out of place except, perhaps, in those rare instances in which it has been deemed worth while to make separate provision for them. Too often such children are found scattered about asylum wards where their presence is a source of irritation to the insane and is apt to give rise to degrading practices. It is desirable that it should be made incumbent on county councils to provide accommodation for this class which could be cared for on a simpler and cheaper scale than that required in the case of the insane. It is, however, when we come to consider the second and third classes, as defined above, of defectives that we recognise the inadequacy of the means at present available for their detention and training and the harm which in consequence results to society. Unfit for ordinary school education, turned adrift from home, these feeble-minded individuals wander about living as best they can. Their history is made up of vagabondage, larceny, incendiarism, and criminal assaults. Feeble-minded young girls are received in a state of pregnancy into charitable institutions; feeble-minded youths are consigned to prison and transferred to the nearest asylum, where an anthropometric examination reveals abundant and pronounced stigmata of degeneration.

At the Guildhall Conference held on Oct. 14th, 1904, a suggestive paper on the problem of the feeble-minded, with especial reference to the legal powers for their training and detention, was communicated by Mr. A. F. TREDGOLD. After referring to the provisions for detention in the Idiots Act of 1886 Mr. TREDGOLD pointed out that until the year 1899 there was no real attempt made to provide educational facilities for the mass of the feeble-minded. The Defective and Epileptic Children Act of 1899, which allowed local educational authorities to provide special classes and schools for these children, appears, like much other permissive legislation, to have resulted with occasional exceptions in failure. Nothing can illustrate this better than figures quoted in the paper to which we refer, supplied by the Education Board's inspector of special schools, from which it appears that educational facilities exist, in the shape of these schools, for 5909 children, whereas it is estimated that there are 81,314 feeble-minded children of school age in England and Wales. There are other defects in the Act, apart from its permissive character, to which attention is drawn and for which remedies are suggested. As regards powers of legal detention of the feeble-minded, whilst recognising the need for a considerable increase in the number of special institutions for the unimprovable, or but slightly improvable, imbecile, Mr. TREDGOLD advocates the permanent care in an industrial colony of all feeble-minded persons who are found after expiration of the training period to be incapable of self-support and all feeble-minded persons at large without proper control or proved guilty of offences against the law. A motion in these terms was carried unanimously by the conference. The county councils would be the natural authorities to provide and to maintain these colonies. With respect to the feeble-minded who have by training been rendered capable of self-support and are able to earn an honest living there are those who, taking an extreme view, would have these also permanently detained in the interests of society. It may be affirmed with considerable confidence that such a course would not be found practicable so far as this country is concerned. But that some degree of supervision of this class is highly desirable may be admitted. Mr. TREDGOLD suggests that this might be supplied by after-care associations and by the provision of voluntary boarding-houses and colonies, and the suggestion is worthy of consideration. A survey of the present position makes it evident that for an adequate solution of the problem of the care of the feeble-minded the powers already conferred by the law should be more widely utilised and ampler powers should be sought.

Medical Teaching in the Metropolis.

THE brief announcement of the recent change which has been effected by the Council of King's College, London, merits the thoughtful consideration of all who are interested in the development of the teaching of medical students in the metropolis. It will also affect those who are concerned in the growth of the University of London as a teaching university, since it cannot fail to have an influence upon the cherished scheme of centralisation. The change is that which was foreshadowed in the address by Dr. T. BUZZARD at the commencement of the medical session; it is the recognition of the possibility and desirability of making a complete separation in the curriculum between the earlier subjects which can be taught only in well-equipped laboratories and the later clinical subjects which necessitate attendance in the wards and the out-patient rooms of a hospital. It has long been felt that many inconveniences attended the attempt to undertake clinical work before the examinations in anatomy and physiology had been passed. The premature introduction of living interest has been thought likely to divert attention and to delay the acquisition of the amount of detail required by the examining bodies. On the other hand, in many branches of clinical work it is obviously undesirable that assistance should be rendered by those who have just quitted the dissecting room. The question is one upon which opinions differ. Older practitioners may still be found who cling to the idea that the student should spend every available moment within the walls of a hospital but modern teachers and nearly all members of the staff of the hospitals maintain that, apart from considerations of the safety of the patients, there is little or nothing to be [illegible] from perfunctory attendance without time for reading. Clinical observation must be combined with the judicious use of text-books and this combination is difficult, if not impossible, when examinations in anatomy and physiology are looming in the near distance.

Due recognition of these principles has doubtless influenced the Council of King's College in the step that has been taken. Hitherto matters of detail have been controlled by a medical board consisting essentially of teachers in the medical faculty and of the honorary staff of the hospital. With the projected removal of the hospital to Camberwell it was impossible for this arrangement to be continued and the Council, through Dr. BUZZARD, in October last announced a forthcoming change. This proposal has now taken shape in the division of the medical board, and consequently of the medical school, into two parts which will in future be completely distinct in everything except in their relation to the Council. In other words, the faculty for advanced medical study will have its own board and its own financial arrangements and in due season all its teaching will be conducted in connexion with the new hospital buildings. Similarly, the faculty for the preliminary and intermediate subjects will be controlled by a board composed of the professors of these subjects and its [illegible] will be distinct from those of the faculty for advanced medical study. The removal of the hospital has doubtless been the main reason for this separation of the two faculties but the division is one which will commend itself to all who have followed the trend of opinion of recent years. The University of Cambridge has demonstrated the possibility of this division of studies and of examinations, since undergraduates in medicine ordinarily receive the whole of their clinical instruction in London after they have passed the preliminary and intermediate examinations. The development of this system in the metropolitan schools has been hampered by the idea that there was some advantage in teaching all subjects in all schools and the costliness of this needless multiplication has long been apparent.

Coöperation and concentration have frequently been urged as affording a means of reducing the burden; these suggestions, however, have not been generally adopted, though there is abundant evidence that a change of opinion is gradually growing and that many of the smaller schools are already considering the possibility of freeing themselves from the expense of maintaining laboratories and dissecting rooms.

In every state of transition some hardship is experienced and it can scarcely be expected that concentration can be effected without protest from those who fear loss of occupation during the period of waiting for promotion to hospital appointments. This anxiety is, we believe, based on misapprehension. Development is not confined to the earlier branches of medicine, it has been making rapid strides in connexion with clinical work and it is more than probable that in the near future every hospital will be found able to supply numerous junior appointments for those who desire occupation and opportunity of demonstrating their powers of teaching or of prosecuting original research. Meanwhile the complete separation of King's College from King's College Hospital in this formation of two new faculties must be regarded as a bold move at the present juncture, since the result must be that each faculty must be self-supporting. The expenses of the clinical faculty are comparatively small but in the absence of endowment the faculty for preliminary and intermediate subjects can only be maintained by a process of concentration. It is evident that the Council of King's College believes that this concentration will be favoured by the step that has been taken. Whether this is only a preliminary step to an increased connexion between the College and the University of London remains to be seen.

Annotations.

"Ne quid nimis."

THE INTERNATIONAL CONGRESS OF MEDICINE, LISBON, 1906.

A meeting of the national committee of Great Britain and Ireland of the Fifteenth International Congress of Medicine to be held at Lisbon from April 19th to 26th, 1906, was held at the rooms of the Medical Society of London on Feb. 3rd. There were present, amongst others, Dr. F. W. Pavy (president of the national committee), Sir William S. Church, Sir Dyce Duckworth, Dr. D. Ferrier, Dr. J. F. Gordon Dill, Dr. H. Radcliffe Crocker, Dr. Boyd B. Joll, Mr. W. H. H. Jessop, and the honorary secretaries, Dr. Clive Riviere and Mr. D'Arcy Power. It was announced that the following gentlemen had undertaken to act as "rapporteurs" at the forthcoming Congress, as it was the wish of the Lisbon committee to make the "rapports" a special feature of the meeting: Dr. Stanley B. Atkinson, honorary secretary of the Medico-Legal Society and barrister-at-law, Spontaneous and Criminal Abortion in its Medico-Legal Aspect; Dr. A. K. Chalmers, medical officer of health of the city of Glasgow, the Administrative Control and the Technique of Public Disinfection; Mr. E. Treacher Collins, Ocular Tuberculosis; Dr. Ferrier, the Nature and Pathological Physiology of Tabes; Mr. K. W. Goadby, lecturer on bacteriology at the National Dental Hospital, the Treatment of Pyorrhœa Alveolaris; Dr. G. L. Gulland, the Classification, Origin, and Probable Rôle of Leucocytes, Mastzellen, and Plasma Cells; Dr. F. W. Mott, Cerebral Lesions in Psychoses of Toxic Origin; Mr. D'Arcy Power, Recent Advances in the Surgery of the Arteries and Veins; Dr. G. F. Still, the Spastic Affections of Childhood, their Classification and Pathogeny; Dr. J. F. Sutherland, Deputy Commissioner in Lunacy for Scotland, the Prophylaxis and Treatment of Habitual Criminals; and Mr. C. E. West, chief assistant in the aural department at St. Bartholomew's Hospital, Study of the Eleptogenous Action of Foreign Bodies in the Ear and of Post-nasal Growths. The subjects for the "rapports" were selected in every case by the executive committee at Lisbon. Sir Patrick Manson will open a discussion on Tropical Medicine. A letter was read from Messrs. Cook and Son containing a proposition to charter a first-class passenger ship to convey visitors to and from Lisbon, calling at Corunna, Vigo, and Oporto, and acting as a floating hotel during the Congress week. The suggestion was approved by the committee but Messrs. Cook and Son were desired to ascertain the exact position of the anchorage in the Tagus in order that inquiries might be made locally as to its suitability both from the point of view of the hygienic surroundings and of distance from the seat of the meetings of the Congress. Letters were read from Dr. J. C. Ogilvie Will and from Dr. F. J. Sutherland giving the results of certain inquiries which they had made in regard to the housing of those who did not wish to go by sea and to remain on the boat. It appeared from these inquiries that rooms could now be obtained at a moderate price at Netto's Hotel, Cintra, about 40 minutes by train from Lisbon. The hotel is well spoken of and the proprietor says that at present he has 16 bedrooms, most of which can be used by two persons. It appears imperative, therefore, that those who intend to go to the Congress and do not wish to depend on the efforts of the local committee to obtain lodgings should at once take the opportunity of reserving rooms. Delay is likely to lead to the same disastrous consequences as at Madrid.

"THE CAUSE AND PREVENTION OF APPENDICITIS."

Under this heading there appears in the *Nineteenth Century* for January an article which professes to have solved the problem of the etiology of appendicitis. The author of this communication strongly denounces the use of "Hungarian waters, aperient salts, and liver pills." He then remarks: "It is natural to ask what have aperient waters and salts to do with appendicitis? To that a very true answer is that the action of saline purgatives is to cause a flow of water through the intestinal canal. This passes off quickly, but alas! it leaves the solid portions to accumulate in the cæcum at the right side, near the appendix, where the small intestine ends and the large one commences. The solid portions left in the colon become more and more putrid, cause obstruction, and infect the appendix." The meaning of the above sentences is somewhat ambiguous but we conclude that it is intended to convey the idea that those individuals who habitually take laxatives to insure an action of the bowels are liable to fæcal collections in the cæcum which produce inflammation of the mucous membrane of the bowel and so cause appendicitis. We venture to express an emphatic opinion that there is no basis for this statement either on pathological or clinical grounds. Any practitioner who has had experience in the post-mortem room knows that the contents of the small intestine are liquid and it is not until the colon is reached that the fæcal matters become *solid*. It is most unusual to find solid fæcal accumulations in the cæcum; yet this condition is distinctly implied in the remarks which we have quoted above. Further, in post-mortem examinations of those who have died from appendicitis, although small concretions may be found in the appendix, no large mass is found in the colon as would be the case if the etiology which we are considering were the correct one. Such a causation of appendicitis is also contradicted by clinical experience. The age at which appendicitis usually occurs[1] is from ten to 20 years, which is not the period of life at which such purgatives are generally habitually taken. Again, constipation is more frequent among women than among men and the former are more addicted to the habitual use of purgatives, yet appendicitis is nearly four times as common in men as it is in women. It is certainly desirable to overcome constipation by natural means, notably by diet, if possible. But there are numerous cases in which artificial stimulus to the intestines is absolutely necessary and in such circumstances "aperient waters and salts" are most valuable remedies.

A LUCKY ESCAPE.

AT Southport police-court recently a grocer who had attempted to vary his stock-in-trade by importing a freshly killed pig from Ireland had a narrow escape. The pig, according to the defendant's evidence, which there was no reason to doubt, arrived at his place of business in good condition. A small portion of it was sold by him as fresh pork on the day of its delivery, a Friday, and on the Saturday, and some pieces were given by him to men in his employment. On the following Wednesday he found that the meat was high and in his defence he swore that he then refused to sell some to a customer. Two days afterwards, however, the remainder of the pig was still in his shop, where it was found in the course of his round by an inspector of nuisances in a putrid condition; an order for its destruction was obtained and a summons was taken out against its owner. There was one question only for the bench to determine, the condition of the meat and the responsibility of the defendant for its presence where it was being undisputed; that is to say, the magistrates were asked to decide whether or not it was exposed for sale as human food, the burden of establishing the fact that it was not there for such a purpose resting on the defendant. On the one hand it was proved that the meat was in the shop, in a tub, and that it was standing surrounded by other comestibles undoubtedly intended for sale as food, and it was also alleged by the prosecution but not admitted by the defence that there was a piece lying on the counter. As an answer to this the defendant swore that finding the meat was bad he put it in a tub by itself, intending to sell it for the value of the fat to a marine store dealer, and that he had had no opportunity of carrying out this innocent design before the inspector's appearance. There was corroboration as to his allegation that he was without experience in dealing with such goods and he explained the circumstance that the pork was covered with salt by saying that he had put salt on it in order to diminish the smell which it emitted. The awkward aspect of the case for him arose out of the fact that if he had really desired to be rid of so very offensive an addition to his other wares as a tubful of decaying flesh he could have placed it in the yard at the back of his shop and that its presence where it was was likely to be harmful to his ordinary business, apart from the risk of a visit from an inspector of nuisances. At the same time the condition of the meat was apparently so obvious that no one at all events was likely to buy it without appreciating the fact that it was in very bad condition, and having regard to all the circumstances the magistrates made use of a well-worn phrase and, allowing the defendant "the benefit of the doubt," dismissed the summons against him. Even after such an escape he must have gone home a poorer if not a wiser man and others in his locality who read of what happened to him in the full report accorded to the case by the local press may profit by his example. At least they should learn that persons who find themselves in the possession of foodstuffs wholly unsuited for human consumption will, if they are wise, do all in their power to place themselves forthwith beyond the reach of possible suspicion. The decision upon such an occasion is one of fact and, as has been stated above, when the other points have been proved the person charged has to show that the goods were not there to be sold as human food—that is to say, in this respect it is for him to establish his innocence and not for the prosecution to prove his guilt.

JANUARY AT HOME AND ABROAD.

THE month of January must have been a great disappointment and a source of great discomfort to all except the most robust who travelled south to escape the rigours of the coldest period of the year. Without going so far as to say that the cold and rough weather of January was unprecedented in the south of Europe it can safely be affirmed that it was the most severe during the present generation. Nor was the cold confined to any particular locality but while all the more sheltered spots naturally suffered the least none of the winter resorts escaped a temperature far below the normal, besides experiencing unpleasant falls of cold rain, sleet, and snow and a sky usually very cloudy or quite overcast. In studying the appended table it is seen that Nice and Biarritz each had a lower minimum temperature (recorded by the screened thermometer early in the month) than our own inland places of Bath, Nottingham, and London, while that at Florence was only one degree higher than at Bath and Nottingham and that at Rome just equal to London (St. James's Park). Even at Naples and Palermo there were several degrees of frost, while at Algiers and Lisbon the thermometer descended to within two degrees of the freezing point. At Naples frost was registered on seven nights, at Nice on ten, at Rome on 12, and at Florence on as many as 19. In London there were only 16 frosts, at Torquay two or three, and at Scilly none. The mean temperature for the month was highest at Algiers, Palermo,

Temperature and Rainfall.

Stations.	Highest temperature.	Lowest temperature.	Mean maximum.	Mean minimum.	Mean temperature.	Total rainfall in inches.	Number of hours of sunshine.
	Degs	Degs.	Degs.	Degs.	Degs.		
Nice	70	18	60	34	42·0	0·43	—
Biarritz	63	18	49	36	42·5	2·05	—
Florence	57	20	44	28	35·5	0·56	—
Rome	59	23	49	34	41·5	0·70	—
Naples	58	26	48	36	42·0	1·92	—
Palermo	60	28	55	39	47·0	2·18	—
Algiers	66	34	59	47	53·0	4·40	—
Lisbon	64	34	54	43	48·5	1·97	—
Paris	*50*	*12*	*41*	*27*	*34·0*	*0·64*	—
London	55	23	45	32	38·5	1·15	31·2
Scilly Isles	54	38	49	42	45·5	1·02	61·7
Jersey	64	25	47	38	42·5	2·04	95·3
Torquay	55	29	48	38	43·0	1·42	87·3
Bath	54	19	44	32	38·0	0·59	68·0
Nottingham ...	53	19	43	32	37·5	0·69	54·7

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[1] System of Medicine, by Professor Clifford Allbutt, vol. iii., p. 896.

and Lisbon but at all the other foreign resorts it was lower than at the Scilly Isles, Torquay, and Jersey; at Florence it was three degrees lower than in London and two degrees lower than at Nottingham, one of the coldest parts of England. At almost all the foreign stations the means of the minima were inferior to those on our own south-west coasts; at Florence the mean minimum was ten degrees lower than at Torquay and Jersey and 14 lower than at the Scilly Isles. The nights at Scilly were, in fact, much warmer than the combined day and night at Florence, had just the same temperature as the corresponding figure at Nice and Naples, and were within half a degree of that at Biarritz. The highest temperature of the month was recorded at Nice and occurred immediately after the severe cold at the beginning of the year. The average day at Rome and Biarritz had the same degree of warmth (49 degrees) as the Scilly Isles, while that at Naples just equalled Torquay. With regard to equability none of the continental resorts can compare with Scilly, Jersey, and Torquay, and few of them were as equable as Nottingham. The precipitation from the clouds, composed largely of sleet or snow, was only excessive at Algiers; in this country it was (except at Jersey) much less than during an ordinary January. At all the British stations the number of hours of sunshine was far above the average, Torquay and Jersey being particularly bright.

WOMEN INSPECTORS OF MIDWIVES AND WOMEN HEALTH VISITORS.

IF the regulations laid down by the Central Midwives Board under the Midwives Act, 1902, are to be carried out properly a considerable amount of work will have to be done in regulating, supervising, and restricting within due limits the practice of those midwives who may be certified under the Act. In large towns or country districts where there are many midwives engaged in practice it will hardly be possible for the medical officer of health adequately to perform these duties. In a report presented by its medical officer to the Durham county council the question of the appointment of women inspectors of midwives and women health visitors is considered. As the result of his inquiries Dr. T. Eustace Hill finds that in ten counties a woman inspector of midwives has been, or is about to be, appointed and in two others the necessity of such an appointment is recognised by the medical officer of health; in two a scheme is being prepared for the supervision of the midwives by the local medical officers of health acting under the county medical officer; in one the county medical officer recommends that the work should be carried out by an assistant medical officer; and in five counties so far no action has been taken in the matter. The chief duties of such women inspectors will be to see that the rules of the Central Midwives Board are duly observed by the certified midwives and that the registers and records as required by the Act are properly kept by the midwives, and, in addition, to exercise an educational influence on the older school of midwives whose knowledge of their duties is far from being as perfect as it might be. Obviously such women inspectors must not only themselves be certified midwives under the Act but should also hold a certificate of midwifery from one of the bodies recognised by the Central Midwives Board. The appointment of women health visitors has met with such marked success in Birmingham and other towns in which they have been appointed that it is to be hoped they will soon be at work not only in all towns but also in the country districts. The work of an inspector of midwives and a health visitor could in many instances be carried out by the same person, and there should be no difficulty in finding women sufficiently well trained to fill such posts. The work of a woman health visitor would mainly consist in calling at the houses of the poor and in giving advice as to the importance of cleanliness, fresh air, and ventilation, as to the feeding and clothing of young children, as to the prevention of the spread of infection, and many other matters which affect the health of the poorer classes. In Birmingham and St. Helens the health visitors are supplied with a list of the registered births and they visit the houses in the streets inhabited by the poorer class with a view to see if the infants are properly fed. As Dr. Hill points out, it is a melancholy fact that while during the last 20 years the general death-rate has progressively declined the infantile mortality has not shared in the decline to any appreciable extent. Since the infantile mortality has not been influenced by the improvement in the sanitation and in the water-supply which has taken place in most of the larger towns during this time it must be due to other conditions which so far have undergone no alteration. There can be no doubt that the most important of these is the gross ignorance which prevails amongst the poor as to the proper method of feeding their young infants. Women health visitors could do much to train poor mothers in the management and care of their young children. By the delivery of "Health Talks" in elementary schools they could also impress upon the children attending them the value of fresh air, ventilation, and personal cleanliness. Such "Health Talks" already are being given in some of the elementary schools throughout the country with a very marked improvement in the condition of the children. We hope that the Durham county council will adopt Dr. Hill's suggestion to appoint two ladies as inspectors of midwives and health visitors and that other county councils will see fit to adopt the same means of insuring the efficient working of the Midwives Act and of lessening the infantile mortality which in many of the larger towns of the country is still most deplorably high.

PNEUMOCOCCIC MEMBRANOUS BRONCHITIS IN A CHILD.

AT the meeting of the Société Médicale des Hôpitaux de Paris on Dec. 9th, 1904, M. Menetrier described a case of membranous bronchitis in a child, aged two years, which in consequence of the rarity of the disease at this age apart from diphtheria is important. The child was taken to hospital on March 1st, 1904. For two months he had expectorated arborescent membranes after fits of coughing and suffocation. There were two other children in the family, aged respectively three and four years, who were in good health. The patient contracted bronchitis when he was eight days old after exposure to cold and the attack lasted for more than three months. At the age of four months he had another attack which lasted the same time. In January, 1904, he had a third attack which, like the preceding ones, was attended by fever and cough without expectoration. But the cough was more severe and on Feb. 7th he expectorated, after a violent fit of coughing in which suffocation seemed imminent, a mass of whitish membranes which on being spread out in water were found to consist of ramified tubes. Since that time fits of coughing occurred nearly every day but only every three days were membranes expectorated. The child lost appetite and wasted. On examination he was pale and thin. The throat was normal. The upper two-thirds of the left chest in front and behind were slightly dull on percussion and the breathing there was bronchial and accompanied by large subcrepitant râles. The temperature was normal. Iodide and inhalation of creasote in boiling water were prescribed. When he was seen again on March 5th he was much better, the cough was diminished, and he was recovering appetite. He had expectorated membranes on March 1st but not since and he had had no attacks of suffocation. The dulness and the bronchial breathing were still heard but no râles. No more membranes were expectorated and after two months he was said to be quite well but no further opportunity for examination was given. The membranes produced at the first examination looked somewhat like cooked macaroni and formed a ramified mould of the bronchial tree of a whole pulmonary lobe without any central cavity. The membrane was firm, like that of diphtheria. It contained pneumococci in large numbers and yielded the pneumococcus in pure culture. A mouse inoculated with it died from pneumococcic septicæmia. The membrane was composed of stratified layers of fibrin, leucocytes, and cubical epithelial cells of the type found in the capillary bronchi. Nowhere was there any ciliated epithelium of the type found in the larger bronchi. Evidently the capillary tubes were the seat of the disease.

MAXIM GORKY ON UNDERGROUND BAKERIES

THE arrest, on what appears to be but a trivial pretext, of one of the most eminent men of letters ever produced by Russia naturally provokes protests from all parts of the civilised world. In his realistic writings Maxim Gorky describes what he has himself endured. Occasionally there are details given which show how much there is to be done before Russia can compare favourably with Western nations in regard to sanitary matters For instance, in his sketch entitled "Twenty-six and One" he relates that in his youth he worked in a baker's shop where 26 toilers were sweated to enrich one master baker. These 26 "living machines" were cooped up in the sludge and murk of a damp cellar. There they kneaded dough to make cracknels and biscuits. The windows of the cellar were coated with flour dust inside and protected outside with wire netting. The light could not penetrate and as for the air these windows, such as they were, stood close to, and on the same level as, a manure heap and pit the wall of which had grown green with damp and foulness. In England the law declares that no bakehouse shall be near any open drain whatsoever The workers carried particles of manure on their boots into the evil-smelling underground bakery. This is how Maxim Gorky describes the bakehouse :—

> ... . . . is stone box under the low
> noke, black, and coated with
> vithin the thick walls which
> w. We were wont to rise at
> night's sleep and at six we
> to shape cracknels of dough
> prepared for us by our mates who had toiled while we were sleeping And thus the live-long day, from early morning till ten at night, we kept it up. ... . We kept rolling out dough and making cracknels, moistening them with our sweat We loathed the very sight of our handiwork, turning from it with nausea, nor would we ever eat of anything that left our hands, preferring to the cracknels coarse black bread.

Evidently there were no inspectors of nuisances in that part Nor was there any organisation among the journeymen bakers or Maxim Gorky would have been paid more than his board and the munificent sum of 5*s*. per month. If such are the conditions of labour it is not surprising that the death-rates of Russian towns are abnormally high.

OVARIOTOMY IN YOUNG CHILDREN.

DR. J. Hope Reford has recorded in THE LANCET of Feb. 4th, p. 322, a very interesting case of ovariotomy undertaken in a cottage on a girl, 11½ years of age. The tumour, which was growing from the left ovary, contained about one and a half pints of slightly blood-stained fluid and was a dermoid cyst. The child made a good recovery. Cases of ovariotomy in young children are not very uncommon and Mr. J. Bland-Sutton in his work on Surgical Diseases of the Ovaries has published a table of 100 cases of ovariotomy in girls under 15 years of age, and of these no less than 89 were younger than the patient in the case recorded by Dr. Reford. 41 of the cases were operated on for simple cysts and adenomata of the ovary with three deaths, 38 for dermoid tumours with five deaths, and 21 for sarcomata with seven deaths. In seven of these latter patients the subsequent progress of the case has been ascertained; four of them died from recurrence of the growth within a year, one was alive and in good health a year later, one two years later, and one died two years after the operation, the cause of death being uncertain. Since the publication of these tables other cases have been recorded. Mr. F. S. Eve has successfully removed a suppurating ovarian cyst measuring one and a half inches in diameter from an infant 22 months old. The youngest child from whom an abdominal cystic tumour has been removed would appear to be a case recorded by Mr D'Arcy Power who operated successfully for a simple cyst of the ovary on an infant only four months old. Dr. John Campbell operated successfully upon an infant only seven months old and removed a dermoid tumour growing from the left side Dermoid tumours appear to be especially frequent in young children and ovarian sarcomata are met with more frequently before puberty than at any other period of life but as Mr Bland-Sutton points out there is no example of a papilliferous or parovarian cyst amongst the cases collected by him. Mr. Alban Doran has described small cystic tumours in the ovaries of the fœtus and in a child born alive at the seventh month he found a sarcoma of the ovary. No Graafian follicles could be detected in this case. The very successful results which usually follow such severe operations in young children are no doubt in part to be explained by the absence of any mental apprehension as to the result of the surgical interference It is interesting to note how often in the diagnosis of such cases the condition has been mistaken for one of tuberculous peritonitis and this is especially liable to be the case when the pedicle of the tumour has become twisted.

SOILS AND THE DISTRIBUTION OF DISEASE.

ALTHOUGH it is generally admitted that there is an intimate connexion between the health of a locality and the nature of the soil found within its boundaries the character of the relationship is decidedly obscure. This obscurity will, perhaps, not be diminished by a report which Mr. H. B. Woodward, F R S, contributes to the recently issued "Summary of Progress of the Geological Survey of the United Kingdom and Museum of Practical Geology," though his conclusions are not the less valuable on that account. It has been customary to study the distribution of diseases with the help of small geological maps—e g., those on a scale of four miles to an inch alluded to by the late Mr. Alfred Haviland in his article dealing with this topic which appears in Vol I of Allbutt's "System of Medicine." In his account of certain investigations into the constitution of the soil at the famous Rothamsted estate, whence have emanated so many scientific results of the greatest importance to botany and agriculture, Mr. Woodward incidentally refers to certain points in the interpretation of the maps published by the Geological Survey which are worthy of the attention of medical topographers. Originally, it was assumed that the soils and the subsoils were the result of the decomposition, through atmospheric agencies, of the rocks directly below them and the maps marked out only the areas in which the various rocks came to the surface or "outcropped." This was fairly satisfactory in Cornwall and Devon where the survey first began operations but as the work extended to other districts it was found that the ground was largely covered by superficial deposits increasing in amount on the whole towards the north of the country. To these deposits, relics of the ice-sheet which once covered the land, the term "drift" was applied. For a time they were ignored but when it was found that the "drift" covered great areas and that it was often 100 feet thick or more it was realised that maps which did not take account of its existence were misleading. A correct representation of the "drift" was found to be impracticable on maps of even a scale of one mile to an inch and it was therefore necessary to construct maps of six inches to one mile. Maps of this latter kind can be consulted at the Geological Museum at Jermyn-street and it will be obvious from what has been said above that only such maps are worthy of serious consideration in attempting to elucidate the dependence of pathological conditions upon the geological features of a given district. Nor do the difficulties of the problem end here. The maps show only the nature of the subsoil and Mr. Woodward states that "they cannot be taken as indicating in more than a general way the actual distribution of soils." He shows that soils are far from being "sedentary" and that those derived mainly from one formation may be transferred as the results of landslips, downwashing, or the action of the wind to the surface of another and may thus have no simple relation to the underlying strata. We do not suppose that anyone will have the temerity to dispute Mr. Woodward's contentions in a matter of this kind and can only hope that he or some other worker on the survey may in a subsequent report throw some much-needed light on this intricate subject.

BLOOD PRESSURE IN MAN.

ON Feb. 3rd, at the Royal Institution, Professor T. Clifford Allbutt, assisted by Dr. W. E. Dixon, demonstrator of pharmacology at Cambridge, gave a lecture on Blood Pressure in Man. The first part of the lecture was occupied by a sketch of the physiology of the subject. It was pointed out that as fluids are incompressible elasticity is obtained by the structure of the arteries and that the aorta, being larger in proportion than other arteries, acts the part of a reservoir, as does the air bag of the bagpipes, to equalise the pressures. The construction of the arterial tree is such as to facilitate the distribution of the blood with the least disturbance of pressures. Nevertheless, he showed by the effects of muscular exertion; cold baths, and so on, that the variations of pressure in man are large and herein differ from the stability of the temperature of the body. But a small fraction of the heart's energy is employed upon the velocity of the blood, the chief expenditure being in overcoming friction. The friction depends on two factors—the dimensions of the vessels and the viscosity of the blood which is about four times that of water. Dr. Dixon exhibited with the lantern a rabbit's heart, under artificial circulation, attached to a lever and registering its curves upon a smoked glass. To this heart drugs were applied—adrenalin, atropine, pilocarpine, nicotine, and so forth—by which the pressures were modified. The various instruments for registering pressures in man were then exhibited—three of them in action—and projected upon the screen. The lecturer then proceeded to the pathological applications of these principles, illustrating them in shock and collapse, under chloroform, hydrocyanic acid poisoning, the nitrites, and so forth. Dr. Dixon showed the action of such changes on the screen. Diagrams were exhibited of the remarkable observations of Kocher and Cushing on the enormous increase of pressures set up during compression of the brain in order to counteract the emptying of the vessels of the medulla by the intracranial pressure and thus the danger of bleeding in apoplexy had been made manifest by those observers. Finally, the importance of integrity of the arterial mechanism was insisted upon and the effect of toxic matters, of hard labour, and of senile changes was illustrated. The tendency in many persons to rises of arterial pressure in middle life was shown as well as the injury done to the vessels thereby. As these rises, if taken in time, may be counteracted the lecturer urged upon all persons between 45 and 55 years of age to have their arterial pressures estimated by their physicians every four or five years in order that this peril to health and life may be averted. Such rises may occur also in old persons in whom the arteries have undergone senile degeneration and in them are the more perilous, but in most cases, if discovered in time, they can be readily counteracted.

"DR." BELL AND THE POST-OFFICE.

WE are constantly being asked whether we can do anything to stop the circulation of a dirty little pamphlet that continues to be sent out by a quack living in Wardour-street under the name of "Dr. Bell." Some few years ago "Dr. Bell's" name was "Henry Walters" and some few years before that again he was "Dr. Rae" or "Ray," who possessed an American doctor's degree. We shall be obliged if any of our readers who may receive one of "Dr." Bell's pamphlets will forward it to us, *together with the wrapper or envelope* in which it may have been sent, at as early a date as possible after its receipt.

THE GILLSON SCHOLARSHIP IN PATHOLOGY.

THIS scholarship is of the annual value of £90 (tenable for one year) and was founded in accordance with the will of the testator, William Edward Gillson. The scholarship is open to Licentiates of the Society of Apothecaries of London, or to candiates for the Society's diploma, who obtain such diploma within six months of their election to the scholarship which is awarded for the encouragement of original research in connexion with any branches of pathology. Candidates must be under 35 years of age. The holder is eligible for re-election provided that he satisfies the adjudicators that he has carried out well-directed research during his year of tenure; but in no case can the scholarship be held by the same person for more than three years. Candidates competing for this scholarship are required to send in their names, with testimonials, by Feb. 28th, to Mr. Frank Haydon, secretary to the court of examiners.

TUBERCULOSIS IN NOTTINGHAMSHIRE.

WE have received a copy of the annual report of the medical officer (Dr. Henry Handford) to the county council of Nottinghamshire for the year 1903. The report has been most carefully compiled and presents some interesting information. The most striking feature concerning the mortality statistics is the fact that for the first time the rural death-rate exceeds the urban. This is remarkable and is the more accentuated by the fact that the infantile deaths are more numerous proportionally in the urban than in the rural districts and, moreover, account for more than one-quarter of the total deaths. The altered relative position of the urban and rural death-rates appears to be mainly due to a decrease in the urban rates; the rural rate only increased 0·3 per 1000. Dr. Handford asserts that it is difficult to avoid the conclusion that the urban districts are reaping the advantage of their larger expenditure in measures of water-supply and general sanitation. The number of deaths from pulmonary tuberculosis was 262, or 0·88 per 1000 of the population. In the urban districts there were 139 deaths, or 0·8 per 1000, and in the rural districts 123 deaths, or 1·01 per 1000. The deaths from tuberculous disease of other organs than the lungs were 150 for the whole county, or 0·5 per 1000 persons living. In the urban districts there were 93 deaths, or 0·53 per 1000, and in the rural 57 deaths, or 0·46 per 1000. These figures show the strange result that in 1903 in the county of Nottingham pulmonary tuberculosis was more fatal in the rural districts than in the urban. "Other tuberculous diseases" were only very slightly less fatal, the balance in favour of the rural districts being only 0 07 per 1000 Dr Handford publishes an interesting table showing the average death rate from pulmonary tuberculosis for the past ten years in the various urban and rural districts of the county It is proved that the death rate from this disease has not been materially influenced by the geological character of the country, the districts most severely affected being of varying geological nature Conditions of housing and sanitation appear to have been of most importance These statistics can only be taken as being suggestive , investigations carried out over larger areas and over many counties would be required before any definite conclusions could be drawn from them

THE TREATMENT OF PULMONARY TUBERCULOSIS BY CYLLIN

Mr W C Lodwidge informs us that he has treated eight cases of pulmonary tuberculosis by inhalations of cyllin Some of the patients were in an advanced stage of the disease In every case some improvement was obtained as evidenced by a steady increase in weight a diminution in the quantity of the sputum, and relief from cough and night sweats Mr Lodwidge believes that the drug acts primarily by destroying the pyogenic organisms and secondarily by exercising an action on the tubercle bacilli He has made a careful systematic study of the various drugs which have from time to time been prepared as "inhalants for the treatment of pulmonary tuberculosis He has also calculated the relative bactericidal value of some of these drugs when tested against vigorous cultures of the bacillus typhosus He finds that cyllin is 12 times as powerful as carbolic acid Further, cyllin may be inhaled without any deleterious results The number of cases recorded by Mr Lodwidge is small but the results which he has obtained warrant a further trial of the remedy and observations carried out on a more elaborate scale than has been as yet accomplished

SCHOOL DRESSING ROOMS

AMONG many matters of interest to be seen at the Exhibition of School Building and Furnishing Appliances open in the great hall of the University of London during the continuance of the Conference on School Hygiene organised by the Royal Sanitary Institute of Great Britain, few bear more emphatic testimony to the extent and character of modern improvements in the surroundings of the schoolboy than the plans lent by Mr Sargant to illustrate the changing and dressing rooms now in course of construction at Oakham Without repeating Mr Kipling's substantives we may use one of his adjectives without offence and may admit that the boy who comes in from football is always muddy—and generally wet If his clothes are to be distributed over his bedroom there will be a bad time for somebody in the way of collecting and drying them and the general state of that bedroom will not be improved At schools of course, the consequent difficulties are raised to the nth power and Mr Sargant has been equal to the emergency in devising contrivances for meeting them His plans show an arrangement under which each dormitory for 16 boys has attached to it a changing and washing room devoted solely to these purposes Every such room contains a central range of 16 basins supplied with hot and cold water and discharging into a suitable channel Benches run down each side of the room and behind these are 32 drying lockers, each 1 foot 3 inches by 11 inches by 2 feet 6 inches into which football things must be put Pegs for hanging up clothes are fixed over each locker Sitz and shower baths are provided in the same room, supplied with water which can be made warm but not hot There are also depositories for shoes and no boots are allowed to be taken into the dormitories The general effect is to furnish all necessary facilities for the maintenance of the bodily cleanliness which is the first of sanitary virtues to preserve neatness and order in the dormitories, and to prevent any portion of their cubic space from being occupied by dirty clothing Mr Sargant further claims that the saving of labour effected by the arrangement is a sufficient compensation for the cost of the first outlay

DIFFUSE ENCEPHALITIS DUE TO THE PNEUMOCOCCUS

IN recent years the widespread extent of the lesions which may be produced by the pneumococcus has been shown but in only a limited number of cases has infection of the brain been observed In the *Boston Medical and Surgical Journal* of Dec 15th, 1904 Dr W N Bullard and Dr F R Sims have reported the following case A man aged 50 years, was admitted to the Boston City Hospital under the care of Dr Shattuck The patient had been in good health until his present illness which had confined him to bed for a month He had a cough and expectorated thick white sputum, occasionally tinged with blood On admission he was under the influence of alcohol and was delirious Bronchitic râles were heard in the chest and there was dulness at the bases of the lungs There was a scar on the glans penis Three days later he was comatose and cyanotic and there was left hemiparesis The respiration was at times rapid and superficial and sometimes suggested Cheyne Stokes breathing The pupils were contracted The left limbs were flaccid , the right were rigid The morning temperature was 102° F the pulse was 72, and the respirations were 43 On the sixth day after admission the cyanosis was increasing and there was profuse perspiration The pupils were contracted and the left was slightly smaller than the right Death took place on this day At the necropsy yellowish white plugs could be expressed from the larger bronchioles and the bronchi contained purulent secretion The left pulmonary artery was occluded by a partially organised adherent clot The dura mater was thickened and adhered to the calvarium and to the pia mater along the longitudinal fissure The pia mater about the superficial veins of the sulci was thickened The brain was asymmetrically swollen The right parietal lobe was softer than the remainder of the brain The right centrum ovale and the subcortical projection system were œdematous and showed numerous punctiform hæmorrhages , the left centrum ovale showed slight œdema and a few hæmorrhages Microscopic examination showed pneumococci in the viscera and in the œdematous areas of the brain There were pneumococcic septicæmia, acute broncho pneumonia and diffuse encephalitis with hæmorrhages The lesions in the brain consisted of accumulations within and surrounding the adventitia of the vessels of large numbers of phagocyte granule cells of the type found in meningitis and cerebral softening and of small numbers of lymphoid and plasma cells with a few polynuclear leucocytes and eosinophiles solution and fatty changes of the myelin in the surrounding tissue proliferation of the neuroglia cells and œdematous changes in the cortical cells Acute non purulent encephalitis was first brought prominently forward by Strümpell in 1890 though he previously, in 1884 described the condition in children Cases were subsequently described by Schmidt, Furbringer, Konigsdorf, and others Many cases occurred after an attack of influenza or during an epidemic of the disease but in spite of several attempts the influenza bacillus could not be cultivated The best description of the disease has been given by Oppenheim It may come on suddenly or may be preceded by headache, vertigo nausea and vomiting, general weakness, apathy, and

six months old were investigated with the following results —

Babies who died from epidemic diarrhœa	Breast fed only	10 per cent	Out of 236 cases investigated
	Breast and bottle	10 "	
	Bottle only	80 "	

These figures may be supplemented by those of Dr E W Hope with respect to Liverpool, but it is important to note that such figures relate to children under three months of age —

Deaths from epidemic diarrhœa 0-3 months	Breast fed	20 deaths per 1000 infants
	Bottle fed	300 " " "

Dr Robertson's recommendations are chiefly directed to securing greater cleanliness in the food and surroundings of young infants, that is to say, attention to badly constructed and dirty houses and more personal cleanliness among the poorer classes Poverty, a factor which Dr Robertson evidently sees is perhaps the *main* factor in the problem, is such a delicate question that he refers to it only in relation to the enormous influence which drink possesses in promoting and accentuating its effects But, briefly summed up, all Dr Robertson's recommendations centre around the better education of the children and parents in the principles and practice of hygiene In the matter of milk supply he shows by the aid of a spot map that the milk of Birmingham is almost entirely derived within a radius of 50 miles of the city, and this being so there should, he thinks, be no delay in transit But the cowsheds in which the cows are milked are of the usual rural type and Dr Robertson advises the more [illegible] special Parliamentary powers [illegible] which enable its officers to repc [illegible] to the local authorities and, if they refuse to take action to make representations to the county council and the Local Government Board Finally Dr Robertson is evidently in favour of a municipal milk depôt on the lines of those of certain [illegible] making inquiries concerning [illegible] a day nursery for children

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN 76 of the largest English towns 9190 births and 5387 deaths were registered during the week ending Feb 4th The annual rate of mortality in these towns, which had been 17 5, 18 1, and 18 4 per 1000 in the three preceding weeks, declined again to 18 0 per 1000 last week In London the death rate was 17 5 per 1000 while it averaged 18 2 per 1000 in the 75 other large towns The lowest death rates in these towns were 9 0 in King's Norton, 11 6 in Bury 11 8 in Handsworth (Staffs), 12 0 in York, 12 1 in Walthamstow, 12 2 in Rotherham, 12 3 in Southampton, and 12 4 in Hornsey, while the highest rates were 23 6 in Wolverhampton and in Nottingham, 23 8 in Plymouth, 26 5 in Swansea, 28 1 in Norwich 28 8 in Stockton on Tees 31 3 in Middlesbrough 31 7 in Rhondda 31 1 in Hanley, and 33 2 in Merthyr Tydfil The 5387 deaths in these towns last week included 368 which were referred to the principal infectious diseases against 378, 358 and 376 in the three preceding weeks, of these 368 deaths, 114 resulted from whooping cough, 94 from measles 60 from diphtheria, 39 from scarlet fever 35 from diarrhœa 22 from "fever (principally enteric), and four from small pox In Brighton Southampton Northampton Walsall Stockport Huddersfield, and 12 other smaller towns no death from any of the principal in [illegible] hey caused the highest [illegible] Grimsby, Nottingham [illegible] Merthyr Tydfil The [illegible] measles occurred in [illegible] Merthyr Tydfil from scarlet fever in Hanley from diphtheria in Bournemouth, Middlesbrough and [illegible] in Willesden, Hastings [illegible] Barrow in Furness, from [illegible] and from diarrhœa in West Bromwich Of the four fatal cases of small pox registered in these towns one belonged to Leeds one to Hull, one to South Shields, and one to Newcastle upon-Tyne The number of small pox patients in the Metropolitan Asylums Hospitals, which had been 19, 18, and 15 at the end of the three preceding weeks, had further fallen to 13 at the end of last week, one new case was admitted during the week, against one, one and none in the three preceding weeks The number of scarlet fever patients remaining under treatment in these hospitals and in the London Fever Hospital on Saturday, Feb 4th was 2070, against 2192 2174, and 2096 on the [illegible] cases were admitted dur [illegible] 251 in the three precedir [illegible] ferred to pneumonia and diseases of the respiratory system, which had been 401 477, and 478 in the three preceding weeks declined again last week to 444, but were 94 above the number in the corresponding period of last year The causes of 69 or 1 3 per cent, of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in West Ham Portsmouth Bolton Cardiff, and in 40 other smaller towns the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Bootle, Warrington and Sunderland

HEALTH OF SCOTCH TOWNS

The annual rate of mortality in eight of the principal Scotch towns which had been 21 6, 20 1, and 20 3 per 1000 in the three preceding weeks, declined again to 19 9 per 1000 during the week ending Feb 4th, but was 1 9 per 1000 in excess of the mean rate during the same period in the 76 large English towns The rates in the eight Scotch towns ranged from 14 1 in Greenock and 15 8 in Paisley to 24 1 in Dundee and 32 8 in Perth The 668 deaths in these towns last week included 46 which were referred to whooping cough, 19 to diarrhœa nine to diphtheria six to measles, four to 'fever' (including two cases of typhus), and one to scarlet fever In all 85 deaths resulted from these principal infectious diseases last week against 85 72, and 79 in the three preceding weeks These 85 deaths were equal to an annual rate of 2 5 per 1000 which was 1 3 per 1000 above the mean rate last week from the same diseases in the 76 large English towns The fatal cases of whooping cough which had been 45, 33, and 44 in the three preceding weeks, further rose last week to 46 of which 31 were registered in Glasgow, four in Edinburgh, three in Perth, two in Aberdeen two in Paisley, and two in Greenock The deaths from diarrhœa, which had been 16, 17, and nine in the three preceding weeks further rose to 19 last week, and included 12 in Glasgow, three in Edinburgh and two in *Aberdeen* The fatal cases of diphtheria which had been five, three and nine in the three preceeding weeks, were again nine last week, and included six in Glasgow and two in Edinburgh The six deaths from measles corresponded with the number in the preceding week and included five in Glasgow The fatal cases of 'fever,' which had been three and six in the two preceding weeks, declined again last week to four, of which one case of typhus was registered in Dundee and one in Aberdeen The deaths referred to [illegible] 183 166 [illegible] ing period of last year The causes of 35, or more than 5 per cent, of the deaths registered in these eight towns last week were not certified

HEALTH OF DUBLIN

The death rate in Dublin, which had been 22 6 21 2 and 25 5 per 1000 in the three preceding weeks declined again to 24 2 per 1000 during the week ending Feb 4th During the past four weeks the death rate has averaged 23 4 per 1000, the rates during the same period being 17 2 in London and 19 6 in Edinburgh The 176 deaths of persons belonging to Dublin registered during the week under notice showed a decline of nine from the number in the preceding week and included nine which were referred to the principal infectious diseases against 21 10 and 18 in the three preceding weeks, of these five resulted from measles two from whooping cough, one from scarlet fever and one from *diphtheria but not any from small pox,* "fever' or diarrhœa These nine deaths were equal to an annual rate of 1 2 per 1000 the death rates last week from the principal infectious diseases being 1 1 *in London* and 1 7 in Edinburgh The fatal cases of measles which had been 12, five, and 13 in the three preceding weeks, declined again last week to five. The 176 deaths in Dublin last week included 32 of children under one year of age and 55 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons were slightly in excess of the respective numbers recorded in the preceding week. Five inquest cases and four deaths from violence were registered; and 69, or nearly two-fifths, of the deaths occurred in public institutions. The causes of seven, or nearly 4 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING 1904.

COMPLETE statistics relating to sickness and mortality during the year 1904 in each metropolitan borough and in the City of London will be found summarised in the accompanying table. The mortality figures relate to the deaths of persons actually belonging to the various boroughs, and are the result of a complete system of distribution of the deaths occurring in the public institutions of London among the boroughs in which the deceased persons had previously resided. With regard to the notified cases of infectious diseases in London during 1904, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 6·1 per 1000 of the population, estimated at 4,648,950 persons in the middle of last year. In the three preceding years the rates had been 8·9, 9·9, and 6·0 per 1000 respectively. Among the various metropolitan boroughs the rates last year ranged from 3·2 in Chelsea, 3·7 in Kensington, the City of Westminster, and Hampstead, 4·2 in Lewisham, and 4·5 in Lambeth, to 7·1 in Deptford, 7·2 in Bermondsey, 8·5 in Hackney, 9·3 in Poplar, 9·4 in Stepney, and 11·6 in Bethnal Green. The prevalence of small-pox was slightly greater than it had been in the preceding year, 491 cases being notified in 1904 against 416 in 1903. This disease was proportionally most prevalent in Stoke Newington, Finsbury, Bethnal Green, Stepney, Poplar, and Bermondsey. The number of small-pox patients admitted into the Metropolitan Asylums Hospitals was 512, against 1788, 8455, and 414 in the three preceding years; 17 cases remained under treatment at the end of the year, against 666, 14, and four at the end at the three preceding years. Scarlet fever was slightly more prevalent in 1904 than in the preceding year, the number of cases notified being 13,438, against 18,390, 18,258. and 12,531 in the three preceding years. Among the various metropolitan boroughs this disease showed the highest proportional prevalence in St. Pancras, Hackney, Bethnal Green, Stepney, Camberwell, Deptford, and Woolwich. During last year 11,629 scarlet fever patients were admitted into the Metropolitan Asylums Hospitals, against 14,959, 15,133, and 10,808 in the three preceding years; the number of cases remaining under treatment at the end of the year was 2349, against 3030, 2327, and 1606 at the end of the three preceding years. The prevalence of diphtheria during last year showed a slight decline; 7220 new cases were notified, against 12,154, 10,735, and 7738 in the three preceding years. The greatest proportional prevalence of this disease occurred in Hammersmith, Fulham, Hackney, Bethnal Green, Stepney, and Poplar. The Metropolitan Asylums Hospitals contained 800 diphtheria patients at the end of last year, against 1369, 927, and 734 at the end of the three preceding years; the number of admissions, which had been 9090, 7988, and 6158 in the three preceding years, further declined last year to 5783. A further considerable decrease in the prevalence of enteric fever took place during the year under notice, the number of notified cases, which had been 3195, 3412, and 2339 in the three preceding years, having fallen to 1896 last year. Among the various metropolitan boroughs this disease was proportionately most prevalent in St. Pancras, Hackney, Holborn, the City of London, Stepney, and Bermondsey. The number of enteric fever patients admitted into the Metropolitan Asylums Hospitals during 1904 was 1008, against 1480, 1806, and 1247 in the three preceding years; 159 cases remained under treatment at the end of December last, against 195, 210, and 246 at the end of the three preceding years. Erysipelas showed the highest proportional prevalence in St. Marylebone, Shoreditch, Bethnal Green, Stepney, Southwark, and Bermondsey. The 273 cases of puerperal fever notified during the year were 40 in excess of the number in the preceding year; 24 cases belonged to Islington, 23 to Hackney, 16 to Lambeth, 15 to Stepney, 15 to Poplar, 14 to Wandsworth, and 13 to Camberwell.

During the year under notice, 74,555 deaths of persons belonging to London were registered, equal to a rate of 16·1 per 1000, against 17·1, 17·2, and 15·2 per 1000 in the three preceding years; the average rate for the ten years 1894–1903 was 17·9 per 1000. Among the various metropolitan boroughs the lowest death-rates last year were 10·2 in Hampstead, 12·0 in Lewisham, 13·3 in Stoke Newington, 13·4 in Wandsworth, 13·5 in the City of Westminster, and 13·8 in Paddington; while the highest rates were 19·3 in Bethnal Green, 19·4 in Stepney, 20·0 in Bermondsey, 20·1 in Southwark, 20·4 in Shoreditch, and 21·3 in Finsbury. In the five groups of boroughs the rates were 14·6 in the west, 15·3 in the north, 15·5 in the south, 19·3 in the east, and 19·8 in the central. To the principal infectious diseases 9906 deaths were attributed during the year; of these, 25 resulted from small-pox, 2256 from measles, 365 from scarlet fever, 723 from diphtheria, 1495 from whooping-cough, 286 from enteric fever, six from ill-defined forms of continued fever, and 4750 from diarrhœa, but not one from typhus fever. These 9906 deaths were equal to an annual rate of 2·14 per 1000; the corresponding rates in the three preceding years were 2·22, 2·21, and 1·75 per 1000 and the decennial average was 2·47 per 1000. Among the various metropolitan boroughs the death-rates from these principal infectious diseases ranged from 0·60 in the City of London, 0·66 in Hampstead, 0·87 in the City of Westminster, 1·13 in Stoke Newington, 1·41 in Lewisham, and 1·45 in Kensington, to 2·57 in Finsbury, 2·84 in Stepney, 2·95 in Bethnal Green, 3·13 in Southwark, 3·20 in Shoreditch, 3·35 in Poplar, and 3·52 in Bermondsey. The fatal cases of small-pox numbered 25, against an average of 180 in the ten preceding years; of these 25 cases seven belonged to Bethnal Green, three each to Finsbury, Stepney, and Poplar, two each to Paddington, Holborn, and Shoreditch, and one each to Kensington, Islington, and Southwark. The 2256 deaths referred to measles were 333 fewer than the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Hammersmith, Holborn, Shoreditch, Bethnal Green, Southwark, and Bermondsey. The 365 fatal cases of scarlet fever were 292 below the average number in the ten preceding years; the greatest proportional mortality from this disease occurred in Finsbury, Bethnal Green, Poplar, Bermondsey, and Woolwich. The 723 deaths from diphtheria showed a decline of 1186 from the corrected average number: among the various metropolitan boroughs this disease was proportionally most fatal in Hackney, Bethnal Green, Stepney, Poplar, and Woolwich. The 1495 fatal cases of whooping-cough were 484 fewer than the average number in the ten preceding years; the highest death-rates from this disease were recorded in Shoreditch, Poplar, Southwark, Bermondsey, Greenwich, and Woolwich. The deaths referred to different forms of "fever," which had averaged 636 in the ten preceding years, had declined to 292 last year; among the various metropolitan boroughs "fever" was proportionally most fatal in Hackney, Finsbury, Stepney, Southwark, Bermondsey, and Greenwich. The 4750 fatal cases of diarrhœa were nearly 1200 in excess of the average; this disease showed the greatest proportional mortality in Fulham, Shoreditch, Stepney, Poplar, Southwark, and Bermondsey. In conclusion, it may be stated that the aggregate mortality in London last year from the principal infectious diseases was 13·7 per cent. below the average.

Infant mortality, measured by the proportion of deaths under one year of age to registered births, was equal to 144 per 1000 last year, against 148, 139, and 130 in the three preceding years. The rates of infant mortality in the various metropolitan boroughs ranged from 94 in St. Marylebone, 104 in the City of London, 109 in Holborn, 113 in Hampstead, 114 in Stoke Newington, 122 in Wandsworth, and 123 in Lewisham, to 154 in Poplar, 155 in Stepney, 156 in Chelsea, 157 in Bethnal Green, 172 in Bermondsey, 174 in Southwark, and 188 in Shoreditch.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.—The Senate of the University of Durham has decided that German may be offered as an alternative subject for Greek in the preliminary examination for the degrees of doctor in medicine and master in surgery. This alteration will come into force in September, 1906.

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING THE YEAR 1904.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1904.	NOTIFIED CASES OF INFECTIOUS DISEASE. Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	DEATHS FROM PRINCIPAL INFECTIOUS DISEASES. Small pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa	Total.	Annual rate per 1000 persons living.	Deaths from all causes.	Death rate per 1000 living.	Deaths of infants under one year to 1000 births.
LONDON	4,618,950	491	13,433	7220	3	1836	27	273	4947	—	28,295	6·1	25	2256	365	723	1495	—	286	6	4750	9906	2·14	74,555	16·1	144
West Districts.																										
Paddington	146,975	4	363	143	—	48	—	10	117	—	685	4·7	2	40	10	19	16	—	10	—	132	229	1·56	2017	13·8	138
Kensington	179,236	3	267	187	—	47	3	11	141	—	659	3·7	1	68	5	17	19	—	6	1	139	256	1·45	2568	14·3	150
Hammersmith	117,412	—	285	204	—	39	1	12	123	—	664	5·7	—	106	6	22	36	—	5	—	121	296	2·53	1840	15·7	152
Fulham	152,482	—	295	300	—	39	—	8	130	—	772	5·1	—	64	4	23	58	—	6	—	224	379	2·49	2346	15·4	153
Chelsea	74,329	—	108	61	—	13	—	7	45	—	234	3·2	—	25	6	5	26	—	2	—	46	110	1·49	1225	16·5	156
City of Westminster	177,321	6	313	145	1	51	2	5	126	—	649	3·7	—	23	9	7	18	—	10	2	84	153	0·87	2396	13·5	125
North Districts.																										
St. Marylebone	130,337	8	295	118	—	50	—	3	187	—	661	5·1	—	50	9	14	13	—	3	—	108	197	1·51	2109	16·2	94
Hampstead	86,603	1	169	58	—	27	1	6	56	—	318	3·7	—	17	2	4	8	—	5	—	21	57	0·66	884	10·2	113
St. Pancras	235,936	7	848	349	—	136	—	10	258	—	1608	6·8	—	127	27	38	82	—	17	—	183	474	2·01	4102	17·4	150
Islington	341,014	18	1150	347	1	128	—	24	220	—	1948	5·7	1	181	35	29	84	—	18	—	248	596	1·75	5243	15·4	129
Stoke Newington	52,415	8	154	61	—	14	—	3	53	—	293	5·6	—	7	3	8	12	—	3	—	26	59	1·13	697	13·3	114
Hackney	226,266	13	858	571	—	185	3	23	266	—	1919	8·5	—	76	20	55	55	—	26	—	249	481	2·13	3366	14·9	142
Central Districts.																										
Holborn	57,161	6	93	46	—	41	—	7	76	—	274	4·8	2	42	—	4	9	—	4	—	41	102	1·80	1054	18·5	109
Finsbury	98,958	15	330	146	—	46	—	5	106	—	648	6·6	3	58	17	16	28	—	9	—	123	254	2·57	2100	21·3	140
City of London	23,482	2	32	40	—	14	—	—	21	—	109	4·7	—	—	1	2	7	—	—	—	4	14	0·60	390	16·7	104
East Districts.																										
Shoreditch	117,033	14	343	188	—	48	1	5	178	—	777	6·7	2	81	13	18	63	—	8	—	189	374	3·20	2378	20·4	168
Bethnal Green	130,207	126	661	425	—	58	4	12	224	—	1510	11·6	7	90	18	47	52	—	6	1	162	383	2·95	2500	19·3	157
Stepney	303,791	90	1258	821	1	198	—	15	470	—	2853	9·4	3	174	33	90	126	—	30	—	403	859	2·83	5876	19·4	155
Poplar	169,905	42	547	670	—	93	—	15	204	—	1571	9·3	3	91	24	84	81	—	13	—	272	568	3·35	3149	18·6	154
South Districts.																										
Southwark	207,937	28	415	281	—	92	—	12	298	—	1126	5·4	1	191	12	26	118	—	18	1	282	649	3·13	4169	20·1	174
Bermondsey	129,397	19	454	193	—	73	1	5	186	—	931	7·2	—	136	18	16	69	—	16	1	200	456	3·52	2582	20·0	172
Lambeth	310,359	28	658	326	—	100	4	18	248	—	1380	4·5	—	164	16	34	109	—	11	—	316	650	2·10	4884	15·8	138
Battersea	175,465	7	385	227	—	63	2	7	161	—	852	4·9	—	59	10	14	59	—	13	—	198	353	2·02	2541	14·5	147
Wandsworth	257,443	6	772	404	—	71	3	14	270	—	1540	6·0	—	106	14	42	50	—	11	—	225	448	1·73	3435	13·4	122
Camberwell	268,384	19	956	270	—	78	1	13	327	—	1664	6·2	—	110	17	21	99	—	16	—	246	509	1·90	3992	14·9	144
Deptford	113,609	11	405	196	—	30	—	10	151	—	803	7·1	—	76	10	16	49	—	3	—	124	278	2·46	1823	16·1	145
Greenwich	101,651	1	213	152	—	49	—	2	86	—	503	5·0	—	40	3	11	56	—	9	—	110	229	2·26	1455	14·4	142
Lewisham	140,401	—	337	130	—	29	—	8	83	—	587	4·2	—	25	7	12	37	—	2	—	115	198	1·41	1681	12·0	123
Woolwich	123,416	8	468	161	—	27	1	5	75	—	745	6·1	—	30	16	29	56	—	6	—	159	296	2·40	1763	14·3	135
Port of London	—	1	1	—	—	9	—	—	1	—	12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Inspector-General of Hospitals and Fleets Herbert Mackay Ellis, Director-General of the Medical Department of the Navy, has been appointed Honorary Physician to His Majesty in place of Inspector-General of Hospitals and Fleets Sir James John Louis Donnet, K.C.B., deceased (dated Jan. 13th, 1905).

The following appointments are notified:—Staff Surgeons: M. L. B. Rodd to the *President*, additional, for a three months' hospital course at the West London Hospital; J. C. G. Reed to the *Vulcan* on recommissioning. Surgeons: A. A. Forrester, lent for duty at New Hospital, Chatham. R. M. Richards to the *Vulcan* on recommissioning; F. R. Mann to the *Fire Queen*, for disposal; C. M. Woods to the *Sapphire II.* on commissioning; and D. H. Vickery to the *Wildfire* for disposal.

ROYAL ARMY MEDICAL CORPS.

Major H. M. Adamson is appointed to command the Station Hospital, Shahjehanpur, vice Lieutenant-Colonel G. F. Gubbin. Captain P. S. Lelean assumes medical charge of women and children, Marlborough Lines, Aldershot.

Colonel J. M. Beamish is placed on retired pay (dated Jan. 26th, 1905). Lieutenant-Colonel C. B. Hill is placed on temporary half-pay on account of ill-health (dated Jan. 29th, 1905). The undermentioned Lieutenants to be Captains:—W. J. S. Harvey (dated Jan. 14th, 1905) and B. A. Craig (dated Jan. 29th, 1905).

Captain E. Blake Knox is appointed secretary to Surgeon-General Sir Thomas Gallwey, K.C.M.G., C.B., A.M.S., Principal Medical Officer of His Majesty's Forces in India.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant P. J. O'Sullivan, 1st City of London Royal Garrison Artillery (Volunteers), to be Surgeon-Lieutenant (dated Feb. 4th, 1905).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Fifeshire: Surgeon-Captain H. W. Laing resigns his commission (dated Jan. 28th, 1905). 1st Essex: William Douglas Watson to be Surgeon-Lieutenant (dated Feb. 8th, 1905).

Rifle: 2nd Volunteer Battalion the Norfolk Regiment: Surgeon-Captain S. J. J. Kirby, from the 2nd Volunteer Battalion the Suffolk Regiment, to be Surgeon-Captain (dated Jan. 28th, 1905). 5th (The Hay Tor) Volunteer Battalion the Devonshire Regiment: Surgeon-Lieutenant-Colonel W. H. Webb is granted the honorary rank of Surgeon-Colonel (dated Feb. 8th, 1905). 1st (Brecknockshire) Volunteer Battalion the South Wales Borderers: Surgeon-Lieutenant-Colonel P. E. Hill (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, South Wales Border Volunteer Infantry Brigade) is granted the honorary rank of Surgeon-Colonel (dated Feb. 8th, 1905). 1st Bucks: Supernumerary Surgeon-Lieutenant-Colonel W. H. Bull (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Home Counties Volunteer Infantry Brigade), is granted the honorary rank of Surgeon-Colonel (dated Feb. 8th, 1905). 1st Volunteer Battalion the Northamptonshire Regiment: George Herbert Lewis to be Surgeon-Lieutenant (dated Jan. 28th, 1905).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Woolwich Companies: Major C. H. Hartt is granted the honorary rank of Lieutenant-Colonel (dated Jan. 28th, 1905); Captain (Honorary Captain in the Army) M. Taylor is granted the honorary rank of Major (dated Jan. 28th, 1905).

OUR RECRUITING ARRANGEMENTS.

As our readers are well aware, we have frequently in the past called attention to the very inadequate arrangements that are made for the accommodation of army recruits. We are glad, therefore, to notice that the *Army and Navy Gazette*, after also repeatedly urging the importance of this matter, again returns to the subject. Our service contemporary says:—

> Mr. Arnold-Forster has expressed himself anxious to do all in his power to render the army attractive. As a beginning he mi[illegible] call for reports on the situation and adaptability of recruiti[illegible] in large towns. If he is really desirous of [illegible] the joining the ranks he could take no step whi[illegible] be in producing this end than by arranging t[illegible] of all recruiting districts shall be so located that no self-respecting young man will shrink from presenting himself at them for the purpose of enlistment.

A measure of this kind would be a practical reform which would meet with the approval of everyone.

ROYAL ARMY MEDICAL CORPS EXAMINATION.

The undermentioned were successful at the recent competitive examination in London for commissions in the Royal Army Medical Corps. 68 candidates entered.

	Marks.
Charles Pinkerton Thomson, M.D., Ch.B. Glasg.	669
George Wykeham Heron, M.R.C.S. Eng., L.R.C.P. Lond.	590
Robert John Bertram Buchanan, L.R.C.P. & S. Irel.	565
George Brooke Forbes Churchill, M.R.C.S. Eng., L.R.C.P. Lond.	563
William Steward Nealor, M.R.C.S. Eng., L.R.C.P. Lond	555
James Edward Hoar, M.R.C.S. Eng., L.R.C.P. Lond.	539
Richard Graves Meredith, L.A.H. Dub., M.B. R.U.I.	538
Frederick Emilius Roberts, M.R.C.S. Eng., L.R.C.P. Lond.	538
George Smith Wallace, M.B., Ch.B. Glasg., D.P.H. Lond.	531
Wilfred Parsons, M.R.C.S. Eng., L.R.C.P. Lond. ...	517
Arthur Anderson McNeight, M.B., B.Ch., B.A.O. Dub.	514
Ernest Brabazon Booth, M.D., B.Ch., B.A. Dub. ...	513
Thomas Holroyd Gibbon, M.D., B.Ch. Dub.	512
Richard James Campbell Thompson, M.R.C.S. Eng., L.R.C.P. Lond.	509
Ernest George Robert Lithgow, M.R.C.S. Eng., L.R.C.P. Lond.	504
Pierce Power, M.B., B.Ch., B.A.O. R.U.I.	502
Charles William O'Brien, M.R.C.S. Eng., L.R.C.P. Lond.	496
Ryder Percival Nash, L.R.C.P. & S. Edin., L.F.P. & S. Glasg.	495
James Sydney Pascoe, M.R.C.S. Eng., L.R.C.P. Lond.	491
Cecil Dacre More Holbrooke, M.R.C.S. Eng., L.R.C.P. Lond.	490
John Maurice Bisdie Rahilly, M.B., B.S. Lond., M.R.C.S. Eng., L.R.C.P. Lond.	487
George Grant Tabuteau, L.R.C.P. & S. Irel.	487
Richard Edmond Humphrey, L.R.C.P & S. Irel....	484
William George Maydon, M.B., Ch.B. Aberd.	483
Garfield Ormrod, M.B., Ch.B. Edin.	479

THE WAR IN THE FAR EAST.

The *Times* of Feb. 6th, in its first leading article, gave a most interesting *résumé* of the momentous events which have taken place since the negotiations between Japan and Russia were broken off on the evening of Feb. 5th, 1904. In the 12 months that have elapsed since then there have occurred those remarkable changes in the history of the world with which all are acquainted. What the end of this war will be no one can, of course, foretell with any certainty. But we have meanwhile been living witnesses of "history in the making" on a large scale and cannot avoid perceiving that the events of the past year have made an indelible stamp upon the record of the present time. What influence will this have on the trend of events in the history of the future? There are at the moment of writing some vague rumours of peace in which, however, no one apparently believes. Public attention at present continues to be attracted rather to the internal condition of Russia and the disturbed state of Poland than to what is going on in Manchuria. Much has nevertheless been taking place there of great military importance although not of any decisive nature. The cold is extreme and how the Russians continue to supply their enormous forces in the field with food, fuel, clothing, and the stores and munitions of war through the Trans-Siberian railway remains a puzzle to military officers. Still, to their great credit, be it said, it is done.

There is but little of any special medical interest to be recorded. The returns obtained from the chief surgeon with General Oku's army are, however, of considerable importance. According to these there have only been 40 deaths from disease in his entire command (strength not given) since its landing on May 6th last. The figures show that of the 24,642 cases treated up to Dec. 1st, 18,578 recovered, 40 died, and 5609 were sent to Japan. It is believed that these figures are unequalled in the history of warfare. There were only 193 cases of typhoid fever and 342 cases of dysentery but the number of cases of beri-beri was 5070. The other cases were not serious. Of the casualties sustained by the army from May 6th to Dec. 19th 16 per cent. of the wounded died, 19 per cent. recovered on the field, and 65 per cent. were sent to Japan. 85 per cent. of the wounds were caused by rifle [illegible] 8 per cent. by shells, and 7 per cent. by [illegible] thr[illegible] The largest percentage of re[illegible] the chest, while as regards other [illegible]ies was larger from wounds in the head and the abdomen than from injuries of other regions This is attributed to the small calibre of modern rifles, the percentages in the other Japanese armies being, it is believed, about the same Beri beri has been a very prevalent and probably fatal disease among the Japanese armies but we have no estimate as to the number of deaths which it has caused during the campaign The disease is the scourge of Oriental armies but the Japanese have of late years done much to mitigate its ravages especially in their navy Some very elaborate articles have appeared comparing the losses of the belligerent armies with one another during the year's war but at best the numerical results can only be approximate and untrustworthy at the present time

Surgeon General G J H Evatt, C B, retired list, A M S, has been finally adopted as Liberal candidate for the Southern Division of Hampshire at the general election

Correspondence.

"Audi alteram partem

THE CANCER PROBLEM AND CANCER RESEARCH

To the Editors of THE LANCET

SIRS,—No doubt you a
Registrar General every y
malignant disease in the B
fact was sufficient reason
of, any feeble attempts of mine to solve the problem of cancer If my findings be wrong that has still to be demonstrated, and unfortunately you and your medical colleagues in Great Britain have at present nothing else to offer those 28 000 annual victims! This reflection might serve to give you pause You decided to publish my paper and for that courtesy I am grateful In your leader some of my embryological conclusions are referred to in very scathing terms, but that cannot in the least impugn their truth In the near future you may see cause to regret the terms of that leader and you may come
contained more truth than your
suspected If my conclusions b
any vital embryological probler
cancer problem has almost certainly been lifted into a new region, that of physiological chemistry I am not anxious to carry on a futile controversy with an editor in his own journal, even with editors so courteous as those of THE LANCET But I would ask that courtesy to note or correct a few things in your leader Before all else the following statement is open to very serious misconstruction "The writer states that it is based on work carried out with the support of the ample funds for research at the disposal of the Carnegie trustees and the Moray Research Fund of the University of Edinburgh

The funds for research are not ample If you still think them to be so I would ask you to take the opinion of the secretary of the Carnegie Trust The reference to these two funds was necessary because I happen to hold grants from them for certain research purposes and the Carnegie Trust lays down as a condition that in all published work the fact of a grant having been made shall be stated *The footnote refers to my work on various problems during the past 16 years* From 1890 to 1898 these researches were carried out from my own slender private means and without grants from any source Every bit of my published work has left me poorer than when the research was commenced The work of the past two years upon tumours has not cost the Moray Research Fund a single penny and the total charge for tumour researches on the two grants from the Carnegie Trust amounts at the moment to £26 8*s* 5*d* Of this sum since last October £16 has been paid in wages to a youth who at the cost of much of my time and patience, has been made into a useful technical assistant &c He has, in fact been trained, and is still under instruction to be a skilled laboratory assistant for the University of Edinburgh So that the real net cost of my tumour work has been £10 8*s* 5*d*, or at the rate of £5 4*s* 2½*d* per annum The amount is rather excessive owing to a loss of 50*s*, the price of a certain dog which was secured by me for the Liverpool Cancer Research, but which was sacrificed at the altar of science accidentally by an Edinburgh surgeon Certain other published balance sheets of cancer research occur to one but comparisons are odious

There is no call for a new defence of my embryological conclusions in your pages Had the writer of your leader appended his name there would have been no occasion for any further reply from me The theory of heredity based in "unconscious memory" is not mine but that of a very distinguished
of Prague Had the quotations
been made from your pages of
from those of your issue of
June 21st 1902 a revised modern version of my conclusions would have resulted As to the mimicry of the tumours it suffices for me that Sir James Paget and Fleischmann recognised it long ago, but it has never been held by me that a cancer or sarcoma "takes on the histological character of the tissue in which it is growing" It only tries to do so, and often enough it resembles no normal tissue whatever If a cancer be somatic in origin, how does this happen? Schmorl's finds of bits of the trophoblast in the lungs in pregnancy no more refute the existence of the unlimited powers of growth than would the failure of an attempt to grow rose cuttings in a cinder heap prove that the rose had only limited powers of growth His finds were made *in pregnancy and with a normal embryo or fœtus present* The whole histories of hydatid mole and of chorio epithelioma amply illustrate these powers, which can only on occasion be exercised in the absence of a normal embryo As to the erosion of a bone by an aneurysm, I have heard that simile several times before Presumably it is not suggested that the wall of the aneurysm or the blood does the erosion and possibly some enzyme of leucocytes, similar to, though perhaps not the same as that found in malignant growths, may have some concern in the matter

You or your leader writer, wish to eliminate the germ cell theory of cancer Should you succeed there would always be a problem of cancer Is any parasitic theory better? On p 322 of your current issue you express the wish that my friend Dr W Ford Robertson and Mr H Wade will succeed in establishing their thesis" I, too, would gladly share this hope but unfortunately it is impossible for these supposed cancer parasites appear to be due to the following (1) chromatolysis, (2) "tetrad" formation, (3) division of centrosomes, (4) degeneration of centrosomes, and (5) the so called "Nebenkern" What the student nowadays is expected to profess about enzymes is no concern of mine, but before allowing my paper to appear in print apart from the ordinary text books a close study was made of the following the latest editions of the two standard works of Verworn and Hoppe Seyler, the literature on enzymes cited therein, some results recorded by botanists and all the work of recent years published in the *Journal of Physiology* and in the *Boston Journal of Medical Research*, &c My chief authorities were given, which is, it may respectfully be submitted, more than can be said for many of the statements contained in your leader Regarding the point that "carcinoma is common to all vertebrates and the relation between cancer and uterine gestation suggested by me in 1902 it is quite true that cancer is common to vertebrates though it is anything but common in the lower vertebrates The investigators of the Imperial Cancer Research Fund gôt together ten cases from various parts of the world I have an eleventh but it may be doubted whether two dozen have as yet been recorded in the literature In the British Isles alone in 1902 27,872 people zoologically members of the class mammalia, died from malignant disease In view of these facts is it quite certain that uterine gestation has had nothing to do with its comparative frequency in man for example?

A recent writer in your pages remarked that the way of the transgressor was hard I have long realised how very hard and thorny it was but it is comforting to think that your leader was written in the twentieth century and not in the fifteenth Otherwise its effects would assuredly have been exceedingly painful for a certain person who has really very little enthusiasm for scientific research But with all deference the points are not whether my embryological results be "very hypothetical," notwithstanding all that some very distinguished men may think of them not whether the £10 8*s* 5*d* of Carnegie research money might have been devoted more profitably to some big cancer research, but whether the existence of an antithesis of enzymes be true and whether or not this be at the basis of all the havoc wrought by cancer. Should this be correct, what scientific value, if any, would attach to the strictures in your leading article? Were the researches of Petry and of Hartog (which I meant to do myself) "wild speculation"? If a malignant tumour possess an enzyme totally different from that widely present in traces in normal tissues, is not that a fact of supreme significance and import? I ask your readers to judge my work for themselves. Its chief conclusions have been advanced in Liverpool before an audience including leading surgeons, physicians, and pathologists, and again more recently in the presence of a certain distinguished physiologist. On these occasions they were listened to with the deepest interest and they evoked no adverse and depreciatory criticism whatever, even on the Edinburgh research funds. Lastly, let it not be forgotten that at times my findings and conclusions have an awkward habit of turning out to be true.

I am, Sirs, yours faithfully,

Feb. 5th, 1905. J. BEARD.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Jan. 14th, p. 120, under the heading "Local Irritation and Cancer," I suggested as an additional or alternative theory to cholesterine that glycogen in the same way leading to cell proliferation or alteration of type of division "may be due either to undue local deposition in the tissues or dependent on some nutritional disturbance in the liver or pancreas." Moreover, it had seemed to me, though I had not elsewhere seen it noted, that a similarity existed between this excess of glycogen in malignant growths and the excess of glycogen in fœtal tissues which obtains from a very early period up to the fifth month: when histological differentiation has largely advanced it begins to be deposited in the usual place, the liver, and its use to the economy becomes that to which it is put in the ordinary life of the animal (M. Foster).

In view of my belief, therefore, that in malignant disease the tissues have in some sense reverted to glycogenic tissue, either from over-production or non-conversion of glycogen, locally or generally, it may be of interest to point out that on Dec. 8th, 1904, I applied to Messrs. Parke, Davis, and Co. more especially to ascertain if taka-diastase had any amylolytic action on glycogen, suggesting at the same time pancreatic ferment. They replied that taka-diastase had little or no action but that the glycerine extract of pancreas had. Meanwhile as a result of experiments made by Mr. F. W. Gamble, pharmaceutical chemist, with various ferments, trypsin was found immediately and most effectually to break up glycogen. It is of interest, therefore, to me to find that Dr. J. Beard in his paper on the Cancer Problem[1] independently corroborates the view expressed in the above extract from my letter that it is the pancreas which is at fault. Though his explanation of the use of trypsin in fœtal life and presumably in malignant disease is different from mine it may interest him to learn that already on Jan. 19th, 1905, I had commenced to make trial of hypodermic injections of trypsin locally, together with the internal administration and outward application of pancreatic solution in a case of advanced recurrent cancer of the breast.

I am, Sirs, yours faithfully,
JOHN A. SHAW-MACKENZIE, M.D. Lond.

London, Feb. 6th, 1905.

THE PUBLIC HEALTH LABORATORY OF MANCHESTER.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me to rectify an error which has crept in in the account which you gave in your issue of Feb. 4th of the opening of the Public Health Laboratory in Manchester? Your informant states that there is a staff of 13 assistants, five students, one secretary, &c., in the laboratory. This statement is obviously the result of some confusion; there are only three medical assistants (Dr. Sidebotham, Dr. Carver, and Dr. Sellers) engaged in reporting to sanitary authorities, in addition to which Dr. Sidebotham is also lecturer in practical bacteriology and Dr. Sellers assistant lecturer in comparative pathology. Dr. G. Fowler has recently joined the staff as senior chemical assistant and Dr. Ramsden, who is University Fellow in Sanitary Chemistry, acts occasionally as junior assistant. No student or unqualified assistant takes part in public health investigations. There is also a technical assistant (Mr. Simons). The staff, including the secretary and myself, consists, therefore, of eight persons; only six, including myself, are qualified to undertake investigations for sanitary authorities. Several other gentlemen take part in the teaching of public health or other advanced students but they are not assistants in the department. Although the matter is not one of much importance I do not think it desirable to allow what might reasonably be considered a great exaggeration to come under my notice without attempting to rectify it.

I am, Sirs, y[illegible]

Feb. 7th, 1905.

THE PROGNOSIS OF ADOLESCENT INSANITY.

To the Editors of THE LANCET.

SIRS,—In an annotation in THE LANCET of Feb. 4th, p. 312, under the heading of "The Premature Dementia of Adolescents," you quote the opinion of Dr. Sérieux of Paris as to the curability of the "hebephrenic" and "katatonic" forms of "adolescent insanity" being only 1 in 10. In my opinion—and this has been formed on a careful study of the disease from statistical and clinical facts—the statement is calculated to produce a very unduly pessimistic and painful general effect on your professional readers who have to treat such cases and on readers who have relatives suffering from "adolescent insanity." The facts, I maintain, do not warrant such an unfavourable view. In 1873 I segregated and described a large group of mental cases with similar symptoms and called it "adolescent insanity." I subsequently gave an extensive series of clinical and statistical facts in support of my conclusion. The name and the description have been almost universally accepted by subsequent observers and authors, who, by the way, have seldom given me any credit for the induction. More recently German and American authors have adopted the term "dementia precox" to describe a sub-group comprised within adolescent insanity. Unfortunately no two of those authors mean the same thing by "dementia precox." Kraepelin has recently still further subdivided "dementia precox" into the divisions of "hebephrenic," "katatonic," and "paranoid." If any of your readers can form definite clinical pictures of those divisions from Kraepelin's descriptions and can then with confidence assort his patients under those groups I confess it is more than I have been able to do. I have always most strenuously contended that the term "dementia" should be reserved for incurable varieties of mental enfeeblement. This would save confusion, help to clarify our nomenclature, and, above all, would enable the general practising member of our profession to know better where they stand in using the word "dementia." I have no objection to the terms "hebephrenia" or "katatonia." I have much doubt about "paranoia," that fascinating and ever-changing rubbish heap of delusion, obsession, hallucination, and over self-appreciation into which some authors cast 50 per cent. of the insanities, and others—Kraepelin lately—restrict to about 5 per cent. of all the cases. But to attach those terms to forms of "dementia" seems to me an instance of medical classification gone to the verge of absurdity and confusion.

As to the curability of adolescent insanity, I took 1796 consecutive cases of insanity and found that 320 of these were in the developmental ages between 14 and 25 years inclusive. Of those 320 I had to deduct 90 as belonging to groups such as the epileptic and other forms. I found that the last five years, from 21 to 25, produced most of the 230 remaining cases, or about 70 per cent. of them. That is the time when the higher brain centres attain their full and final development. Especially do the highest emotional, volitional, and moral faculties then blossom and seed. To provide the infinitely delicate brain vehicle for such fruit of mental evolution must try to the utmost the potentialities of the developmental nervous process. It is then evidently that hereditary mental defects chiefly show themselves and cause psychical breakdowns, just as in the earlier years the lesser developmental neuroses, such as chorea, epilepsy, hysteria, somnambulism, asthma, and megrim, are most apt to appear. A careful study and summarising of the symptoms in the 230 cases showed that maniacal excitement, periodicity, acuteness, and strong sexual tincture were the dominant symptoms present while a mental or neurotic heredity was universally present. This is, in fact, by far the most hereditary of all the forms of insanity. Instead of mental incurability I found, however, that one characteristic of the disease was a recovery rate of 51 per cent, a higher rate than that of the insanities taken as a whole. No doubt there is a special liability to relapses in the future lives of these patients more than is the case in mental disease generally, but I can point to hundreds of men and women who have passed through attacks of adolescent insanity, have done their work in life well, and have had no relapses. The really sad part of the disease is that 30 per cent do not recover and do not die, but pass into that most typical of all the dementias the "secondary" or "sequential" form, who live on for years, waterlog our asylum wards, are burdens on our ratepayers and are the despair of the asylum physician—not to speak of his discredit in the public estimation. The higher mind has died in those dements while their bodies live, eat and need housing, clothing and supervision at a cost to the working citizen of from £25 to £40 a year each. The typical asylum dement has commonly begun as an adolescent maniac.

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[1] THE LANCET, Feb. 4th, 1905, p. 281.

The latest work in our department of medicine strikes a note of greater hope for the adolescent insane. The application of exact bacteriological, toxæmic, and hæmatological methods in the study of such cases by Dr Lewis C Bruce seems to point to a far surer basis for our future classification of mental diseases than groups of symptoms or physiological crises of life. He seems to have isolated a "hebephrenia" and "katatonia" by careful study of blood conditions which point to toxins as its cause and to antitoxins as its remedy in the very early stages, those being detectable before the actual mental attacks. The man who will teach us how to prevent the occurrence of secondary dementia following on adolescent insanity will indeed lay humanity under a deep debt of obligation.—I am, Sirs, yours faithfully,

T S CLOUSTON

Royal Edinburgh Asylum Feb 4th, 1905

URANIUM SALTS IN CANCER

To the Editors of THE LANCET

SIRS,—In THE LANCET of Feb 14th 1903, p 476 and of April 18th, 1903 p 1126 you kindly gave me space to suggest the possible use of uranium salts in cancer. The following brief account of a case to some extent bears out that hope which I then expressed. The patient now aged 68 years had her right breast removed for cancer in July 1902, at the Royal Infirmary Liverpool. Secondary nodules began to show in December, 1903. Further surgery was deemed of no use and the patient was put on large doses of cinnamon. The case first came under my care in May 1904. Locally there were countless nodules in the skin varying in size from a pea to a marble mostly in the axillary region but extending forwards to the sternum and backwards to the spine on the right side of the chest.

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condition is as follows. Generally the health of the patient has much improved, the murmurs over the cardiac area have gone, she eats and sleeps well and for some months she has been able to do regular work as a seamstress. Locally dozens of the nodules have subsided and have become level with the skin and though at intervals a fresh nodule does come the total area involved is much less than before treatment began.

It might be urged that this is a case where the growth

ar but there was no evidence

d and if the patient omits it

so well. The first change in

d becomes tender and then

gradually dies down. The dose of salicylate of uranium for the first few days was five grains, then for six months 15 grains, and for the last two months 20 grains daily. The patient could no doubt, take bigger doses but there would be little gained, since the complaint seems to be under fair control. Salicylate of uranium was made at my suggestion by Messrs Burroughs Wellcome and Co. This firm now make five grain tabloids and the co[illegible]er 100 is about 5s. Finally, one may add that salicylate seems to be better tolerated than either nitrate or acetate of uranium.

I am, Sirs yours faithfully,

ARTHUR C WILSON

Formby, Feb 5th 1905

THE RECENT DISCUSSION ON CHLOROFORM ANÆSTHESIA

To the Editors of THE LANCET

SIRS,—The recent discussion on chloroform anæsthesia at the Royal Medical and Chirurgical Society is of great interest in more ways than one. It is for example significant that those having the greatest experience in the administration of the drug consider that danger lies in respiratory failure, but it is on the question of dosage that I desire the privilege of writing a few words. From the printed report it would certainly seem that contrary to what might have been expected in a discussion held at a society which was not composed of specialists the view taken of this aspect might have been a wider one. Dosage is after all only a means and usually a rough means to an end. When a drug is administered (for other than a purely local effect) a remote result is desired and in order that this may ensue the drug has to be absorbed into the blood circulation and then to reach the tissues through the lymph circulation. If such a drug is given as is usually the case by the mouth it may or may not be partly or wholly absorbed into the circulations. The result is quite indefinite and the physician is entirely in the dark as to the amount which still lies in the alimentary canal, that which is circulating, that which is fixed in the tissues and that which has already been excreted into the alveoli or ducts of one of the eliminating organs. Even could the amount of the drug which is fixed in the tissues be determined there is still the complicating uncertainty of idiosyncrasy which may or may not be dependent on such physiologico chemical union and in spite of what Sir Victor Horsley has said there can be no doubt that chloroform is in this respect no exception to all other

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"dose,"

istration

entirely by the effects hitherto produced and no accuracy of dosage will prevent poisoning if the dose be too large or the subject unduly susceptible. Accuracy of dosage does not in any way absolve the physician from a close observation of the effects which his drug is producing. To these somewhat obvious general principles chloroform is no exception although there are differences in detail due to the unusual physical character of the drug and to the unusual channel of absorption and elimination. When the vapour of chloroform is inhaled it reaches the bronchioles carried by the tidal air, and with a fixed percentage of chloroform vapour the amount of chloroform which reaches the bronchioles will vary with the depth of inspiration. From there it diffuses into the infundibula and alveoli and some of it is absorbed, the amount which reaches and that which passes through the alveolar membrane into the blood varying with the amount present in the bronchioles—that is with the depth of inspiration. Any machine then, which delivers a fixed percentage may be passing to the patient a very variable amount of chloroform, as has been pointed out by Dr J F W Silk. It affords no basis for accurate dosage and the amount of chloroform which it offers for absorption into the blood varies from moment to moment. This element of uncertainty too, is further increased by the fact that when the partial pressures in blood and alveolar air are favourable chloroform is excreted by, instead of being absorbed by, the air passage, a fact made use of in the practice of artificial respiration for chloroform poisoning. Elimination is far more rapid than is the case with most drugs. It is evident, then that if there is a large element of uncertainty as to the amount of a drug given in the usual way by the mouth which is at any moment circulating in the body fluids or fixed in the tissues there is a far greater uncertainty as to the amount of chloroform present in these situations, and if it be essential that the physician should be guided entirely by

by the mouth

that he must

administering

chloroform by the air passages. By far the greater part of the chloroform which evaporates from any inhaler, whether a percentage one or not, is no more in the patient, within his respiratory endothelium that is, than if it were still in its bottle on the dispensary shelf, and if the use of an inhaler gives to the anæsthetist a false sense of security and tempts him to any relaxation of vigilance, a real danger among the less experienced, it will do an immense amount of harm. Passing in review all the uncertainties which must surround the administration of chloroform through a percentage inhaler, one is prepared for the statement made during the discussion that these instruments give no immunity from an overdose, but that such has actually occurred, and that in the hands of an experienced anæsthetist, artificial respiration having to be resorted to in order to save the patient's life. These regulators, then, are not safe. The use of one does not, any more than does the use of a hypodermic syringe in the case of morphia, introduce the element of safety into the administration of chloroform, and the administrator in determining whether or no more of the drug is required has to be guided by the effect produced as entirely as is the case when he administers any other drug by any other route. It has been shown that these regulators do not introduce into chloroform anæsthesia the element of safety. It is evident that it is as easy to kill a man with one of them as it is without. This being so, their sole possible advantage is lost, while by their use there is introduced the enormous disadvantage that the attention of the anæsthetist is divided between the patient and the apparatus. There is a real danger here that the general use of such apparatus will increase the death-rate, for there can be no question that chloroform cannot be given safely unless the whole attention of the administrator is concentrated on the patient and in particular upon the respiration. It is possible that it is not altogether easy for some specialists in anæsthetics to realise this, for by long practice the noting of the various points which make up normal anæsthesia becomes sub-conscious and automatic, while at the same time any variation from the normal thrusts itself immediately upon their attention. But in the case of the less experienced—those, that is, in whose practice deaths from chloroform poisoning are most likely to occur unless the whole attention is concentrated on the patient—the first signs of danger may easily be missed and the patient be beyond recovery before it is realised that he is in danger. It is admissible to repeat that chloroform cannot be given with safety, at least by any but the most experienced, unless the whole conscious attention of the administrator is concentrated on the patient and especially on his respiration, and the use of a machine, which divides his attention introduces at once into the administration the danger of fatal poisoning.

I am, Sirs, yours faithfully,
CLAYTON LANE, M.D. Lond.,
Calcutta, Jan. 18th, 1905. Captain, I.M.S.

FRACTURED HUMERUS IN AN ARM AFFECTED BY INFANTILE PARALYSIS.

To the Editors of THE LANCET.

rs,—I have met with a case recently which is quite new experience nor can I find any local *confrère* who has met with a similar case—viz., a young lady, aged 21 who has one arm quite paralysed—all the muscles have sted since early childhood—recently fell and fractured rus of the paralysed arm. What are the chances of ous union? The fractured arm is thoroughly fixed narrow Cline's splints and there is no movement of hich has also a retaining bandage over the injured the thorax, permitting the sound arm, of . She is taking hypophosphites and generous meal bread, &c. Her constitution seems lly. Is there any work treating of such a ' opinion as to the probable ultimate result reciated.

I am, Sirs, yours faithfully,
RAPIER.

paralysis of the muscles of a limb does arm and speedy union of a case mentioned by our correspondent, only paralysis of the muscles of the limb but also more or less atrophy of the bones, so that there may be little compact bone in the shaft of the humerus. In such a case some delay in union may occur but ultimately the fragments should unite firmly. In the treatment of such a fracture it is well to remember that the tissues of the paralysed limb are not of a very high degree of vitality and therefore especial care should be taken to prevent pressure sores from the splints.—ED. L.

NITROUS OXIDE GAS, CHLOROFORM, AND AIR INTIMATELY MIXED.

To the Editors of THE LANCET.

SIRS,—Since you kindly inserted a short communication[1] from me on the merits of nitrous oxide gas, chloroform, and air intimately mixed either for short operations or as an introduction to prolonged insensibility by chloroform, I have had so many letters from different and far-away correspondents asking for a description of the apparatus that I have shown my own adaptation of the ordinary gas apparatus to Messrs. Down of St. Thomas's-street, who are now able to supply the necessary parts. My former communication was rather to draw attention to the principle as I thought almost anyone could adapt the Woulfe's bottle. I may add two things: I commence to use the Woulfe's bottle as soon as I turn on the gas, and I find some 50 per cent. of the patients give a slight moan after a few seconds' inhalation though as yet on inquiry after recovery I have not found one patient cognisant of it.

I am, Sirs, yours faithfully,
TOM BIRD,
Feb. 2nd, 1905. Consulting Anæsthetist, Guy's Hospital.

THE SERUM THERAPEUTICS OF CASES OF SNAKE-BITE.

To the Editors of THE LANCET.

SIRS,—Captain G. Lamb, I.M.S., in his interesting paper in THE LANCET of Nov. 5th, 1904, p. 1273, on the above subject refers once more to the experiments (published in my lecture in your columns on Feb. 6th, 1904, p. 349) in which I obtained complete recoveries of animals from eight and more lethal doses of the venoms of the cobra, king cobra, enhydrina, and bungarus cœruleus respectively previously mixed with relatively large doses of Calmette's antivenin and he repeats his criticisms of these results on the ground that as Calmette's serum is made from a mixture of venoms it is by no means suitable for the settlement of the specificity of the venoms. As, however, I have recently been informed by M. Calmette that the antivenin he supplied me for the experiments referred to was made purely by the use of cobra venom Captain Lamb's criticism falls to the ground, while he has himself pointed out that those who have failed to neutralise any of these venoms have used smaller doses of antivenin in proportion to the strength of the venoms tested than I did, so that their results agree with mine, for with the smaller doses of serum used by me the animals also died.

My excuse for returning to the subject is that my results have a practical as well as a theoretical value, for although by itself the strongest antivenins have to be used in practically impossible doses, even against cobra venom, if a full dose of the poison has been received, although it may save life if only a slightly supra-minimal lethal dose is injected (as in a case reported in the December number of the *Indian Medical Gazette*), yet if most of the venom is destroyed locally by the use of permanganate of potash, as recently re-advocated by Sir Lauder Brunton, Sir Joseph Fayrer, and myself (five successful cases of which treatment will shortly be published in India), then even a comparatively small amount of antivenin may suffice to reduce the amount of any of the colubrine venoms mentioned, which may have already entered the circulation before the local treatment is completed, to below a fatal dose and so save life. The cobra antivenin should therefore be used, if available, in every case which may possibly be due to a colubrine snake but it should be always injected intra[illegible]nously, as both

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[1] THE L

[1] THE [illegible]CET, Nov. 8th, 1902, p. 1257.

C J Martin and myself have shown that it acts many times as efficiently by this mode of use than when injected subcutaneously —I am, Sirs, yours faithfully,

Calcutta, Jan 18th 1905 LEONARD ROGERS, I M S

MULTIPLE GESTATION

To the Editors of THE LANCET

SIRS,—In your notice of Dr Pinard s work on the phenomenon of multiple gestation you cite many remarkable cases of extreme fertility amongst women, and draw attention to the probability of this being an inherited character In support of this view the case of three sisters[1] in America who had between them 111 children deserves notice The eldest, Dr Mary Austin, who was well known for her work during the War of Independence, gave birth to triplets six times and to twins 13 times, making 44 in all The second sister had 41 children and the third 26 A point of interest in this case is that it is hardly in accord with the supposition that extreme fecundity may be due to the influence of the father, otherwise the long arm of coincidence would have to be unduly stretched Those of your readers who are interested in this question will find an able discussion of this and similar phenomena in the monograph by Dr M von Lenhossek, "Das Problem der geschlechts bestimmenden Ursachen

I am, Sirs, yours faithfully,

Windsor, Feb. 2nd 1905 M DAVENPORT HILL

INDIAN UNIVERSITY DEGREES AND THE ROYAL COLLEGE OF SURGEONS OF ENGLAND

To the Editors of THE LANCET

SIRS,—In relation to the degree of the University of Bombay I think it may be interesting to some to know that the F R C S and M R C S and L R C S are recognised in the Dental Act as degrees "*Licentiate*" in the Spanish universities is a very old degree and in our old universities Oxford and Cambridge "Licentiate" was a grade higher than M B I am, Sirs, yours faithfully,

J G PARSONS, F R C S Eng

Cotham Bristol, Feb 4th 1905

*** In Table G to be found in the Medical Register under the heading "Qualifications Now or Formerly Obtainable," "Licentiate in Medicine' is mentioned as a supplementary qualification to be obtained from the Universities of Oxford, Cambridge, and Durham As we were unacquainted with this "degree' we communicated with the Registrar of the University of Oxford who informs us that he had never heard of the degree "Licentiate in Medicine In mediæval times the "Bachelor of Medicine" was conferred at the same time as the "Inceptio ad lecturam' and the "M D" with the "Inceptio ad licentiam" This latter, we presume, is what Mr Parsons is referring to in his letter In 1854 we learn from 'The British Medical Directory" that the University of Cambridge conferred a licence *ad practicandum in Medicina* which was granted to candidates being previously Bachelors of Physic who could produce certificates of having attended hospital practice for three years and of having attended lectures in medicine, surgery midwifery, and the collateral subjects Nothing is said however, in the same directory about a similar degree at the University of Oxford —ED L

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[1] Cited by L. A Geissler in his work Zur Kenntniss der Geschlechtsverhältnisse bei Mehrlingsgeburten published in the Allgemeines Statisches Archiv, 1896 Band iv S 537 and 544

DEATHS OF EMINENT FOREIGN MEDICAL MEN —The deaths of the following eminent foreign medical men are announced —Dr Guye, professor of otology in the University of Amsterdam —Dr [illegible]l Klein, professor of surgery in the University of Mosc[illegible]

THE HIGH DEATH-RATE OF THE COLOURED PEOPLE IN THE UNITED STATES OF AMERICA

(FROM OUR SPECIAL SANITARY COMMISSIONER)

IN America the difficulty of housing the poor is complicated with the negro problem The latter is a most formidable problem which by some is thought to threaten the very existence of the country The negroes multiply so rapidly that at least in some parts of the United States they threaten to overwhelm the white population But to deal with this matter needs special and close study and journeys further south than could be attempted in the limited time at my disposal It was at Washington and at St Louis that I came in nearest touch with the negro question and then mainly as an integral part of the housing problem The population of the District of Columbia, including the capital of Washington, is set down at 295,198 and out of this total 90,353 are negroes Now the average annual death rate for the years from 1894 to 1903 was 20 91 per 1000 Few, however look at the death rate in this light nor are the official figures given in this simple manner The average total certainly is set forth but it is always accompanied with other tables giving the death rate for the white and the coloured races separately Thus for the ten years in question the average annual death rate for the white races only amounted to 17 01 per 1000 On the other hand, the death rate for the coloured people was no less than 29 44 per 1000 A similar difference between the white and the coloured population is recorded in many places As already mentioned, the death rate of the coloured population at St Louis was 30 86 per 1000, while that of the white population was only 16 83 per 1000[1] The startling discrepancy between these figures has led to a widespread impression *that it was a question of race* But a closer examination indicates that the causes are poverty and bad sanitation rather than colour Indeed, there are some reasons why the negroes should live longer than the white men They are in any case less addicted to drink and they are less violent and not so likely to die from some accident Thus for instance, taking the deaths in the District of Columbia for the year 1903, it will be found that 19 deaths of the white and only four deaths of the coloured population are registered as due to alcoholism, giving a death rate per 1000 of 0 092 whites and 0 044 coloured or a ratio of 1 to 0 48 Again in regard to cirrhosis of the liver the death rate among the white population was 0 166 and among the coloured 0 089 per 1000, or a ratio of 1 to 0 53 For accidents the death rate is 0 679 among the whites and 0 597 among the coloured and for suicides the difference is 0 249 to 0 089, or a ratio of 1 to 0 36 to the advantage of the coloured people These figures show that the latter are more sober and less violent than the white men On the other hand the death rate from hereditary syphilis was only 0 015 per 1000 among the white and amounted to 0 100 among the coloured people Yet this may be due not so much to greater immorality but rather to ignorance and poverty which prevented the parents obtaining proper treatment in the early stages of the disease It is in respect to the more general causes of death that the coloured people especially suffer Thus the death rate per 1000 in 1903 was for diarrhœa and enteritis of children under two years, 0 556 among the whites and 1 859 among the coloured, for pneumonia at all ages 0 917 and 2 690 respectively, and for tuberculosis of the lungs 1 733 and 4 660 respectively The report of the health officer of the District of Columbia dealing with the figures for the year 1902 summarises the situation as follows —

> The excessive mortality of the coloured race begins with earliest infancy the ratio between the death rates for white and for coloured from premature births is as 1 to 2 26 The corresponding ratio from congenital debility is as 1 to 2 51 from malnutrition and marasmus as 1 to 2 24 and from rickets as 1 to 4 9 Child bearing is fraught too with peculiar dangers to coloured women The ratio between the death rates for white and for coloured from puerperal eclampsia is as

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[1] See 'Sanitation at St Louis in THE LANCET of Dec. 17th, 1904, p 1753

1 to 3·13, from puerperal peritonitis as 1 to 1·46, and from puerperal septicæmia as 1 to 4·20. Disorders of the bowels among white children under two years of age caused a death-rate which compared with the corresponding death-rate among coloured children as 1 to 3·40. The relative incidence of fatal cases of convulsions of children on the white and coloured races is as 1 to 4·64. The relative incidence of hereditary syphilis is as 1 to 3·14.

These statistics undoubtedly indicate a great difference but similar contrasts could be found in other towns where there is no racial difference among the inhabitants. I discussed the matter with Dr. J. W. Cabaniss, who is himself a coloured general practitioner, and he maintained that in those tenement houses in the South of Washington which are overcrowded with poor people belonging to the white races the death-rate is as high as that of the coloured population. In Washington from 60 to 70 per cent. of the coloured people are unskilled and underpaid labourers, whereas among the white people not more than 12 per cent. are poor and badly paid. One of the causes of the high death-rate of the coloured population is that they are not allowed to join the white men's trade unions. Therefore coloured men have little or no opportunity of becoming skilled workers. Then, whether skilled or not, being excluded from the trade organisations they often do work equal to the white man's work but for less pay. The strong prejudice felt against coloured people is utilised as an excuse for paying less even when the best work is done. The government itself has a share in this injustice, for when a coloured man works for the authorities he is not as well paid as the white man though he performs the same task. Thus those coloured people who by their ability and industry are capable of raising the standard of living cannot do so to the same extent as the white men because they are not allowed to receive equal pay even when the work they do is equally good.

The coloured man, therefore, and whatever may be the nature of the work on which he is engaged, earns much less than the white man and yet his family will number nine or ten children while the white man will only have three or four. In such circumstances poverty, overcrowding, and a high death-rate are but the natural consequences. Inquiring what the poorer coloured folks ate I was told that at Washington they often had a little bacon for breakfast which they were able to buy for from 6*d.* to 9*d.* a pound or fish at 7*d.* a pound. Then many poor people waited to a late hour to buy remnants from the butchers just as the latter were about to close their shops. These pieces of meat had often been on ice for several days and were liable to produce ptomaine poisoning. Such cases were frequent among that section of the population. In a tenement of three rooms it was quite a common thing to find a family of eight children and perhaps a boarder as well. Dr. Cabaniss had on the night previous to my visit attended a woman in her confinement. There were four of her children living with her at the time in the one room that she possessed. The children were sick the next morning. It also often happens that the patients cannot afford to purchase the drugs prescribed for them. In that case they may appeal to some charitable institution but even if the help is granted considerable time is lost in securing such assistance and the patient suffers in consequence. Others depend when they are ill on sick allowances from benefit or aid societies to which they subscribe; but here, again, some time must elapse before the money is obtained and they are in such extreme poverty that they do not buy the medicine till they have received the sick benefits to which they are entitled. Then there is the pride of the poor which often impedes the efforts of those who desire to help. It appears that among the coloured poor there is a most remarkable amount of pride of this description and therefore much distress remains unknown and unrelieved. These are all causes that contribute to the high death-rate. At Washington the average wage paid to the unskilled coloured worker is 4*s.* a day. Some get a little more or a little less but a dollar is the average. Considering the cost of living this, for America, is a low wage and, of course, is irregular, for often no work at all is to be had.

At Washington perhaps 30 per cent. of the coloured people belong to the better class. Those who have succeeded in raising themselves from the condition of mere labourers seem to do as well as the white man, whether it be as skilled workers, as teachers, or as men of science. In Washington there are a greater number of fully qualified medical practitioners of African descent than there are medical men descended from the European races. Once the negro has acquired superior education he engages in every branch of human activity just as if he were a white man. In regard to medical practice, the coloured practitioner has naturally more practice among the coloured people and this, of course, is the poorest practice. Yet it is not so disadvantageous as it may appear at first sight. The fact is that the poor, while they can only afford to pay very small fees, nevertheless do earnestly endeavour to pay those fees. On the other hand, though the better class of patients pay more when they do pay, it often happens that they do not pay at all. What renders practice among the poorer coloured people especially hard is the fact that they cannot so readily obtain help from the public charities. Cases of cancer are not willingly admitted to the hospitals and cases of pulmonary tuberculosis are absolutely refused. This is a very serious matter indeed for the coloured people, because in their poverty and their overcrowded tenements they have no means of nursing such cases and the close contact with them is more likely to spread the disease. On the other hand, the upper class of the coloured people appreciate sanitary measures, good drainage, and cleanliness quite as keenly as the white population. At least, assurances to that effect were given to me, though I was not long enough in the country to verify these assertions. But even if it were not so there would be nothing surprising or discouraging in such shortcomings. What is surprising is the fact that it is possible already to speak of an upper class among the coloured people. 25 years ago no such class existed. The negro, but recently a slave, was in almost every case an unskilled worker. Now some of them have succeeded in entering even the universities and in competing with the white races as members of the liberal professions. If there is, nevertheless, a much higher death-rate among the coloured population this, I must repeat, is due to economic causes and not to racial inferiority. Not only is this assertion made by coloured medical practitioners but it is admitted by the local authorities themselves. The report of the health officer of the District of Columbia, after giving the comparative vital statistics quoted above, remarks that the suggestion has often been made that the high death-rate of this district is due to the presence of a large coloured population. The report states, however, that—

> The Health Department finds no sufficient basis for the belief that the presence of a large number of people in the District of Columbia who are of African descent is of itself a sufficient cause for a high death-rate. The coloured population of this district represents to a large extent those engaged in severe manual labour, often under conditions involving undue exertion and great exposure to inclement weather. It represents, too, that portion of the community most ignorant of the laws of hygiene and least able by reason of poverty and ignorance to live in accordance with such laws. This is true not only of the present generation but of its ancestors. It is believed that the high death-rate among our coloured people, while possibly due in part to the comparatively recent transplantation of the race to this country, is due largely to defects of constitution produced by long-continued insanitary living and by attacks on such susceptible constitutions by insanitary living at the present time. There is a certain portion of every community subject to the operations of these same causes. The poor and ignorant labouring class in the District of Columbia happens to be more or less distinctly marked out along race lines and its death-rate is therefore separately determined.
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> The poor and ignorant labouring class elsewhere is usually not of a peculiar race and the mortality in it is not definitely known. Until comparisons have been made between these similar classes of different communities, determined by other than race lines, it seems hardly proper to charge our Afro-Americans as such with the responsibility for an undue mortality. It is unwise, too, to conclude that the death-rate of the District of Columbia is relatively high solely because of the presence of a large number of coloured people in the community. On the other hand, the best interests of the community demand that the most active measures possible be adopted to remove such conditions as are responsible for any undue mortality existing among our poor people as a class, whether white or coloured; such conditions, for instance, as improper housing, lack of facilities for personal cleanliness, and general ignorance of sanitary laws.

The above statement, while confirming the evidence which I was able to obtain from the coloured people themselves, seems so impartial and judicious that I have quoted it at length. The presence of the coloured races really serves to illustrate the great difference of vitality between the extreme poor and the generality of the population. As further illustrating this difference I could not but notice the similarity between the spot maps of Washington published in the same report and many spot maps of the cholera epidemics in various European towns during the years 1892 to 1894. In both cases the incidence of disease corresponded to a large extent with the economic condition of the inhabitants. *The negro problem is therefore the* problem of the unskilled worker—of the submerged tenth, as we should say *in* England. In the south, however, in the old slave States, the position, I am told, is quite different. There it is not, I understand, a question of insufficient wages but of the absolute determination of the negro to live outside the wages system altogether. He seeks to cultivate a little plot of land for himself, to live entirely on his land, and will not work for anyone else, however high the wages may be. Certainly if the negro can live on the soil, if he can afford to keep large towns, factories, mills, and workshops at a distance, and is not attracted to them by the hope of pleasure, dissipation, and gain he may develop an agricultural race of people whose physique will excel that of the town-living white man.

MEDICAL NOTES FROM THE FAR EAST.

(FROM A SPECIAL CORRESPONDENT.)

(Concluded from p. 258.)

THE scenery around Matsuyama is as picturesque as could be wished and the great Daimyo's castle for which it is noted standing out from the trees on the top of the topmost hill, with a magnificent view over 100 miles of land and sea, has been taken over for the housing of the captive Russian officers. At the time of my visit—namely, in August, 1904—there were about 2000 prisoners in Matsuyama, and of these there were then 270 in hospital, almost all suffering from wounds; altogether 670 wounded had been admitted. It speaks well for the Japanese medical men that only seven of these have died (all from the effects of gunshot wounds) and that there has been no death from sickness. Surgeon-General Kikuzi, who was formerly an assistant to Professor Bruns of Tübingen, is in charge of the whole hospital and himself performs all the operations. Two Russian medical men assist in the work of the hospital, one of them, who holds the rank of colonel, taking charge of the medical wards. The Japanese Government has built the hospital and equipped it on generous lines, the complete medical and nursing staff for the 270 patients under treatment consisting of 11 Japanese medical men and the two Russians already mentioned, with 10 male and 66 female nurses, apart from the clerical and menial establishment. The hospital is at some distance from, and out of sight of, the main prisoners' quarters, being situated in rich open country at the end of a village on the outskirts of Matsuyama. The compound is inclosed by a simple wire fence of four strands guarded at the entrance and no doubt elsewhere by a sentry in khaki, but there cannot be much danger of escape. No Russian could be mistaken for a Japanese and in this land of secret information and detectives no European could pass more than a few days without the circumstances becoming known to the authorities. No person of any nationality could well leave the island of Shikoku or, outside of Shikoku, leave Japan without supplying particulars of name, age, parentage, profession, home residence, business, and object of journey to several police officers in turn. At Matsuyama the captured Russians are in safe keeping without obvious imprisonment.

Surgeon-General Kikuzi—"Médecin Inspecteur," as he has h[illegible] his visiting card—is one o[illegible] pan who, with three in [illegible] eral officers under Baron Koike, the Director-General in Tokio. The others who, with Surgeon-General Kikuzi, make up the three in Japan are Surgeon-General Hashimoto at the Red Cross Hospital in Tokio and Surgeon-General Sato in Hiroshima.

The hospital is built, like others, of unstained imbricated wooden boards, has thatched roofs, and is designed on the pavilion principle, the pavilions being connected by a covered central corridor. At one end of it sites are staked out and foundations are being laid for four or six new pavilions, for, as my host remarked with a quiet smile, "we are expecting more guests before long." The infectious ward was away by itself beyond the site of the proposed new pavilions but it was empty. No case of sickness had died, there had been no case of epidemic disease, and there was at the time no case of medical interest in the wards. The latrine system was on the same unreasonable principle as at Sasebo and Hiroshima and need not be again condemned in detail. On the other hand, the Japanese military medical service has an excellent regulation by which the rank and file are given two lectures every month in companies by the medical officers on the principles of health, first aid, and the application of the first field dressing. A corresponding regulation might well be introduced into our army and in order to insure the intelligent execution of sanitary measures it should be laid down as essential that every officer in the army, whether combatant or non-combatant, should have a good knowledge of the same subjects on broader lines. To this regulation the Japanese soldier is now showing absolute submission with the very best results. Similarly in Japanese civil life there is a regulation by which every child in the schools is assigned to the care of a particular medical man whose duty it is to examine and to report on the child's health and physique every year and to give instruction on health matters once a month. In Japan both the Government and the public are making a serious, and in their belief a successful, effort to improve the national physique. In some of the Japanese prefectures (corresponding in size to our counties) there is already a well-organised prefectoral health department. At Nagasaki, for instance, this department consists of 16 medical officers of health who are paid from £70 to £200 a year by the prefectoral government without fixity of tenure and are sent to various districts as may be required.

A good instance of scientific observation in medical subjects being visibly turned to account is the Japanese record of frost-bite during the war with China in the winter of 1893–94. The temperature in Manchuria goes down to −20° F.—i.e., over 50° of frost—and frost-bite during the winter months became seriously common among the Japanese troops. Surgeon-General Kikuzi, however, at that time principal medical officer of one of the armies, observed that frost-bite seldom occurred even at the lowest temperatures so long as the men kept their boots on and remained dry. In driving snow with uncovered hands and ears, or if these extremities were covered only with absorbent woollen materials which became soaked with moisture, frost-bite was of more frequent occurrence and in exposure after crossing a river, as in the battle of the Yalu fought against the Chinese, it was most common of all. The prophylaxis against frost-bite is evidently therefore to [illegible] as dry as possible and [illegible] in the campaign dur[illegible] affords an example of [illegible] must be consulted by any general who understands the importance of health to the efficiency of troops.

At Matsuyama there was a collection of bullets and splinters, the third that I had seen, and one that would well repay examination. The Sasebo collection was essentially one of [illegible] collection was one of Russiar [illegible] was one of specimens of the s[illegible] le the jagged irregular distortion produced by ricochet off rock or stone could be distinguished from the slighter degrees of distortion due to concomitant fracture of a hard bone, and in general an impression was formed that the more slender the bullet the more common is distortion in bulk but the less common is fragmentation. The most remarkable specimen was the complete base of a shrapnel shell, with its cells for the shrapnel intact, measuring six centimetres in diameter and 1·3 centimetres in thickness and weighing 235 grammes, which was extracted, so far as can be remembered, from a pelvic wound with the result that the patient completely recovered. This collection is kept in a glass case in the operation hut together with many interesting pathological specimens preserved in alcohol, chiefly fragments of bone and excised aneurysms of various sorts; the preservation in alcohol has caused a good deal of shrinking and bleaching which might have been avoided by the use of formalin and glycerine. The operation hut consists of three rooms—namely, a well-lighted theatre about 18 feet square, with glass windows along three sides; an instrument room containing instruments, dressings, museum, and sterilisers; and an empty preparation room. Everything was simple, efficient, and cleanly. The only article especially calling for remark was the aseptic dressing invented by Surgeon-General Kikuzi[1] which consists of the charcoal made by burning rice-straw, inclosed in linen bags of three convenient sizes. Straw charcoal is preferred because of its fine division. Rice-straw is used because of the prevalence of rice throughout Japan and China but any straw is equally useful, whether fresh or old, clean or dirty. The straw is simply collected into any convenient iron vessel or in large quantities on the earth, or brick, or stone floor of a room, after which it is set on fire and left to burn itself out in a limited supply of air by covering the vessel in the one case or closing the doors and windows in the other. Bags of ordinary linen, freed from fat and sterilised, are filled with the charcoal under aseptic precautions and the aseptic dressing is complete. Its advantages are that as straw is obtainable almost everywhere it is only necessary to carry the linen bags, that it possesses some bactericidal properties, and that as compared with gauze it is both more absorbent and very much cheaper, costing only one-sixteenth of the price of even the inexpensive gauze made in Japan. In the Mino-Owari earthquake of 1891, when the supply of surgical dressings was cut off for some days by the destruction of the railway, 1600 injured persons were treated with dressings made of rice-straw charcoal at a total cost of 3*s.* 6*d.*

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[1] Bruns's Beiträge zur Klinischen Chirurgie, Band xxiii.

Among the 670 Russian wounded 22 have been operated on for aneurysm, five of these being arterio-venous lesions and the remainder false or spurious aneurysms of arteries. Six false aneurysms were of the femoral artery. Brief notes of some of the cases were made. In one of them the bullet, as was subsequently found, in passing from side to side through *both thighs must have grazed the front of the right* femoral artery in Scarpa's triangle without injuring the vein. All that was seen at the time of admission was a large pulsating swelling filling the triangle and distending the skin of the limb. On the operating table a very extensive extravasation of blood was found. The femoral artery being controlled in the groin the site of injury of its walls was roughly determined and the vessel was doubly ligatured above and below. The vein was similarly ligatured above and below and the whole tumour with three inches of the artery and vein was removed. The aneurysm had extended right across in front of the femoral vein which, however, was uninjured. The patient had recovered without any untoward sign. There were several interesting cases of injuries of the head, arranged to some extent in series. In one a bullet had entered through the mastoid bone immediately behind the right external auditory meatus, and passing right across the head had made its exit at an almost corresponding position perhaps an inch further back, without causing any symptoms beyond those of local shock. There was not even any headache left and healing had been complete. Another man had been hit half an inch below the inferior edge of the right orbit. The bullet must have passed directly backwards through the malar bone and antrum of Highmore, through the spheno-maxillary fossa and sphenoid bone into the temporo-sphenoidal lobe, and out through the petrous and mastoid portions of the temporal bone. The aperture of exit was just behind the base of the mastoid on the same side. The patient had lost all hearing in the right ear but otherwise he had made a complete recovery. In a third case the wound of entrance was an inch above the left external auditory meatus and that of exit was two inches in front of the right parietal eminence. The injury was incurred on May 1st, 1904, and resulted in a right-sided hemiplegia but this gradually cleared up and finally completely disappeared. In the South African war these side-to-side lesions through the Rolandic area were looked upon as almost invariably fatal. In the present case it was probable that the left motor cortex had alone been injured and that its function had been re-established by the opening up of collateral connexions and by the training of deeper cells to take on cortical functions. There were two or three cases of "fore-and-aft" wounds, one of which must certainly have passed directly through the corona radiata of one side, causing hemiplegia at the time, but recovery was at my visit almost complete. A similar case may be recalled of an officer of the 19th Hussars, seconded to Thorneycroft's Mounted Infantry and hit at Colenso on his first day with his new regiment in a precisely similar way. He was at first completely paralysed on both sides. Six weeks later he was carried on board a hospital ship still almost powerless on one side and finally he was able to walk ashore at the London Docks. Two cases of gunshot wound of the spinal cord were seen. One of these patients was in the low state associated with helpless paralysis on the downward grade. In the other case the bullet had entered beneath the eighth rib in the right flank and had passed apparently through the liver, the vertebral column, and at least the spinal membranes to reach the surface through the muscles of the back on the left side of the eighth or ninth dorsal vertebra. This injury was received on May 1st, 1904, and resulted in total paralysis but after three months the man was able to walk down the ward and back again at marching pace with hardly any dragging of the foot and certainly with no limp. The most probable explanation of this and many similar recoveries is that there had been compression of the cord by a hæmatorrhachis or collection of blood within or outside the spinal membranes and that absorption of this blood allowed the cord to recover its functions.

There were two interesting cases in which a bullet had passed through the brachial plexus, the wound being above the clavicle in one and below it in the other. In the former the man must have had his head almost resting on his shoulder, for the same bullet first passed through the trachea from side to side and thence into the shoulder through the posterior triangle of the neck near its base and out behind. The wounds in the trachea were perfectly healed; the arm appeared to be completely paralysed but the pectoral muscles were not wasted and their function seemed to be retained; the sympathetic was of course uninjured. In the second case the wound of entrance was close outside the coracoid process, while that of exit was below the angle of the scapula of the same side. The musculo-spiral and *ulnar nerves were completely severed but no other nerves* were injured. The general health of this patient has hitherto prevented operation but suture will certainly be attempted as soon as possible. The first-mentioned patient is, I think, to be let alone. To the many instances of wonderful escape may be added one in which the wound of entrance is marked by a small scar in the median line of the neck two inches immediately below the pomum Adami, while the wound of exit is equally small and equally well healed, one inch to the left of the seventh prominent cervical spine. Recovery has been complete.

In one of the wards there was a series of fractures of the femur set in gypsum. As already observed at Sasebo and Hiroshima, they were all well and securely fixed but there was no valid reason why they should not have had the superior advantages of treatment by extension.

Last of all the cases that these letters will have the privilege of reporting in connexion with this war is one that must be unique. When a bullet strikes a bone one of two things may happen, as was proved over and over again in the South African war. Striking compact tissue it may break it, or striking cancellous tissue it may perforate it, breaking it also or not breaking it, according to a variety of other circumstances. Many instances occurred of bullets drilling a clean path through the cancellous epiphyses of the tibia and femur. But here for the first time on record was an indisputable case of drilling of compact diaphysial bone. The bullet had entered behind, and below, the calf of the leg and had issued from the subcutaneous surface of the tibia exactly nine centimetres (three and a half inches) above the tip of the internal malleolus. The skin wound had healed and the depression in the bone could still be felt, with an unruffled surface of bone in a ring all around it. A skiagram in a plane at right angles to the axis of this track would be a very remarkable record. There is, it is said, a specimen in a Paris museum showing a femur cleanly drilled by the new French bullet but it is believed that this lesion was inflicted in a post-mortem experiment.

It was to me an impressive experience after having visited so many Japanese hospitals and inspected the wounds of so many Japanese soldiers and sailors to come to Matsuyama and find myself in a hospital ward before a row of white men, on an average six inches taller than their opponents, saluting and obeying the Japanese surgeon-general. This feeling was even increased on a visit to the officers' pavilion where there were servants, books, cards, and cigarettes, and the patients were gentlemen all, with whom it would have been a pleasure to stay and to talk more than the few available minutes. One of the officers, a Baikal Cossack, spoke English fluently. It seemed to be a curious inversion of conventional notions when Russian officers were led into captivity in Japan.

In conclusion, an apology must be made for the incompleteness of the foregoing notes. Incomplete they must necessarily be, for once only in each case has there been an opportunity of visiting any particular hospital, and that only through the medium of many officials, to whom a great debt of thanks is due. It may be hoped, however, that enough has been said to stimulate public interest in the *official* reports of Lieutenant-Colonel W. G. Macpherson, R.A.M.C., British attaché with the Japanese forces now in Manchuria, and in the report of the Japanese naval and military medical services which is expected to appear after the conclusion of the war

BIRMINGHAM

(FROM OUR OWN CORRESPONDENT)

University Intelligence

Dr R Saundby, professor of medicine in the University, has promised to give a course of lectures upon Medical Ethics to medical students and practitioners during the summer sessions —Dr Edward Malins professor of midwifery, has been appointed examiner in midwifery and diseases of women in the Victoria University, Manchester —Dr A Stanley Barnes, Dr J T Hewetson, and Dr Thomas Wilson have been re-appointed honorary curators of the pathological museum of the University

"Humanised' Milk

The report of the deputation from the health committee of the city council which recently visited Liverpool for the purpose of making inquiries into the method there adopted of supplying ' humanised ' milk was considered at the last meeting of the above committee In view of the good results as shown in the marked diminution of the infantile mortality rate claimed for it by the Liverpool authorities it was decided to introduce a similar system into Birmingham and a subcommittee was appointed to confer with the dairy men in the district in order to ascertain whether they would undertake to supply such milk or whether they had any suggestion to make in reference to the provision of such milk by the city authorities The *Daily Post* dealt with the matter in a leading article in which it deprecated any further experimentation in the direction of municipal trading and was of opinion that the supply of the milk might very well be left to private enterprise Considerable correspondence followed in the public press The opponents of the scheme observed that "humanised' milk was milk devoid of antiscorbutic qualities and that its introduction would tend still further to diminish the amount of breast feeding among the masses The rejoinders were that it is unsatisfactory to leave the "humanisation" of the milk to the mothers who are often ignorant and careless, that it is well nigh impossible to obtain pure milk and to keep it pure that the less trouble and expense associated with breast feeding will prevent any further decrease in its practice, and that the introduction of such a supply as that now meditated has been largely responsible for the decided fall in the infantile mortality rate at Liverpool

The Hospitals

Mr Wilfrid Allport who for the last five years has acted as honorary assistant ophthalmic surgeon to the Queen s Hospital has been elected honorary ophthalmic surgeon to the same institution in the place of Mr J Priestley Smith who has resigned —The new buildings of the Birmingham and Midland Hospital for Women are rapidly nearing completion The new convalescent home in connexion with it was opened on Feb 4th before a large and distinguished company by the Right Honourable the Countess Beauchamp The home, which is situated a short distance from the main buildings at Sparkhill is a picturesque house of two storeys with accommodation for 12 patients At its opening Mr J S Nettlefold chairman of the committee of management made a strong appeal for a further £10 000 in order that the main building might be opened free from debt It is estimated that the entire cost of the hospital will amount to £40 000 of which sum more than £30 000 have already been promised The hospital will afford accommodation for 1000 patients per annum

The Birmingham Corporation and the Wye

The act [illegible] ig to reduce by [illegible] ater which, by [illegible] was discussed by the Severn Board of Conservators at its last meeting The suggestion of the chairman was adopted that a deputation should be appointed to wait upon the Board of Agriculture and Fisheries and to object to the proposed reduction on the ground that any further abstraction of water would be injurious to the fisheries of both the Wye and the Severn

The Health of the City

The report of the medical officer of health for the final quarter of 1904 has just been published The birth rate was slightly lower than it was in 1903, the death rate was the same in the two years The zymotic death rate was low but the mortality from respiratory diseases was high Although the cases of diphtheria reported were less numerous than usual the death rate was high, this was attributed to parents not sending for medical help early enough and to insufficient use of antitoxin, only 33 per cent of the patients apparently were treated with antitoxin supplied by the municipality It was pointed out that the cases of typhoid fever were few despite the fact that the summer was long warm and dry, this was taken as indicating that some of the conditions favourable to its development have been removed Deaths from diarrhœa were relatively few and each was made the subject of an inquiry by one of the health visitors The death rate for the week ending Jan 21st was 19 per 1000 as compared with 19 8 for the preceding week, for the week ending Jan 28th it was still further lowered to 16 5 The zymotic death rate remained steadily about 1 per 1000 There has been a slight increase in the number of cases of scarlet fever and diphtheria notified The number of patients in the typhoid fever wards has been reduced to nine

Severe Outbreak of Measles in Wednesbury

The epidemic of measles which has recently visited Wednesbury has proved to be of a virulent type, of the 94 deaths from all causes during the last six weeks no less than 41 were attributable to this disease

Feb 7th

LIVERPOOL

(FROM OUR OWN CORRESPONDENT)

Annual Report for 1904 of the West Derby, Liverpool, and Toxteth Park Joint Hospital for Phthisis at Heswall

THE annual report consists of three reports by the medical officers of the three unions to the Heswall joint committee and also the report of Mr H P Cleaver, the clerk Each medical officer was only allowed to report on his own cases In the medical management of the hospital each medical officer sends in his own cases without reference to his colleagues All cases must have had tubercle bacilli found before admission The medical officers are on duty in rotation a month at a time, during that time the medical officer on duty is responsible for all patients examines and discharges them prescribes the treatment, and takes notes He places in the hospital record his opinion of the case on discharge A medical officer who is not on duty may visit the hospital to examine his own cases The clerk s report shows the cases in detail with the hospital discharge and the initials of the medical officer discharging, also the results of sputum examination (all done at the Thompson Yates laboratory) any news of after results which has reached the hospital and the report of a special non medical visitor who was sent round in December last to follow up the cases Dr Nathan Raw s report on the cases admitted from West Derby states that 34 patients were under treatment during the year In ten cases the disease was arrested 12 were improved two were not improved, whilst ten remained in the sanatorium There was no death in the sanatorium during the year Some of the patients have continued at their work since leaving the sanatorium and report themselves to him at intervals while others have left the neighbourhood and he has lost sight of them The sanatorium continues to do the good work for which it was provided There has been during 1904 a decided improvement in the character of the admissions most of them being amenable to treatment and it cannot be impressed too strongly that the treatment to give the best results must be commenced in the early stages of the disease The sanatorium performs a humane and economic work amongst the poor It rescues some from certain death it relieves the suffering and prolongs the working life of others whilst it isolates them all from their ordinary home surroundings thus preventing the spread of infection to healthy members of the family It also acts as [illegible] aching the patients the nature [illegible] methods of resisting its attack. [illegible] union Dr David Smart reports useful, whether fresh or old, clean or dirty. The straw is simply collected into any convenient iron vessel or in large quantities on the earth, or brick, or stone floor of a room, after which it is set on fire and left to burn itself out in a limited supply of air by covering the vessel in the one case or closing the doors and windows in the other. Bags of ordinary linen, freed from fat and sterilised, are filled with the charcoal under aseptic precautions and the aseptic dressing is complete. Its advantages are that as straw is obtainable almost everywhere it is only necessary to carry the linen bags, that it possesses some bactericidal properties, and that as compared with gauze it is both more absorbent and very much cheaper, costing only one-sixteenth of the price of even the inexpensive gauze made in Japan. In the Mino-Owari earthquake of 1891, when the supply of surgical dressings was cut off for some days by the destruction of the railway, 1600 injured persons were treated with dressings made of rice-straw charcoal at a total cost of 3*s.* 6*d.*

Among the 670 Russian wounded 22 have been operated on for aneurysm, five of these being arterio-venous lesions and the remainder false or spurious aneurysms of arteries. Six false aneurysms were of the femoral artery. Brief notes of some of the cases were made. In one of them the bullet, as was subsequently found, in passing from side to side through both thighs must have grazed the front of the right femoral artery in Scarpa's triangle without injuring the vein. All that was seen at the time of admission was a large pulsating swelling filling the triangle and distending the skin of the limb. On the operating table a very extensive extravasation of blood was found. The femoral artery being controlled in the groin the site of injury of its walls was roughly determined and the vessel was doubly ligatured above and below. The vein was similarly ligatured above and below and the whole tumour with three inches of the artery and vein was removed. The aneurysm had extended right across in front of the femoral vein which, however, was uninjured. The patient had recovered without any untoward sign. There were several interesting cases of injuries of the head, arranged to some extent in series. In one a bullet had entered through the mastoid bone immediately behind the right external auditory meatus, and passing right across the head had made its exit at an almost corresponding position perhaps an inch further back, without causing any symptoms beyond those of local shock. There was not even any headache left and healing had been complete. Another man had been hit half an inch below the inferior edge of the right orbit. The bullet must have passed directly backwards through the malar bone and antrum of Highmore, through the spheno-maxillary fossa and sphenoid bone into the temporo-sphenoidal lobe, and out through the petrous and mastoid portions of the temporal bone. The aperture of exit was just behind the base of the mastoid on the same side. The patient had lost all hearing in the right ear but otherwise he had made a complete recovery. In a third case the wound of entrance was an inch above the left external auditory meatus and that of exit was two inches in front of the right parietal eminence. The injury was incurred on May 1st, 1904, and resulted in a right-sided hemiplegia but this gradually cleared up and finally completely disappeared. In the South African war these side-to-side lesions through the Rolandic area were looked upon as almost invariably fatal. In the present case it was probable that the left motor cortex had alone been injured and that its function had been re-established by the opening up of collateral connexions and by the training of deeper cells to take on cortical functions. There were two or three cases of "fore-and-aft" wounds, one of which must certainly have passed directly through the corona radiata of one side, causing hemiplegia at the time, but recovery was at my visit almost complete. A similar case may be recalled of an officer of the 19th Hussars, seconded to Thorneycroft's Mounted Infantry and hit at Colenso on his first day with his new regiment in a precisely similar way. He was at first completely paralysed on both sides. Six weeks later he was carried on board a hospital ship still almost powerless on one side and finally he was able to walk ashore at the London Docks. Two cases of gunshot wound of the spinal cord were seen. One of these patients was in the low state associated with helpless paralysis on the downward grade. In the other case the bullet had entered beneath the eighth rib in the right flank and had passed apparently through the liver, the vertebral column, and at least the spinal membranes to reach the surface through the muscles of the back on the left side of the eighth or ninth dorsal vertebra. This injury was received on May 1st, 1904, and resulted in total paralysis but after three months the man was able to walk down the ward and back again at marching pace with hardly any dragging of the foot and certainly with no limp. The most probable explanation of this and many similar recoveries is that there had been compression of the cord by a hæmatorrhachis or collection of blood within or outside the spinal membranes and that absorption of this blood allowed the cord to recover its functions.

There were two interesting cases in which a bullet had passed through the brachial plexus, the wound being above the clavicle in one and below it in the other. In the former the man must have had his head almost resting on his shoulder, for the same bullet first passed through the trachea from side to side and thence into the shoulder through the posterior triangle of the neck near its base and out behind. The wounds in the trachea were perfectly healed; the arm appeared to be completely paralysed but the pectoral muscles were not wasted and their function seemed to be retained; the sympathetic was of course uninjured. In the second case the wound of entrance was close outside the coracoid process, while that of exit was below the angle of the scapula of the same side. The musculo-spiral and ulnar nerves were completely severed but no other nerves were injured. The general health of this patient has hitherto prevented operation but suture will certainly be attempted as soon as possible. The first-mentioned patient is, I think, to be let alone. To the many instances of wonderful escape may be added one in which the wound of entrance is marked by a small scar in the median line of the neck two inches immediately below the pomum Adami, while the wound of exit is equally small and equally well healed, one inch to the left of the seventh prominent cervical spine. Recovery has been complete.

In one of the wards there was a series of fractures of the femur set in gypsum. As already observed at Sasebo and Hiroshima, they were all well and securely fixed but there was no valid reason why they should not have had the superior advantages of treatment by extension.

Last of all the cases that these letters will have the privilege of reporting in connexion with this war is one that must be unique. When a bullet strikes a bone one of two things may happen, as was proved over and over again in the South African war. Striking compact tissue it may break it, or striking cancellous tissue it may perforate it, breaking it also or not breaking it, according to a variety of other circumstances. Many instances occurred of bullets drilling a clean path through the cancellous epiphyses of the tibia and femur. But here for the first time on record was an indisputable case of drilling of compact diaphysial bone. The bullet had entered behind, and below, the calf of the leg and had issued from the subcutaneous surface of the tibia exactly nine centimetres (three and a half inches) above the tip of the internal malleolus. The skin wound had healed and the depression in the bone could still be felt, with an unruffled surface of bone in a ring all around it. A skiagram in a plane at right angles to the axis of this track would be a very remarkable record. There is, it is said, a specimen in a Paris museum showing a femur cleanly drilled by the new French bullet but it is believed that this lesion was inflicted in a post-mortem experiment.

It was to me an impressive experience after having visited so many Japanese hospitals and inspected the wounds of so many Japanese soldiers and sailors to come to Matsuyama and find myself in a hospital ward before a row of white men, on an average six inches taller than their opponents, saluting and obeying the Japanese surgeon-general. This feeling was even increased on a visit to the officers' pavilion where there were servants, books, cards, and cigarettes, and the patients were gentlemen all, with whom it would have been a pleasure to stay and to talk more than the few available minutes. One of the officers, a Baikal Cossack, spoke English fluently. It seemed to be a curious inversion of conventional notions when Russian officers were led into captivity in Japan.

In conclusion, an apology must be made for the incompleteness of the foregoing notes. Incomplete they must necessarily be, for once only in each case has there been an opportunity of visiting any particular hospital, and that only through the medium of many officials, to whom a great debt of thanks is due. It may be hoped, however, that enough has been said to stimulate public interest in the official reports of Lieutenant-Colonel W. G. Macpherson, R.A.M.C.,

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

University College, Bristol.

THE sixth annual dinner of the University College Colston Society was held in the large hall of the college on Jan. 31st. Dr. Butler, the master of Trinity College, Cambridge, who was one of the guests, referred to the question of the compulsory teaching of Greek. He said that there was perhaps no man living more bound to the Greek language and literature than he was. Yet he had found by experience and by comparing notes with others that however magnificent the results of the study of the Greek literature, language, poetry, and philosophy might be in the case of those who loved Greek and for whom it might be presumed to be well fitted, there was, nevertheless, a very large body of industrious boys for whom it was too heavy a burden if they were also to learn Latin seriously and to take up the many branches that were grouped under the name of "modern subjects."

Aberystwith Infirmary.

The Aberystwith Infirmary and Cardiganshire General Hospital was established as a dispensary in the year 1821 and indoor patients were first taken in for treatment in 1838. At the annual meeting of the subscribers to the institution held on Feb. 4th it was stated that the income of the past year had been sufficient to meet the expenditure but regret was expressed at the scanty support given to the infirmary.

The Unemployed in Bristol.

Early in the year arrangements were made by the Bristol sanitary committee to give employment to men out of work and the city engineer has just reported that up to the end of January applications for work were received from 2502 men, of whom 1748 were notified that work would be found for them, and of this latter number 1236 responded and were given work. An important conference upon the questions of vagrancy and the unemployed was held in Bristol on Feb. 3rd under the presidency of the Right Hon. Lewis Fry. A very thoughtful contribution to the subject was made by Mr. J. J. Simpson, the clerk to the Bristol board of guardians. He stated that the official census of those sleeping in the casual wards of the 645 unions throughout England and Wales showed that for some years prior to 1900 the number was stationary at rather under 5000 but year by year since then there has been a steady increase until last year there were 7634 on a given date. Of these, 87½ per cent. were men, 10 per cent. were women, and 2½ per cent. were children. With a view to ascertain the proportion of actual vagrants returns were obtained of the total number of tramps sleeping in the Gloucestershire and Somersetshire workhouses on the night of Jan. 28th, 1905. These amounted to 448, of whom 274, or 61 per cent., were considered by the union officials to be workmen in search of employment. Mr. Simpson is of opinion that these *bonâ-fide* workmen should still be given food and shelter by the boards of guardians but that the cost should be defrayed by the State, thus insuring uniform treatment. The tramp who will not work, he suggests, should be sent to, and detained in, a labour colony. After some discussion the conference passed a resolution expressing the opinion that destitute working men compelled to seek employment should not be associated with vagrants but should receive maintenance and aid in their search for work and that the vagrants and unemployable should be detained in labour colonies provided or subsidised by the State and open to the inspection of officers of the State appointed for the purpose.

Death from an Electric Shock.

To the more familiarly known risks attending the working of collieries must now be added those attached to electrical installations working at a high voltage, for electricity is now rapidly superseding othe [illegible] of coal mines. A man in [illegible] engine in one of the collieric [illegible] Company was recently four [illegible] his back quite dead. On c [illegible] hand there was a burn of about the size of a florin and on the right side of his forehead there was another burn an inch broad at its broadest part and tapering off to about three inches long. No other marks of injuries were found and it is surmised that he met his death owing to a leakage from the plant which was on the alternating system and worked up to a voltage of 600.

Death of Mr. Charles Pegge.

The death occurred at his residence, Baglan House, Briton Ferry, on Feb. 4th, of Mr. Charles Pegge, M.R.C.S. Eng., L.S.A., at the age of 73 years. Up to a few years ago Mr. Pegge was the proprietor of the Vernon House Lunatic Asylum in Briton Ferry, which was at one time the only institution of its kind in Glamorganshire. He was closely identified with the local industries and was for many years medical officer of health of the district, a position now held by his son, Mr. E. Vernon Pegge.

Devon and Cornwall Ear and Throat Hospital, Plymouth.

The eighteenth annual meeting of the subscribers to this institution was held on Feb. 3rd under the presidency of the mayor. The medical report stated that 885 patients were treated during 1904, as compared with 652 in 1903. The financial statement showed that at the end of 1903 there was an adverse balance of £13, which in 1904 was converted to a favourable balance of £22.

Feb. 6th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Death of Dr Thomas McKay Youngson.

HIS many student and other friends will hear with regret of the death of Thomas McKay Youngson, M.B., C.M. Aberd., which occurred at Longport, Staffordshire, on the morning of Jan. 29th. A son of the late Mr. James Youngson of Aberdeen, Dr. Youngson studied medicine at Marischal College and graduated in 1893. In the course of his college career Dr Youngson gained several prizes. He was a young man of frank and genial disposition and was very popular with his fellow students. After graduating he commenced practice at Longport where he was successful and gained much popularity. Dr. Youngson held the office of medical officer of health of Wolstanton. He had recently been in somewhat feeble health and his death at the early age of 33 years will be mourned by many friends. Dr. Youngson married an English lady by whom he is survived.

Aberdeen Royal Infirmary.

The annual report of this infirmary shows that the number of patients received during the past year was 840 in the medical wards and 1859 in the surgical wards, making altogether 2699. The total number of cases treated was 917 medical and 1989 surgical, making a total of 2906 cases. Of these there were discharged—recovered, 1235; improved, 949; unfit or at desire, 286; died, 217; making a total of 2687; and remaining in the hospital on Dec. 31st, 219. The average daily number of occupied beds was 217—the highest being 244 on March 18th and the lowest 189 on July 24th. The average number of days in hospital of each patient was 27·3. The operations performed on in-patients numbered 1546. The death-rate was about 7·5 per cent. of the cases treated. The deaths which took place within 48 hours after admission numbered 51, having mostly occurred in cases of severe injury or of a hopeless nature. Deducting these from the total number of deaths the rate is reduced to about 5·7 per cent. Compared with the preceding year the cases treated showed an increase of 166. The average number of beds occupied remains the same but the average period in hospital of each patient is reduced by 1 5 days. The number of operations has increased by 291. There were 12,715 out-patients who received advice and treatment, being an increase of 1827 over the numbers for last year. The rapid increase in out-patients is forcing upon the board the question of extended accommodation in this department. The very large number who accept the services of the hospital in both in- and out-patient departments bears testimony to the confidence reposed in the infirmary by the public. The following is an abstract of income and expenditure for the year: ordinary income, £11,254 15*s*. 3*d*.; ordinary expenditure, £11,937 3*s*. 6*d*.; deficit on ordinary account, £682 8*s*. 3*d*.; extraordinary income (legacies, &c.) available for current expenses, £365 11*s*.; deficit for 1904, £316 17*s*. 3*d*.

Feb. 6th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Royal Victoria Hospital, Belfast.

THE old Royal Hospital has been let for a tourists' hotel, with the result that an income of about £400 per annum will be secured for the funds of the new institution. The receipts for the year 1904 have exceeded the expenditure by about £700 and, the prospective income being good, notice has been given that at the next meeting of the board of management a motion will be proposed to open another "unit"—that is, a male and a female ward each with 16 beds, making 32 in all. It is calculated that £1000 will maintain a unit.

Health of Belfast.

A very large and influential deputation appeared before the city corporation on Feb. 1st to protest against the sewage from the new infectious diseases hospital being conveyed into the ordinary sewers. The chairman of the public health committee, in reply, said that the sewage from this place would pass through disinfecting tanks and would be thoroughly disinfected before being pumped into the general sewer and that the excreta from the small-pox hospital would be burned in the incinerator. Further, he said that those who objected to this plan of conveyance of the drainage could suggest no alternative scheme, to which the deputation reply that it is none of their business but the duty of the city authorities who built the hospital and who could call in expert advice. He also said that the sewers from the union infectious diseases hospital opened into the public sewers of the city, the reply to which is that this is the remains of an old system which no public health authority would tolerate now and offers no excuse in the case of a new up-to-date infectious diseases hospital; besides, if there is any weight in such an argument, why disinfect at all the sewage from the new infectious diseases hospital? But, as explained at the meeting of the city corporation, when this question was discussed on Feb. 1st, by Alderman Harper (a leading solicitor in Belfast), it is doubtful whether the Belfast corporation can legally bring one particle of sewage from Purdysburn in County Down, outside the city area, through the city sewers and tip it at the entrance to Belfast Lough. He pointed out that the privilege of bringing sewage and emptying it into Belfast Lough was given to the council by Act of Parliament on the clear understanding that it was to be submitted to bacterial treatment and, in the face of recent investigation on that subject, no one could deny that this had not been done. If the council had not up to the present taken precautions to treat bacterially all the sewage already being discharged into Belfast Lough (as it was bound to do by Act of Parliament), why should it add to this the dejecta from patients in an infectious diseases hospital outside its area in another county? The question is one surrounded with difficulties and after a long discussion it was decided to call a meeting of the corporation to deal with the whole subject. At a further influential meeting of citizens held on Feb. 6th it was pointed out that before making new sewers or sewerage works three months' notice should have been given in the daily press and it is alleged that no such notice has been given in the case of the sewers from the infectious diseases hospital. Typhoid fever is gradually decreasing, scarlet fever of a mild type still prevails, and the number of cases of small-pox remains about the same.

Feb. 7th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Unqualified Medical Practice in Germany.

THE Government Medical Department has undertaken an investigation into the conditions of unqualified medical practice which is not illegal in Germany provided that certain limitations are observed. The requisite details were collected by the local medical officers of health and the newspapers have published some remarkable evidence with reference especially to the training of the practitioners in question. It appears that more than 75 per cent. of them have received only such general education as is given at a common school, while their professional training is so imperfect that only a few have any knowledge of medicine, these being for the most part men who had formerly been either pharmaceutical chemists or else medical students who had failed to pass the examinations. In the same category may also be placed persons who had formerly been nurses, attendants, or servants either in hospitals or in the employment of medical men. The report states that in some country places there are families which for generations have treated accidents, fractures of bones, and sprains, and in these families such medical knowledge as they possess is transmitted from the older members to the younger ones. This is especially the case in the families of shepherds who have an extensive practice in certain districts. Some of the unqualified practitioners declared that they had learned the theory of the subject by reading scientific books or by attending scientific or popular lectures. It must further be mentioned that there are colleges founded and supported by certain societies where students may obtain some medical training and even a diploma but the latter is of course not recognised by the authorities. It is said in the report that a good many of these practitioners had made previous trial of several other professions before devoting themselves to medical work as a last resource. Moreover, in addition to the quack practitioners there are in country places a good many persons belonging to the educated classes, such as clergymen and their wives, teachers, property owners, and others, who distribute medicine to the disadvantage both of the medical profession and of the patients.

Death of Professor Abbe.

Professor Abbe, who died in Jena a fortnight ago, though not a medical man, nevertheless contributed in a remarkable degree to the progress of medical science, for the high stage of development which microscopy has now reached is largely due to the scientific spirit and the technical skill which were combined in him. Professor Abbe began his career as a *privat-docent* at the University of Jena. At that time Herr Zeiss had in the town a fairly good business as a maker of microscopes and other optical instruments, and Professor Abbe was engaged by him for the purpose of making the optical and mathematical computations which are so necessary in that description of work. While thus engaged he devised the forms of achromatic condenser and object-glass which bear his name, improvements which gave a great impetus to bacteriology and enabled important advances to be made in many other directions. He subsequently became a partner in the firm which through him had acquired a worldwide renown and in 1888 he was left sole proprietor, whereupon the spirit of philanthropy and self-abnegation which was so marked a feature of his character induced him to forego his rights of ownership and to devote the proceeds of the business to promoting the welfare of the community. The Zeiss Optical Works were accordingly changed into a sort of public institution managed by a committee and the profits were utilised (1) for the benefit of the 2000 workmen employed in the factory who became in some degree partners in the business; (2) for the advancement of science; and (3) for the benefit of the general population of Jena. The workmen shared in the profits, their daily hours of work were shorter than at any other factory, and their official and compulsory assurance was supplemented by additional assurance against want of employment and other difficulties. A library, a reading room, and other institutions for the use of the inhabitants of Jena were also provided and the teaching of science was aided by the establishment of lavishly furnished laboratories in the University. It is decidedly unusual for the owner of a very lucrative business voluntarily to surrender the profits derived from it. Professor Abbe, however, preferred to occupy the position of an employé of his own factory, drawing a small salary which was no more than sufficient for a modest livelihood.

Etiology of Scarlet Fever.

Dr. Siegel of Berlin, writing in the *Medicinische Klinik*, states that he has discovered in the blood of patients suffering from scarlet fever small gelatinous discs containing a nucleus but not possessing the faculty of spontaneous locomotion. On staining the preparation with eosin blue the nucleus becomes visible in different stages of division, varying from simple bisection to disintegration into motile spores. In rabbits which have received injections of blood taken from scarlet fever patients the above discs appear in the liver, the kidney, and the spleen. They belong to the protozoa and in some respects, though not in all, they are very like the corpuscles of vaccine lymph.

Feb. 6th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

The Egyptian Government Medical School.

THE annual dinner of the members of the staff has just taken place and was attended by the 15 teachers, all of whom are now Englishmen with the exception of three Germans and one Egyptian. The guest of the evening was Dr. W. St. C. Symmers who is this week resigning the chair of pathology here for that at Queen's College, Belfast. His colleagues seized the occasion to present him with a large silver bowl and H.H. the Khedive has graciously expressed his intention of conferring a decoration upon him. Among the guests were Mr. Reginald Harrison and Professor Arloing, the well-known veterinary expert of Lyons, who has been sent here by the French Government to study the various diseases which affect cattle in this country. It is wonderful what progress the medical school has made since it passed into European hands. In 1890 the only European teacher was a Frenchman who knew no Arabic which was the only language understood by the students. Now, only 15 years later, the students are all conversant with English, pursue their studies with the aid [illegible] museums are slowly growing, and laboratories attract workers from Europe. In this school Dr. G. Elliot Smith has discovered an interesting confirmation of the Darwinian theory while working at the brains of the Soudanese and the Egyptians and Dr. Looss has proved to the satisfaction of all that ankylostoma embryos can, and do, enter the human body by means of the skin. But the one dark spot of the School of Medicine is the almost complete absence of European assistants. The Egyptian Government for many years has had the excuse that money was not forthcoming for all reforms but now that means are provided assistants should be furnished at once to those who are engaged on scientific research which adds to the knowledge of the whole civilised world. In most colleges senior students can be trained to act as demonstrators and assistants under their professors but in Egypt this is at present impossible because the Sanitary Department, menaced by plague and other epidemics, needs the services of all available graduates directly they are set free from the hospital.

Cairo, Jan. 30th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Toronto General Hospital.

The annual report of the Toronto General Hospital for 1904 shows that 12,984 persons received medicine and treatment at either the hospital proper or at its emergency branch in the very heart of the city. In that time 3397 patients were admitted into the wards, which with 260 patients in that hospital at the commencement of the year and 154 births, made a total of 3811 receiving attention in the institution in 1904. The number of patients in the hospital in the month of December, 1904, was 576, of whom 272 were discharged, while 22 died, leaving 282 in the hospital on Jan. 1st, 1905. In December 277 accident cases were attended to at the emergency branch.

Infectious Diseases in Toronto.

The medical officer of health of Toronto, Dr. Charles Sheard, has compiled some interesting statistics and comparisons for 1904 and 1903. In December, 1903, there were reported 173 cases of diphtheria, 23 cases of scarlet fever, and 16 cases of typhoid fever; for 1904 the numbers were respectively 227, 50, and 14. The total number of cases reported for the years were as follows: 1903, diphtheria, 1103; scarlet fever, 699; and typhoid fever, 156; for 1904, diphtheria, 1360; scarlet fever, 318; and typhoid fever, 138. The deaths were: for December, 1903, diphtheria, 21; scarlet fever, 3; and typhoid fever, 2; for 1904, 17, 1, and 6. In the returns for 1904 the number of deaths from scarlet fever is shown to be the lowest in six years. The decrease was from 100 in 1903 to 12 in 1904. The total deaths in 1904 from these diseases were as follows: diphtheria, 125; scarlet fever, 12; typhoid fever, 41; and small-pox, 2.

Canadian Medical Association.

The thirty-eighth annual meeting of the Canadian Medical Association is to be held this year from August 22nd to 25th at Halifax, Nova Scotia, under the presidency of Dr. John Stewart of that city. Mr. Francis M. Caird of the Royal Infirmary of Edinburgh has promised to deliver the address in surgery. Dr. Howard Kelly of Baltimore, U.S.A., will deliver the address in gynæcology and Dr. J. W. Stirling of Montreal will deliver an address in ophthalmology. In addition to these there will also be addresses in medicine and pathology. The members of the Medical Society of Nova Scotia will not hold their annual meeting this year but will act as hosts to the members of the Canadian Medical Association. Seeing the start that has already been made it is quite safe to say that this meeting of the association will equal the average of recent years.

Physicians Scarce in Newfoundland.

A correspondent writes to the *Montreal Star* from St John's, Newfoundland, that in the remote regions of the Newfoundland coast there is great want of proper medical attendance for the fisher folk. It is said that for hundreds of miles in some sections physicians have to go by special boat or schooner to attend upon the sick of these settlements. The hardships have been so great and the mortality so severe that the government of the island has taken the matter up and are appointing physicians to the magistrates of the different townships, with an allowance of $500 per annum, hoping in this way to induce physicians to settle in these out-of-the-way sections.

Resignation of a Veteran Medical Teacher.

Senator Michael Sullivan, M.D., has resigned his position as professor of surgery in Queen's University, Kingston, Ontario, after a service of 50 years. When the medical department of Queen's University was founded Dr. Sullivan was one of its first students and he has been connected with it as tutor, lecturer, and professor for half a century. His jubilee will be celebrated in April at the annual college convocation. At that time he will be honoured by being made honorary professor of surgery and the degree of LL.D. will be conferred upon him.

Canadians and General Laurie's Amendment to the Medical Act.

Through delay in mails General Laurie's amendment to the Medical Act, which was before the British House of Commons last session, was not before the last annual meeting of Canada's national medical organisation, the Canadian Medical Association, but the matter has been brought before the representative city and local societies in order that General Lauri [illegible] from the Canadian [illegible]. So far as I kno [illegible] the St. Francis District Medical Association of the eastern townships of the province of Quebec, which at its regular meeting on Jan. 14th passed a motion supporting the proposed amendment to the British Medical Act of 1858 whereby medical men of this country may be competent to enter the navy and the army on the same footing as those educated at the British colleges.

The New Ontario Medical Library.

Dr. Osler came from Baltimore and spent the last week of 1904 with his Toronto friends and was entertained by his medical friends in this city. On the afternoon of Dec. 29th he formally opened the new home of the Ontario Medical Association, towards which residence he had himself contributed many volumes and $1000. The library starts well in its new home, the total cost of the building, some $10,000, having been raised through the efforts of the President, Dr. J. F. W. Ross, and the honorary librarian, Dr. N. A. Powell.

Jan. 23th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Mortality among Physicians.

AN interesting account of the mortality among physicians appears in the *Journal of the American Medical Association.* The statement embraces the record of 2142 physicians who died during the year 1904. The ages of these physicians varied between the limits of 22 and 104 years, the average being about 60 years. The greatest number of deaths occurred at the age of 60 years, the next greatest number at the age of 70, the next at 65, the next at 67, and the next at 75. Above the age of 70 years there were 596 deaths; above the age of 80 years, 241 deaths; and above the age of 90 years, 19 deaths; three had passed the age of 100 years. The greatest age recorded was 104 years. Heart disease heads the causes of death with 205; cerebral hæmorrhage caused 179 deaths. Pneumonia heads the list of clearly defined *diseases with 172 deaths, or 7·5 per cent. of the total* mortality. There were 36 suicides, 14 by poison and 11 by firearms. The rate of mortality was 17·14 per 1000. The average length of practice was 30 years.

A Novel Form of Heresy in Court.

The Supreme Court of Michigan had recently before it what it calls a novel case. The defendant was a teacher of Eddyism and first reader of the First Church of Christ, Scientist, of Detroit. The declaration stated that the defendant was supposed to be a conscientious believer in, and practiser of, the principles of "Christian Science" and mentally and morally qualified and competent to give class instruction in "Christian Science mind healing"; that the plaintiff agreed to pay, and did pay, the defendant $100 for instruction which was given; that by reason of the defendant not being a sincere and faithful believer in, and practiser of, Christian Science the plaintiff received no benefit from the instruction given him; wherefore he sought to recover the money paid and compensation for the time spent in the attempt to learn "to cure disease through the power of Christian Science mind healing." It appeared at the trial that the defendant had had superfluous hair removed from her face by a physician by electrical treatment two or three years prior to the contract with the plaintiff, and as the plaintiff was able to call a medical expert who testified that the superfluous hair was known to pathology by the name of "hypertrichosis" and was a disease, and as Eddyism is opposed to material treatment for disease, the court held that one who had superfluous hair removed was not a true believer in, and adherent and practiser of, the principles of Eddyism. But apart from the consideration that this departure from the true faith, if it be such, occurred two years before the *contract with the plaintiff, thus leaving ample time for the* defendant to mature her belief, the court deemed it sufficient answer to the plaintiff's contention that, if it be conceded that superfluous hair was a disease, it was also regarded by many as a facial blemish; some concealed it as well as they might by the use of face powder and some had it removed. The defendant, because her little son teased her about the appearance of this superfluous hair, caused it to be removed. This was not done as a treatment of disease but as a means of making herself more presentable. The court thought this did not tend to show that the defendant was guilty of fraud in holding herself out as a teacher of Eddyism. The court added that it was understood that both the plaintiff and the defendant proceeded on the theory that Eddyism, as taught by Mrs. Eddy's book, "Science and Health," was true and that it had determined the case on that assumption. The judgment was in favour of the defendant.

A National Quarantine.

The President of the United States in his recent annual message recommends the passage of a law creating a national quarantine. This is one of the most important steps taken in this country towards perfecting a national *system of sanitary administration. The great obstacle to* progress in creating a national system has been the doctrine of State rights so tenaciously held by the forefathers. In modern times the tendency has been to enlarge the powers and jurisdiction of the general Government in regard to all questions relating to inter-State commerce, and the advantages accruing to the States by the assumption of such duties on the part of the national Government have proved so great that there is less opposition than at any other period in the history of the country to the proposition that the quarantines of the several States should be placed wholly under the control of the Washington Government. The present seems to be a most fitting opportunity to effect this reform. The utter worthlessness of the old quarantines, as conducted by the States, has been abundantly shown, while the few quarantines conducted by the authorities of the public health service at Washington have been of the highest efficiency.

Incorporation of the American Medical Association.

A Bill has been introduced into Congress to incorporate the American Medical Association. The object of the Bill is to give more weight and character to the association in all medical matters that come before Congress. The association now represents the entire medical profession of the country and is in a position to exercise great influence on all questions of a national character, as in the promotion of public health reforms, the improvement of the medical department of the army and the navy, and the advancement of the science and art of medicine. But to be effective in its efforts the association must be placed among the institutions which have an incorporation under the general Government.

Reform in the Medical Department of the Army.

So great has become the necessity for reforms in the Medical Department of the Army that the President has sent an urgent message to Congress in favour of a Bill making sweeping changes in this service. Accompanying the message is a memorandum by the Surgeon-General which details at length the needs of the service. The commissioned *personnel* of the Medical Department is nearly 200 short of the required number to perform its work at present and the deficiency has to be made good by the employment of civilian physicians under contract. This is an expensive and unsatisfactory expedient in time of peace, while in time of war it heavily handicaps the efficiency of the department. The Surgeon-General states that in the war with Spain the country was scandalised by a monthly death-rate from disease which rose from 2·15 per 1000 in July to 4 08 per 1000 in August. He adds: "The public sentiment of the civilised world demands a better organisation and higher efficiency for the medical department of armies than at any time heretofore." The President remarks: "If the Medical Department is left as it is no amount of wisdom or efficiency in its administration would prevent a complete breakdown in the event of a serious war."

Jan. 27th.

Medical News.

University of Oxford.—The following degrees have been conferred:—

B.M., *B.Ch.*—Richard Harvey Sankey, Christ Church; John Freeman, University College; John Alexander Vlasto, New College; Eric MacLeod Smith, Queen's College; Edward How White, University College; Arthur Williamson Brodribb, University College; and Archibald Henry Hogarth, Christ Church.

University of Cambridge.—The voting on the proposals of the Studies and Examinations Syndicate respecting the previous examinations will take place in the Senate House on March 3rd and 4th between the hours of 1 and 7 P.M. The syndicate has issued an amended report in which, however, the proposal to allow modern languages to be substituted for Greek is retained.—At the Congregation on Feb. 2nd the following degrees were conferred:—

Doctor of Medicine.—S. H. Nathan, Trinity; A. J. Hall, Caius; and S. W. Curl, Downing.

Master of Surgery.—A. R. Brailey, Downing.

Bachelor of Medicine.—T. C. Lucas, Clare; and C. W. Cunnington, non-collegiate.

Bachelor of Surgery.—L. Dukes, Trinity; R. C. Mott, Trinity; and C. W. Cunnington, non-collegiate.

Trinity College, Dublin.—At examinations held in Hilary term the following candidates were successful:—

Previous Medical Examination.

Anatomy and Institutes of Medicine.—Archibald L. Robinson, George H. Stack, Eleanor E. Finegan, John W. Lane, and Wallace D. Mitchell.

Physics and Chemistry.—John G. W. Ponton, Samuel Swinburne, and Charles O'Brien.

Botany and Zoology.—Henry E. M'Cready, John Murdoch, Charles H. O'Rorke, Richard D. FitzGerald, and Wellesley R. Allen.

Foreign University Intelligence.—*Bern:* Madame Schwenter-Trachsler, M.D., has been recognised as *privat-docent* of Dermatology and Syphilis.—*Bologna:* Dr. Guido Ruata has been recognised as *privat-docent* of Hygiene.—*Bonn:* Dr. Hugo Selter has been recognised as *privat-docent* of Hygiene.—*Breslau:* Dr. G. Baerman has been recognised as *privat-docent* of Dermatology.—*Cracow:* Dr. Stanilas Droba has been recognised as *privat-docent* of Bacteriology.—*Lemberg:* Dr. Heinrich v. Halban has been appointed Extraordinary Professor of Mental and Nervous

Diseases —*Lund* Dr Karl M Furst has been promoted to the Ordinary Professorship of Anatomy with the post of Director of the Anatomical Institute —*Pavia* Dr Riccardo Galeazzi of Turin has been recognised as *privat docent* of Surgery and Operative Medicine —*Pisa* Dr Leone Sestini has been recognised as *privat docent* of Hygiene

ROYAL INSTITUTION —A general monthly meeting of the members of the Royal Institution was held on Feb 6th, the Duke of Northumberland, the President, being in the chair Lieutenant Colonel H E Gaulter, Mr E P Harvey, Mrs Ludwig Mond Dr Tcherniac, and Dr Evelyn C B Wilbraham were elected members

THE HOME OF RECOVERY —A dinner will be given at Prince's Restaurant, Piccadilly, London, W , on Feb 16th for the advancement of this new home It is of course, true that the homes already in existence are legion but those homes which receive and treat patients with wounds or sores not yet healed are not legion, and are indeed too few for the work to be accomplished These cases block the hospital beds and exclude patients in urgent need of admission , they get no particular benefit from confinement in hospital, they are not instructive to students, and they keep out more deserving cases The Home of Recovery is intended to take these slow unhealed cases which are refused at the great majority of our convalescent homes

MEASURES TO PREVENT THE IMPORTATION OF DISEASE INTO RUSSIA —The chief medical inspector, Professor Anrep, according to the *Svet*, has made a journey on the Siberian Railway for the purpose of clearing up the question of how to prevent the conveyance of disease from the Far East into European Russia He went as far as Tchita and came to the conclusion that the sanitary trains in which the sick are conveyed are in most cases splendidly fitted and possess a sufficient supply of disinfectants and other necessary material A danger is possible in the movement of reserves, whether discharged or in process of moving from one place to another This, he thinks, may lead to undesirable consequences and shows the need for special quarantine stations Such a station it was proposed to establish at Tchita , this town, however, was found to be unsuitable and a position between Irkutsk and Tchelyabinsk is now suggested

STREET AMBULANCES FOR LONDON — At the usual fortnightly meeting of the Metropolitan Asylums Board held on Feb 4th a letter was read from the London County Council, with reference to the letters from the Metropolitan Asylums Board of Nov 29th, 1904, and Jan 25th, 1905 in connexion with the proposed conference between a committee of the Council and the ambulance committee of the Asylums Board on the subject of the suggested ambulance service for London The letter stated that the extent of the desirableness of undertaking the supervision and management of an ambulance service for the convenience of street accident cases was still under the consideration of a committee and it was to be hoped that a report would be made to the Council on the subject at an early date The letter further stated that at the present moment the question of undertaking the conveyance of cases other than those arising from accidents and casualties in the streets was not under consideration and that it would therefore appear that any action which the Council might take would have regard to different classes of cases from those of mental, medical and surgical patients with which the Metropolitan Asylums Board intended to deal and that no useful purpose was likely to be served by such a conference as had been proposed

PROFESSORS OF MEDICINE AND PRIVATE PRACTICE —The question of professors of medicine undertaking private practice has caused the authorities of the Pirogoff Society to take action as expressed in D N Schbankoff's address on the influence of private practice on the general development of the medical profession, which was delivered at the ninth session of Russian medical men in memory of N I Pirogoff He observed that "it was desirable in the interests of science of the professors, and of the patients that professors of medicine should be suitably paid and that they should under no circumstances fill up supplementary places, open private infirmaries or yet have private practices for paying patients" Considering this question to be very important, he continued "The management had addressed the following two questions to the professors of the Military Medical Academy and of the universities (*a*) Do you consider it possible, and under what conditions, to change over from the present state of the profession to such an organisation of medical aid as would safeguard the sick without it being necessary for the professors to engage in private practice? and (*b*) Do you consider private practice necessary to the professors for a general acquaintance with diseases, their course and issue in various states of society, and that the suppression of these practices would be harmful to the suffering as also to professional work and the advancement of science?'

MIDLAND MEDICAL UNION —The fourth annual meeting of this society was held at Chesterfield on Jan 26th Dr G Booth, the retiring President, was in the chair and there were also present Dr Albert Green, Mr Richard G Allen, Dr G G Macdonald, Dr W B A Smith, Dr James A Goodfellow, Mr V E Sutcliffe, Mr Flavell Edmunds Mr B J Lee Dr S Worthington, Dr W Duncan, Mr A Chawner, and the general secretary, Mr G S O'Rorke The annual report, on the proposition of Dr Macdonald seconded by Dr Smith, was adopted On the proposition of the President, seconded by Mr Edmunds, Dr Macdonald was elected to the office of President Dr Booth then vacated the chair and Dr Macdonald, the newly elected President, presided over the meeting The officers for the ensuing year were then elected as follows —Vice President Mr R G Allen Honorary treasurer Dr F R Mutch Council representing the Nottingham branch Dr A Fulton, Dr J H Thompson Mr J H Cox (honorary secretary), and Dr J W Noble (honorary secretary), representing the Mansfield branch Dr G T Tate, Dr E H Houfton, and Mr C J Palmer (honorary secretary), representing the Belper branch Mr R G Allen, Dr G G Macdonald, and Dr W B A Smith (honorary secretary), representing the Chesterfield branch Dr J G Shea, Dr G Booth and Dr W Duncan (honorary secretary) Honorary auditors Mr J H Cox and Dr A Fulton General secretary Mr G S O'Rorke On the proposition of Dr Smith, seconded by Dr Booth, Dr G Brittan Gill of Belper was elected a member of the union Dr Smith proposed, and Dr Booth seconded, that a list of the members of the union should be added to the report The proposition was carried and the general secretary was instructed to add the list accordingly It was resolved that the annual dinner should be held on Thursday, March 9th, and that the arrangements for the same should be left in the hands of Dr Booth, Dr Worthington, and Dr Shea as a subcommittee

BOOKS, ETC , RECEIVED

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta street, Covent Garden, W C

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XXVI)

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Die Desinfektion der Hände Von Dr med Eugen Engels, Kreisassistenzarzt und Vorsteher der Bakteriologischen Untersuchungsstelle der Königl Regierung zu Stralsund Abdruck aus dem M 5 50

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LEWIS, H. K., 136, Gower-street, W.C.

An Account of the Reconstruction of the University of London. Compiled by W. H. Allchin, M.D. Lond., F.R.C.P., University Scholar in Medicine, Member of the Senate, and late Examiner in Medicine in the University. Part I. From the Foundation of the University to the Appointment of the First Royal Commission, 1825 to 1888. (Reprinted from the *Medical Magazine*.) Price 2*s.* 6*d.* net.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, E.C.

The Principles of Chemistry. By D. Mendeléeff. Third English edition. Translated from the Russian (seventh edition) by George Kamensky, A.R.S.M., of the Imperial Mint, St. Petersburg, and edited by Thomas H. Pope, B.Sc., F.I.C. In two volumes. Price 32*s.* net.

MASSON ET CIE, 120, Boulevard Saint-Germain, Paris.

La Séparation de l'Urine des Deux Reins. Par Georges Luys, Assistant du Service des Voies Urinaires à l'Hôpital Lariboisière. Préface par Henri Hartmann, Professeur Agrégé à la Faculté, Chirurgien de l'Hôpital Lariboisière. Price not stated.

METHUEN AND CO., 36, Essex-street, W.C.

Sicily, the New Winter Resort: an Encyclopædia of Sicily. By Douglas Sladen. With 234 Illustrations, a Map, and a Table of the Railway System of Sicily. Price 5*s.* net.

REBMAN, LIMITED, 129, Shaftesbury-avenue, W.C.

Clinical Hematology. A Practical Guide to the Examination of the Blood with Reference to Diagnosis. By John C. Da Costa, Jr., M.D., Demonstrator of Clinical Medicine, Jefferson Medical College, Chief of Medical Clinic and Assistant Visiting Physician, Jefferson Medical College Hospital. Second edition, revised and enlarged. Price £1 2*s.* 6*d.* net.

Progressive Medicine (A Quarterly Digest). Edited by Hobart Amory Hare, M.D., assisted by H. R. M. Landis, M.D. Vol. IV., December, 1904. Price, quarterly, 12*s.* 6*d.* net.; per annum, to subscribers, £2 net.

SCIENTIFIC PRESS, LIMITED, 28 and 29, Southampton Street, Strand, W.C.

An Elementary Treatise on the Light Treatment for Nurses. By James H. Sequeira, M.D. Lond., M.R.C.P. Lond., F.R.C.S. Eng., Physician in Charge of the Skin Department and Lecturer on Dermatology at the London Hospital. Price 2*s.* 6*d.* net.

Burdett's Hospitals and Charities, 1905. Being the Year-book of Philanthropy and the Hospital Annual. By Sir Henry Burdett, K.C.B. Price 5*s.* net.

SPRINGER, JULIUS, Monbijouplatz, 3, Berlin.

Untersuchungs- und Behandlungsmethoden der Kehlkopfkrankheiten. Von Dr. Theodor Heryng. Price, bound, M.12.

THACKER, SPINK, AND CO., Government-place, Calcutta. (THACKER, W., AND CO., 2, Creed-lane, London, E.C.)

A Monograph of the Anopheles Mosquitoes of India. By S. P. James, M.B., I.M.S., formerly with the Royal Society's Malaria Commission in India, and W. Glen Liston, M.D., I.M.S., of the Plague Research Laboratory, Parel, Bombay. Price 24*s.* net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BOWMAN, L., M.B., C.M. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Cardenden District of the county of Fife.

BURNETT, ARTHUR H., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon to the Rochdale Infirmary.

BYERS, J. W., M.D. R.U.I., has been reappointed Examiner in the Department of Midwifery in the Royal University of Ireland.

CROSLAND, G. W. [illegible] Honorary Sur[illegible]

PEARSON, J. SIDN[illegible] appointed Casualty Officer and House Surgeon to the Victoria Hospital for Children, Chelsea.

ROWELL, J. GEORGE, M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Surgeon to the Huddersfield Infirmary.

SCOTT, GRAHAM, M.R.C.S., L.R.C.P. Lond., has been appointed Junior Anæsthetist to the Central London Throat and Ear Hospital.

SHANNON, DAVID, M.B., Ch.B., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AYLESBURY, ROYAL BUCKINGHAMSHIRE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, rising to £120, with board and apartments.

BETHNAL GREEN INFIRMARY AND WORKHOUSE.—Assistant Medical Officer. Salary £100 per annum, with apartments, board, and washing.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, *Woodchurch-road*, Birkenhead.—House Surgeon. Honorarium £100, with board, residence, and laundry.

BIRMINGHAM GENERAL HOSPITAL.—Resident Medical Officer. Salary £70 per annum, with residence, board, and washing.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

CANCER HOSPITAL, Fulham-road, London, S.W.—Assistant House Surgeon for six months, renewable. Salary £70 per annum, with board and residence.

CENTRAL MIDWIVES BOARD, 6, Suffolk-street, Pall Mall, S.W.—Registered Medical Woman as Inspector.

CHELTENHAM GENERAL HOSPITAL.—Junior House Surgeon, unmarried. Salary £50 per annum, with board, lodging, and washing. Also Surgeon-in-Charge of the Branch Dispensary, unmarried. Salary £90 per annum, with board, lodging, and washing.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Two House Physicians for six months. Salary at rate of £30 per annum, with board and residence. Also Physician to Out-patients.

COLCHESTER, EASTERN COUNTIES' ASYLUM FOR IDIOTS, IMBECILES, AND THE FEEBLE-MINDED.—Resident Medical Attendant, unmarried. Salary £125 per annum, with apartments, board, and washing.

EGYPTIAN GOVERNMENT (MINISTRY OF PUBLIC INSTRUCTION).—Professor of Pathology and Bacteriology at the School of Medicine, Cairo. Salary £800 per annum.

GUY'S HOSPITAL.—Five Open Scholarships, three (£150, £60, and £50) in Science and two (£100 and £50) in Arts.

HARTLEPOOLS HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and lodging.

HARTSHILL, STOKE-UPON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL.—Assistant House Surgeon for six months. Honorarium of £25, with board, apartments, and washing.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Assistant Resident Medical Officer. Salary £100 per annum, with board and residence.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £20, with board and residence.

KENT AND CANTERBURY HOSPITAL.—House Surgeon, unmarried. Salary £90 a year, with board and lodging.

KING'S COLLEGE (UNIVERSITY OF LONDON).—Professor of Anatomy, Professor of Zoology, and Assistant Physician or Assistant Surgeon for Diseases of the Throat.

LIVERPOOL STANLEY HOSPITAL.—Junior House Surgeon. Salary £70 per annum, with board, residence, &c.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £50 per annum, with board and residence.

MANCHESTER, MONSALL FEVER HOSPITAL.—Fourth Medical Assistant. Salary £100 per annum, with board, lodgings, and washing.

MEDICAL DEPARTMENT OF THE NAVY, 18, Victoria-street, London, S.W.—Three Dental Surgeons. Salary £1 per diem.

METROPOLITAN ASYLUMS BOARD ASYLUM AT TOOTING BEC.—Second Assistant Medical Officer, unmarried. Salary £120 per annum, rising to £200, with rations, lodging, attendance, and washing.

NEW HOSPITAL FOR WOMEN.—Clinical Assistants.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Pathologist and Bacteriologist. Salary £50 per annum, with lunch.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Surgeon. Salary £100, with board, residence, and washing.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Curator and Librarian. Salary £120 a year.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square.—Honorary Physician.

[illegible] nrietta-street, Covent-garden, [illegible] nonths. Salary at rate of £50 [illegible] ing.

SHEFFIELD, EAST-END BRANCH OF THE CHILDREN'S HOSPITAL.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

SOCIETY OF APOTHECARIES OF LONDON.—Gillson Scholarship in Pathology. Value £90.

WESTMINSTER GENERAL DISPENSARY.—Honorary Surgeon.

YORKSHIRE INEBRIATES' REFORMATORY, Cattal, near York.—Medical Superintendent. Salary £250 per annum, with residence, rations, coal, light, and washing.

Births, Marriages, and Deaths.

BIRTHS.

CAMERON YOUNG.—On Feb. 3rd, at Cauldwell Hall-road, Ipswich, the wife of A. Cameron Young, M.R.C.S., of a daughter.

HAYWARD.—On Feb. 2nd, at The Grange, Wimbledon, the wife of John Arthur Hayward, M.D., F.R.C.S., of a son.

LIGHT.—On Feb. 1st, at Wilton-place, Belgrave-square, S.W., the wife of Edwin Mellor Light, M.A., M.D. Cantab., of a son.

PARAMORE.—On Feb. 2nd, at Judd-street, W.C., the wife of Horace Paramore, M.B. Lond., M.R.C.S. Eng., of a daughter.

MARRIAGE.

PARK—GRIFFITH.—On Feb. 1st, at St. Edward's Church, Knighton, by the Rev. J. P. Griffith, uncle of the bride, assisted by the Rev. J. F. Fixsen, vicar of Bucknell, and the Rev. M. Lutener (vicar), William Norris Park, M.B., of Wylcwm House, Knighton, and Ardloch, N.B., to Stella, daughter of Dr. W. H. Griffith, of Whitehall, Knighton, and late of Hinckley.

DEATHS.

HARLOCK.—On Feb. 6th, at Summersdale Lodge, Chichester, of pneumonia, Harry Harlock, M.R.C.S., L.R.C.P., aged 44 years.

WELBURN.—On Feb. 6th, at Wardington Vicarage, Banbury, Charles Matthew Welburn, M.R.C.S., L.R.C.P. Lond., aged 39.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE NECESSITY TO ANSWER A MEDICAL CALL.

ON Jan. 7th an inquest was held at the Pear Tree Inn, Woolston, by Mr. B. Hartfield, the county coroner, on the body of George Golding, who had died on Jan. 6th without medical attendance. Evidence showed that about 3.30 A.M. on Jan. 6th the deceased's daughter-in-law went into his room and, thinking that he was ill, went for Mr O. T. Stephenson. According to her evidence Mr. Stephenson refused to attend unless he was first paid his fee or was given an order from the relieving officer. Mr. A. A. Rogers, who was called to see the deceased after his death, gave evidence that death was due to heart failure accelerated by chronic bronchitis and alcohol. The foreman of the jury asked Mr. P. B. Hayward, a guardian who was present in court, whether the board of guardians could not relax the rule for their medical officers to attend urgent cases without waiting for an order. Mr. Hayward replied that there was nothing to prevent a medical officer attending an urgent order. The jury returned a verdict in accordance with the medical evidence and requested the coroner to bring the case before the South Stoneham board of guardians. The case accordingly came before the guardians on Jan. 17th, when Mr. Hayward is reported to have stated that he could not help thinking that the poor were suffering from the way in which the board treated Mr. Stephenson some time ago in relation to his application for an increase of salary. Previously to that there was no trouble with regard to his attending cases an[illegible] Stephenson declined to go [illegible]n get an order from the [illegible]" Mr. Stephenson, added Mr. Hayward, was no doubt within his legal rights in acting as he did. The matter was finally referred to a meeting of the full board. At this meeting, which was held on Jan. 31st, the matter came up again. Mr. Stephenson, who was present, read a statement in which he denied that any appeals were made to him as parish medical officer and he maintained that the man came as a private patient. He had been out for the four previous nights and was very tired. Mr. Hayward, however, urged that Mr. Stephenson had no excuse as to the four previous nights, as he told deceased's son that if he could get a parish order he would attend at once This was a case of distress and one which the Poor law was intended to meet. If such cases were not to be attended to what was the use of their appointing a medical officer? He proposed:

> That the board inform Dr. Stephenson that they regret he did not under the circumstances attend this case and get the parish order afterwards [illegible]

This motion was put and carried by 16 to 4 and it was resolved that the decision of the board should be conveyed to Mr. Stephenson in writing by the clerk. From the evidence before us the case would seem entirely to turn upon whether Mr. Stephenson considered that the deceased was a private patient or a parish patient. Mr. Stephenson himself said that he never said anything about an order from the relieving officer. Deceased's son, however, said that Mr. Stephenson did say that he would go *if* a relieving officer's order was provided. Mr. Hayward, however, seems to have the not uncommon opinion among guardians of the poor who are not medical men that a parish medical officer is bound to attend anybody who comes, whether an order is supplied or not. The majority of the board, however, were not of this opinion and it cannot be too widely known that a parish medical officer is not at the beck and call of anybody who may choose to send for him. We do not suppose that Mr. [illegible]ybody [illegible] bread [illegible]edical officer is a human being and may be allowed three nights in bed per week. We should advise Mr. Stephenson to bring the whole matter before the Local Government Board as, legally speaking, the deceased being a private patient, the board of guardians had no jurisdiction whatever in the case. It had no right to censure Mr. Stephenson in the way in which it did.

PRESCRIBING AT RANDOM.

THE Potters' Insurance Company, Limited, was established a few years ago by the principal manufacturers in the Staffordshire potteries and elsewhere and one of the main objects of the company was to deal voluntarily with adult male workers in lead processes in a somewhat similar way to that in which women and young persons are dealt with under the Factory and Workshops Acts. For example, arrangements were made for the periodical examination by the certifying factory surgeon of men employed in lead processes, and it may be incidentally stated that the fees paid to the certifying surgeons were on a higher scale than those to which they were entitled for a similar service in connexion with women and young persons, though within the past few months the Home Secretary has increased the latter scale approximately to that of the insurance company. Since March, 1904, this periodical examination of men has been made compulsory and now all workers in lead processes in earthenware and china factories must be examined by a certifying surgeon once a month. Another admirable piece of work was the distribution by the company of large placards to be placed in the workplaces of the workpeople concerned. These placards point out the necessity of paying constant attention to personal cleanliness, especially as regards the hands, finger-nails, and teeth, and urged the importance of making as little dust as possible and of washing out the mouth before each meal. With such a creditable record and with such an evident desire to combat the ill-effects of [illegible] should ha[illegible] letter to [illegible] ware and china factories The letter is addressed from Tunstall, Staffs., is signed by the secretary of the insurance company, and *reads* —

> DEAR SIR,—I send you herewith samples of two kinds of mouth wash which are strongly recommended by one of the certifying surgeons of this district for use by persons engaged in lead processes. Arrangements are being made for the sale of the preparations in your district and I shall be glad if you will kindly urge the use of one of them upon the lead-workers coming under your examination—of course, after satisfying yourself of its efficiency.

Then follows the price of the mouth wash. The labels on the bottles containing the preparations bear the names of druggists in Longton but do not in any way indicate the constituents. It is hardly to be expected that even the "strong recommendation" of an anonymous certifying surgeon will suffice to induce his colleagues to advise the use of a mouth wash of which they do not know the composition. They are quite capable of prescribing a mouth wash when one is necessary. One mouth wash contained, according to our analysis, wintergreen, glycerine, alcohol, boric acid, and salicylic acid. In the other carbolic acid appeared to be the chief constituent in association with a foaming agent.

ASEPTIC FURNITURE.

To the Editors of THE LANCET.

SIRS,—In reply to the letter published on p. 334 of THE LANCET of Feb. 4th we beg leave to state that we made up our pattern of aseptic table from the suggestions and at the special request of some leading surgeons who had seen other patterns of aseptic tables and had found certain defects and imperfections in them. These defects were laid before us and after many experiments and much consideration our present registered table was produced and it differs in important details of construction from any other on the market.

With regard to the new St Mary's Hospital, Manchester, we fitted up not only one of the operation theatres but also a considerable part of the out-patients' department, sterilising room, wards, &c., of the hospital referred to with our improved aseptic table as well as other furniture made of phosphor bronze.

We are, Sirs, yours faithfully,
For Allen and Hanbury, Ltd.,
HENRY LEWIS, Manager

Wigmore street, London, W., Feb 6th, 1905

"SUNSHINE IN GUERNSEY."

IN a letter under the above heading which appeared in our issue of Feb 4th, p. 322, Dr H D Bishop referred to Hastings with 1715 hours of sunshine in 1904 as "the sunniest town in England for that year." A correspondent now writes to us to say that from the municipal meteorological records of Ramsgate it appears that in 1904 that town was blessed with 1726 hours of sunshine.

"WHAT APPENDICITIS IS."

A CORRESPONDENT has forwarded us a cutting from the *Newcastle* [illegible]

> [illegible] operation has been performed whether the case is appendicitis or inflammation of the kidney itself. The little appendage to the [illegible] appendix.
>
> The operation consists in making an incision through a line down to the kidney, relieving matter and pus, if such were found outside the kidney, and finally extending the wound or extending part of the wound to the kidney itself, to ascertain if there be any stone in the kidney which might be found to be the cause of the inflammation. The operation occupies about half an hour.

We seem to remember that the same eminent physician published the same remarkable tissue of misstatements about the time that His Majesty the King was suffering from appendicitis in the year 1902. [illegible] Bourbo[illegible] forget [illegible]

"The Eternal City" suggested nephrectomy as a suitable operation in a case of cancer of the breast but then he is not an eminent physician. It is a pity that responsible organs of public opinion should publish statements upon purely professional matters without previously verifying the truth or falsehood of such.

A DISCLAIMER.

To the Editors of The Lancet.

Sirs,—I herewith inclose a cutting of a notice appearing in yesterday's issue of our local paper without my knowledge and consent. I immediately wrote to the editor of the paper asking him to insert in his next issue my letter in which I entirely deny any knowledge of the matter. I will forward a cutting from next week's issue.

I am, Sirs, yours faithfully,
Arthur H. Turner, L.S.A. Lond., M.O.H., &c.
Beaconsfield, Feb. 4th, 1905.

*** The notice, to which our attention has already been called, is an advertisement expressing the thanks of a patient to Mr. Turner.—Ed. L.

PHOTOGRAPHY AND HEALTH.

Now that the bright days are coming on and the amateur photographer is thinking about furbishing up the fittings of his cameras and their accessories and hunting about the house for stray developing dishes, trays, tweezers, printing frames, toning solutions, and photographic sundries (not to mention his surreptitious survey of the culinary department and the cook's dishes), we think it will not be out of place to sound a note of warning in regard to his ruby lamp and its connexion with his health. Many a young amateur photographer spends hours down a dark and dingy cellar in the spring-time and summer developing dry plates which may turn out to be negatives or negative quantities and all the while he is holding his nose over a smoking oil lamp emitting an offensive smell. An hour or so of this gives him a headache and he staggers up the stairs and perhaps feels queer for the rest of the day. Very often, with his eyes strained and rivetted on the plate which he is rocking in its earthenware bath, he is perfectly oblivious of the smoking lamp and even when he awakes to realise it perhaps the handle of the lamp is inside and he dare not open the lamp and expose his half-developed plate to the yellow light of the naked flame for fear of "fogging" it. The amateur photographer who uses ruby or other lanterns should buy those having handles to regulate the wick which are accessible from the outside of the lantern and should employ only the best oil. Further, he should see that his dark-room or "den" is properly ventilated while still being light-tight. Some use candles but often they gutter and flare and go out at awkward moments. A better way is to use a gas lantern which can be regulated to a nicety but the best of all ruby lights is perhaps an incandescent electric lamp with ruby glass—the glass, however, must be of a ruby of a deep rich red, as it is difficult to regulate the amount of light emitted by an ordinary incandescent electric lamp.

THE HYGIENE OF THE BARBER.

On Sept. 24th last there appeared a leading article in The Lancet with the above title and we are now glad to congratulate Dr. W. Collingridge on the evident spread of hygiene among barbers in the suburbs of London. In the Romford-road we notice that a barber has opened a shop—evidently the proprietor has been converted by Dr. Collingridge—as "The Antisceptic Shaving Saloon."

THE CASE OF DR. A. D. GRIFFITHS.

To the Editors of The Lancet.

Sirs,—May I be allowed to trespass still further on your space to announce the following further contributions to the above fund?—

	£	s.	d.		£	s.	d.
Amount previously acknowledged	30	18	6	Dr. Hastings Torney ...	0	10	6
Deputy-Inspector-General L. H. Kellett	0	10	0	Dr. T. D. Griffiths	2	2	0
Mr. W. C. Humphreys ...	1	1	0	Mr. Evan Jones	0	10	6
				J. D. M.	0	10	6
				Dr. J. Michell Clarke ...	1	1	0

I am, Sirs, yours faithfully,
A. P. Fiddian, Treasurer.
25, The Walk, Cardiff, Feb. 6th, 1905.

"COMMENDADOR PORT WINE."

In an analytical notice of this wine in The Lancet of Dec. 24th, 1904, p. 1791, the figures given for the alcoholic strength were (by an oversight) not corrected for temperature. Corrected for normal temperature (viz., 60° F.) they should read as follows: Alcohol, by weight 18·54 per cent., by volume 22·73 per cent., equal to proof spirit 39·84 per cent.

◆

Dr. T. Carter Booth.—The increase of carbonic acid gas (as an index of impurity) could readily be ascertained by means of Lunge and Zeckendorf's simple apparatus (to be obtained from Messrs Baird and Tatlock, Hatton-garden, London, E.C.) Again, it would appear from a note in The Lancet of Jan. 21st, 1905 p. 195, that small quantities of carbon *monoxide in the air may* easily be *determined* by passing the air through a U-tube containing periodic acid at 80° C. In the presence of carbon monoxide iodine is liberated which may be intercepted by chloroform and the amount estimated by the depth of colour produced.

T. E. L.—We do not suppose that the practitioner mentioned in the cutting which our correspondent inclosed is in any way responsible for the appearance of the paragraph.

Inquirer V.—An analysis of vibrona was published in The Lancet of Feb. 26th, 1898, p. 582. The basis of the preparation was hydrobromate of cinchona.

M.R.C.S.—Our correspondent will find our opinion on the matter set out in a leading article on p. 412 of The Lancet of August 17th, 1895.

E. A. P.—The preparation contains 8 per cent. of citric acid with colouring matter and glycerine.

Yanatas.—The bottle sent contained potassium bromide, chloral, and a pungent principle resembling capsicin.

Erratum.—An eagle-eyed correspondent writing from Canada informs us that on p. 30 of The Lancet of Jan. 7th the name "Herder" should be *Herter.* We are much obliged to our correspondent for his correction which is certainly right.

Communications not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (13th).—London (2 p.m.), St. Bartholomew's (1.30 p.m.), St. Thomas's (3.30 p.m.), St. George's (2 p.m.), St. Mary's (2.30 p.m.), Middlesex (1.30 p.m.), Westminster (2 p.m.), Chelsea (2 p.m.), Samaritan (Gynæcological, by Physicians, 2 p.m.), Soho-square (2 p.m.), Royal Orthopædic (2 p.m.), City Orthopædic (4 p.m.), Gt. Northern Central (2.30 p.m.), West London (2.30 p.m.), London Throat (9.30 a.m.), Royal Free (2 p.m.), Guy's (1.30 p.m.).

TUESDAY (14th).—London (2 p.m.), St. Bartholomew's (1.30 p.m.), St. Thomas's (3.30 p.m.), Guy's (1.30 p.m.), Middlesex (1.30 p.m.), Westminster (2 p.m.), West London (2.30 p.m.), University College (2 p.m.), St. George's (1 p.m.), St. Mary's (1 p.m.), St. Mark's (2.30 p.m.), Cancer (2 p.m.), Metropolitan (2.30 p.m.), London Throat (9.30 a.m.), Royal Ear (3 p.m.), Samaritan (9.30 a.m. and 2.30 p.m.), Throat, Golden-square (9.30 a.m.), Soho-square (2 p.m.), Chelsea (2 p.m.), Central London Throat and Ear (2 p.m.).

WEDNESDAY (15th).—St. Bartholomew's (1.30 p.m.), University College (2 p.m.), Royal Free (2 p.m.), Middlesex (1.30 p.m.), Charing Cross (3 p.m.), St. Thomas's (2 p.m.), London (2 p.m.), King's College (2 p.m.), St. George's (Ophthalmic, 1 p.m.), St. Mary's (2 p.m.), National Orthopædic (10 a.m.), St. Peter's (2 p.m.), Samaritan (9.30 a.m. and 2.30 p.m.), Gt. Ormond-street (9.30 a.m.), Gt. Northern Central (2.30 p.m.), Westminster (2 p.m.), Metropolitan (2.30 p.m.), London Throat (9.30 a.m.), Cancer (2 p.m.), Throat, Golden-square (9 30 a.m.), Guy's (1.30 p.m.).

THURSDAY (16th).—St. Bartholomew's (1.30 p.m.), St. Thomas's (3.30 p.m.), University College (2 p.m.), Charing Cross (3 p.m.), St. George's (1 p.m.), London (2 p.m.), King's College (2 p.m.), Middlesex (1.30 p.m.), St. Mary's (2.30 p.m.), Soho-square (2 p.m.), North-West London (2 p.m.), Gt. Northern Central (Gynæcological, 2.30 p.m.), Metropolitan (2.30 p.m.), London Throat (9.30 a.m.), St. Mark's (2 p.m.), Samaritan (9.30 a.m. and 2.30 p.m.), Throat, Golden-square, (9.30 a.m.). Guy's (1.30 p.m.).

FRIDAY (17th).—London (2 p.m.), St. Bartholomew's (1.30 p.m.), St. Thomas's (3.30 p.m.), Guy's (1.30 p.m.), Middlesex (1.30 p.m.), Charing Cross (3 p.m.), St. George's (1 p.m.), King's College (2 p.m.), St. Mary's (2 p.m.), Ophthalmic (10 a.m.), Cancer (2 p.m.), Chelsea (2 p.m.), Gt. Northern Central (2.30 p.m.), West London (2.30 p.m.), London Throat (9.30 a.m.), Samaritan (9.30 a.m. and 2.30 p.m.), Throat, Golden-square (9. 30 a.m.), City Orthopædic (2.30 p.m.), Soho-square (2 p.m.), Central London Throat and Ear (2 p.m.).

SATURDAY (18th).—Royal Free (9 a.m.), London (2 p.m.), Middlesex (1.30 p.m.). St. Thomas's (2 p.m.), University College (9.15 a.m.), Charing Cross (2 p.m.), St. George's (1 p.m.), St. Mary's (10 p.m.), Throat, Golden-square (9.30 a.m.), Guy's (1.30 p.m.).

At the Royal Eye Hospital (2 p.m.), the Royal London Ophthalmic (10 a.m.), the Royal Westminster Ophthalmic (1.30 p.m.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (13th).—Medical Society of London (11, Chandos-street, Cavendish-square, W.).—8 30 p.m. Clinical Cases.

TUESDAY (14th).—Royal Medical and Chirurgical Society (20, Hanover-square, W.).—8.30 p.m. Papers:—Dr. W. A. Turner: The Influence of Stigmata of Degeneration upon the Prognosis of Epilepsy.—Dr. A. E. Garrod and Dr. Ll. Wynne Davies: *On a* Group of Associated Malformations, including almost Complete Absence of the Muscles of the Abdominal Wall and Anomalies of the Genito-urinary Apparatus.

Medico-Legal Society (Rooms of the Royal Asiatic Society, 22, Albemarle-street, W.).—8 15 p.m. Discussion on Privileged Communications and Professional Secrecy (opened by Dr. A. G. Bateman)

Pharmaceutical Society of Great Britain (17, Bloomsbury-square, W.C.).—8 p.m. Discussion on a Comparison of the Methods in the United States and in England to secure the Purity of Foods and Drugs (opened by Mr. W. S. Glyn-Jones).

WEDNESDAY (15th).—Royal Microscopical Society (20, Hanover-square, W.).—8 p.m. Paper:—Mr. J. E. Stead: Practical Micro-Metallography with Experimental Demonstration.

Royal Meteorological Society (70, Victoria-street, Westminster, S.W.).—7.30 p.m. Papers:—Mr. E. Mawley: Report on the Phenological Observations for 1904.—Dr. H. Elias and Mr. J. H. Field: Observations made during a Balloon Ascent at Berlin, Sept. 1st, 1904.—Mr. J. R. Sutton: The Winds of East London, Cape Colony.

THURSDA [illegible] ILD-
STUDY [illegible]).—
8 P.M. [illegible] ened
by Mr. [illegible] Dr.
F. Wari [illegible]

FRI [illegible] OF LONDON (11, Chandos-
[illegible] Paper:—Prof. E. J.
[illegible] o Disease (illustrated by

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (13th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC [illegible] Whitfield: Clinique.
[illegible] e and Chronic.
[illegible] al, Hammersmith-
[illegible] ons of Middle-ear
[illegible] (Tottenham Hos-
[illegible] Whiting: Electro-
diagnosis.

TUESDAY (14th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. T. H. Green: Clinique. (Medical.) 5.15 P.M. Dr. R. Jones: The Medical Treatment of Insanity.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith- [illegible] of Middle ear
[illegible] EPTIC (Queen-
[illegible] rner: Selected
Cases.

WEDNESDAY (15th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. E. Owen: Clinique. (Surgical.) 5 15 P.M. Dr. G. H. Savage: The After-Effects of an Attack of Mental Disease.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Dunn: Ocular Operations.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration:—Dr. D. Grant: Larynx.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Horton Smith Hartley: Phthisis and its Morbid Anatomy.

[illegible] DUATES' COLLEGE AND POLYCLINIC
[illegible] M. Mr. Hutchinson: Clinique.
[illegible] ke: Ocular Headache: its Causes,
[illegible] London Hospital, Hammersmith-
[illegible] Practical Surgery.

CHARING CROSS HOSPITAL.—4 P.M. Mr. Gibbs: Demonstration of [illegible]
[illegible] AND DISEASES OF THE
[illegible] ture: Dr. G. Johnston:
[illegible] aduate Course.)
[illegible] rylebone-road, N.W.).—
[illegible] rmond-street, W.C.).—
[illegible] eformities of the Long
Bones.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4 30 P.M. Dr. A. J. Whiting: Electro-diagnosis

FRIDAY (17th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. A. Lawson: Clinique. (Eye.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. C. Williams: *High Frequency Currents* (illustrated by lantern slides).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. Ferrier: Cerebral Tumours.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1904, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1904 are now ready. Bound in cloth, gilt lettered, price 18*s.* carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 9th, 1905.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall.	Solar Radia in Vacuo	Maximum Temp Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Feb. 3	30 26	W.	...	71	49	33	38	40	Fine
" 4	30 32	W.	...	64	53	40	45	47	Overcast
" 5	30 41	W.	...	73	55	46	45	48	Fine
" 6	30·40	S.W.	...	58	52	48	46	48	Overcast
" 7	30 33	S.W.	...	54	52	46	47	43	Raining
" 8	30·48	S E.	0·13	57	48	42	43	44	Overcast
" 9	30·39	S	...	64	50	43	45	46	Overcast

During the week marked copies of the following newspapers have been received:—*Surrey Advertiser, Reading Mercury,* [illegible] *Daily Chronicle, Standard,* [illegible] *Press, Plymouth Mercury,* [illegible] *cury, Windsor and Eton* [illegible] *Chronicle, Morning Leader,* [illegible] *St. James's Gazette, Manchester Evening News, Newcastle Daily Chronicle, Newcastle Journal, Bradford Telegraph, Echo, &c.*

Communications, Letters, &c., have been received from—

A.—Dr. Z. Abdalla, Esneh, Egypt; Dr. S. Jervois Aarons, Lond.; Anglo-American Pharmaceutical Co., Croydon; Mr. H. J. E. Acker, Colmar; Messrs. C. Ash and Sons, Lond.; Professor Clifford Allbutt, Cambridge.

B.—Dr. H. D. Bishop, Guernsey; Messrs. Brady and Martin, Newcastle-on-Tyne; British Lysoform Co., Lond., Secretary of; Bovril, Ltd., Lond.; Birkenhead, &c., Children's Hospital, Secretary of; Bristol Royal Infirmary, Secretary of; Mr. Tom Bird, Lond.; Bristol General Hospital, Secretary of; Birmingham University, Secretary of; *British Food Journal*, Lond., Secretary of; Mr. Albert Browne, Leicester; Mr. H. F. Bergmann, Wiesbaden; Dr. T. Carter Booth, Urmston; Dr. H. C. Bastian, Lond.; Messrs. Burroughs Wellcome and Co., Lond.

C.—Dr. R. Craven, Walton-le-Dale; Mr. G. J. Cressy, Tunbridge Wells; Dr. T. W. Clarke, Cleveland, U.S.A.; Cheltenham General Hospital, Secretary of.

D.—Mr. P. J. Davies, Lond.; Mr. G. T. De Fraine, Aylesbury; Mr. E. Donaldson-Sim, Dudley; *Detroit Medical Journal*, Detroit, Michigan, U.S.A., Managing Editor of; D. C. T.; Messrs. S. Deacon and Co., Lond.; Messrs. F. Davidson and Co., Lond.

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J.—Messrs. J. F. Jones and Co., Paris; Jenner Institute for Calf Lymph, Lond.

K.—Mr. C. B. Keetley, Lond.; Mr. M. Kanode, Baroda, India; Messrs. R. A. Knight and Co., Lond.

L.—Mr. H. K. Lewis, Lond.; Liverpool Stanley Hospital, Secretary of; Dr. A. S. Lobingier, Los Angeles; Messrs. Lee and Nightingale, Liverpool; Mr. Vincent Laurens, Manchester; London, Aberdeen, Banff, and Kincardine Association, Hon. Secretary of the; Local Government Board, Edinburgh; Mr. J. D. Leigh, Bishop Auckland; Surgeon G. Ley, R.N., Devonport.

M.—Dr. Noel Maudsley, Ilford; Lieutenant-Colonel Valentine Matthews and the Officers of the Royal Army Medical Corps (vols.), Lond.; Mr. R. D. Mothersole, Bolton; Professor C. K. Mills, Philadelphia; Professor Andrew Macphail, Montreal; Messrs. Michell, Goodman, Young and Co., Lond.; Male Nurses' Association, Lond., Superintendent of; Dr. Ronald Campbell Macfie, Auchterhouse; Mr. E. Merck, Lond.; Professor Stephen Mayou, Lond.; *Motorist and Traveller (The)*, Lond., Editor of.

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Clinical Lecture

ON

A CASE OF GANGRENOUS APPENDICITIS, WITH SUBPHRENIC ABSCESS.

Delivered at Guy's Hospital

BY CHARTERS J. SYMONDS, M.S. LOND., F.R.C.S. ENG.,
SURGEON TO GUY'S HOSPITAL; EXAMINER IN SURGERY AT THE UNIVERSITY OF LONDON.

GENTLEMEN,—No apology is needed for bringing this subject before you to-day in view of the uncertainty prevailing in the minds of many as to the moment for operation and also in view of the increased frequency of the malady. The case forming the subject of this lecture was one of three operated upon on the same day, all being acute cases. My remarks will be limited to the acute forms of appendicitis, cases which die early, cases where operation must be performed within three days and sometimes within 24 hours. It is impossible within the scope of one lecture to deal adequately with this branch of the subject and the remarks will therefore be confined to the points raised by a single case.

The patient, a girl, 16 years of age, on Thursday, Feb. 4th, did not feel very well but being anxious to go to a party made no complaint. During the evening she had abdominal pain and on returning home this was severe. She spent a restless night and there was much pain but she did not call for assistance. On the next day, Friday, the pain continued and she was frequently sick. As the menstrual period began on this day less importance was attached to the symptoms by the girl's mother. On Saturday, the 6th, medical advice was sought. The girl on the morning of this day was found with great pain in the right iliac region. The temperature was 101° F. and the pulse was 104. As the pain was less a sedative was not administered. All day she remained ill and in pain. In the evening the temperature was 104°, the pulse was 120, and I was telephoned to for advice as her medical attendant considered the symptoms severe. In this view I concurred and added that if the temperature kept up and the pain continued for 12 hours an operation ought to be performed at once. Next morning (Sunday) the temperature was 104°, the pulse was 120, and the pain was still severe. At 5 P.M. on this day—the third of the illness—I saw the patient. She showed marked general irritation, in a flushed face, a distressed look, a restless manner, a temperature of 104°, and a pulse of 120. So it may be taken that the temperature had been at this level continuously for over 24 hours. There had been no sickness during the day but she had taken very little food. The right iliac region was extremely tender and here a definite swelling could be felt, but the tenderness was too great for accurate examination. There was no general distension of the abdomen and as there had been no rigor there was less fear of metastatic deposits having already occurred.

The question of operation had to be decided and, moreover, a prognosis given as to the result that would attend such an undertaking. The following points were raised as indicating the wisdom of immediate operation:—The onset of the case had not been sudden—i.e., the girl had not been seized with sudden alarming pain, as we commonly see both in severe cases and in many cases where the attack is short and carries little risk. It will be noticed that the patient felt ill on Thursday but was able to conceal her distress [illegible] Gradually the pain increased [illegible] Probabl [illegible] been fou [illegible]

This form of onset indicates a septic inflam [illegible] wall of the appendix, a process that precedes [illegible] often painless and, so far as my experience goes, [illegible] grave issue. I mean to convey that an onset of this kind, if followed by a continuous temperature and especially if followed in 24 or 48 hours by acute pain, always demands early operation. This is the type also that leads to septic absorption with metastatic abscess in the liver or in the lung, or again to subdiaphragmatic abscess.

As an illustration of the importance of this period antecedent to the attack proper, let me refer to the case of a man, about 40 years of age. On Thursday he felt, as he said, "seedy" and paid a casual visit to a medical friend, not his usual attendant. On the next day he took a pill and was not quite up to his duties. During the night—to be more accurate about 4 A.M. on Saturday—he was seized with severe abdominal pain and when seen an hour later he was in a state of collapse. His medical adviser very properly gave a full hypodermic dose of morphine and went home to prepare for immediate operation. When next seen the patient was so comfortable that interference was postponed. The delay was fatal, for the patient died three days later without developing any [illegible] last few hours. Had the full va[illegible] been app[illegible] success [illegible] attack of [illegible] fore due [illegible] or even perforation, the [illegible] with careful watching would have been justifie[illegible] case—i.e., on one where [illegible] indefinite illness given [illegible] immediate operation.

What does this early stage indicate? If carefully observed it will be found to be one of pyrexi[illegible], the severity depending upon the virulence of the poison. [illegible] complained of headache and her [illegible] was looking "out of sor[illegible]." [illegible] found it to be 103° F. [illegible] child was subject to st[illegible] temperature. Next day t[illegible] and in the evening stood at 102°, and the child had indefinite stomach-ache. A medical man was sent for next morning, and though there was a suspicion of localised tenderness it was not sufficient to justify a complete diagnosis. Next day, however, the diagnosis was clear. When called to this case the temperature had been raised four days, never falling to normal, and not showing the usual excursions of the mild or hectic type. The swelling was localised and the general condition was good. Still, as the pyrexia indicated a progressive septic process in the appendix itself, carrying with it not only the danger of rapid extension of local suppuration but also of septic absorption, operation was advised. A large abscess extending to the pelvis was evacuated, a gangrenous appendix was removed, and though the septic condition retarded recovery a few days it was complete and rapid. This case occurred some six years ago.

I want to impress upon you by the introduction of these [illegible] of the period preceding an acute onset or [illegible] arly observation of the [illegible] ave us nearly two days' [illegible] on on apparently the [illegible] ten quoted this case to justify the household use of the thermometer, for its employment by mothers is more often laughed at than commended. I want you to learn that the stage of malaise is a pyrexial one, that when acute pain follows, as it did in the man, immediate operation is demanded, even when we have the patient's history alone as a guide. The case of the child will show you that a septic process has been in operation and we learn that sudden pain or rapid advance of local signs means perforation or rapid extension, not early distension or kinking. The second point was the continuously elevated temperature. We must note that it was not a question of a morning fall and an evening rise nor of marked excursions, but the temperature early rose to 104° and remained more or less at this level for over 24 hours. When this sign persists on the third or the fourth day it indicates a gangrenous infection of the appendix and, I believe, always demands operation. The great danger in such a condition is that of septic absorption, which exists all the time the tem[illegible] Remember, the great and fundamental [illegible] *to normal and remains there* [illegible] *appendix has ceased, provided* [illegible] *elsewhere.* Also remember, [illegible] *l temperature the abscess may nevertheless be extending in the peritoneum. Even if the pus be very foul, the peritoneum does not absorb the septic poison.* I do not wish to convey to you the notion that temperature is the main sign of danger. When you stand beside these cases you will recognise the symptoms always associated with septic poisoning, symptoms of as great value as the pyrexia itself. It is more difficult to make friends see the importance of the restless state, the loss of appetite, the flushed face, the irritable and rapid pulse. Often the patient is said to be nervous, excited, and the general signs are belittled. Then a high temperature is convincing to friends and is of the greatest service, as a lever, in moving away objections.

These, then, were the three main grounds for advising immediate operation—viz., the prodromal stage followed by a rapid development of symptoms, the continuous high temperature, and the accompanying signs of septic poisoning. One great and serious doubt remained. Had a metastatic deposit already formed, possibly rendering operation useless? There were no physical signs of pneumonia; one of the most common complications but happily a recoverable one; nor was there any general abdominal distension. The question of hepatic infection one could not so easily exclude, for it is well known that in the early stages this infection gives few localising symptoms. As it is always a fatal complication operation on the appendix gives only temporary relief.

These then were the questions be[illegible] tion. To my mind the necessity for [illegible] obvious and no objection was raised. [illegible] be content with opening and draining an abscess in such cases. The appendix must be removed to prevent further septic absorption. The choice of method was of some interest. The case having been seen early—viz., the end of the third day—the amount of pus being probably small, and as, moreover, the swelling was in the most accessible position, I elected to split the muscles as giving the strongest abdominal wall and also in the circumstances a sufficient opening. I have in the wards pointed out to you the obvious objections to dividing the abdominal muscles where pus is present and have advocated in all acute cases where possible the muscle-splitting operation. In cases where the appendix occupies an unusual position, e.g., in the pelvis or the loin, or in relapsing cases where also extensive adhesions are expected, then we must enter through the rectus sheath to obtain unlimited space. As the swelling in this case was close to the iliac spine the muscles were split and foul pus was evacuated at once, the general peritoneum as yet being unopened. Carefully all pus was mopped away with plain gauze boiled with the instruments and with dry cyanide gauze. Then the appendix was separated from the iliac fossa and the route to the pelvis was opened. Down into the pelvis was pushed a long strip of plain gauze which had been boiled just beforehand. Another piece was passed under the anterior abdominal wall and a third into the loin, all three pieces being held in forceps. Then the appendix was drawn out and its mesentery was ligatured and divided. The appendix was ligatured close to the cæcum without any preliminary turning down of a cuff or subsequent burying of the stump. Again the cavity left was carefully cleansed with gauze pads. Then the pelvic strip was withdrawn and was found to be soaked with blood-stained fluid. This could not have arisen during the operation as no fluid was introduced and was no doubt serum derived from the infected peritoneum. In a few hours this would have become foul pus. Several times the pelvis was dry mopped. Then the other two gauze strips were removed and were found to be clean. To exclude accumulations in other localities a pad was passed well into the right loin and another over into the left iliac fossa without [illegible] or pus.

You will notice, plea[illegible] not employed. On another occasion I will bring forward evidence to show that it is unnecessary and I believe also adds additional dangers in all cases, especially in the form now under consideration. A drain made of a large rubber tube surrounded with a thick layer of cyanide gauze was passed down to the bottom of the pelvis and a salmon-gut suture was inserted in either end of the skin incision. Let me delay for one moment over this method of draining. It has the advantage of shutting off the peritoneal cavity and of allowing the escape of serum. Gauze is essential in draining all these intra-abdominal abscesses as it promotes rapid adhesion. An uncovered rubber or glass tube does not do this and even where the peritoneum has apparently not been opened a small crack may have extended through the inflammatory material. Extension may occur through this unnoticed crack when a rubber tube only has been used but the gauze will prevent it. The only other method of using the gauze, and one giving even greater certainty and to be employed when there has not been sufficient time to clean the cavity effectually is to pack in first a broad web of gauze and to fill up the cavity thus formed with strips. I now when using this method place the gauze-covered rubber tube in the centre and then fill with gauze round it. Finally, this gauze should be wrung out of a strong antiseptic—1 in 20 carbolic or a 2 per cent. lysol, &c. The usual gauze dressing was applied, and the patient was put into bed.

We had reason to be well satisfied with our work and especially was it my duty to congratulate my medical friends [illegible] e patient so early to operation and upon [illegible] and thus allowing me to see the worst aspect of the case. Too often is one called late because of the fear that operation increases the danger. Gentlemen, I hope to show you in this or the next lecture that operation should add little or no danger apart from the general risks. In leaving the case I was obliged, however, from a fairly large experience of these cases to say that though no evidence existed at the moment, yet the possibility of a septic deposit already having formed in or about the liver could not be excluded. Had there been no ingravescent [illegible] ontinuous elevation of the temperature, and had [illegible] of acute general poisoning been absent, [illegible] not have left this one cloud behind. On the next day the temperature was 100°, the pulse was 80, and all looked well. Then signs of general irritation returned, the liver was observed to be lower than normal, and on examining the base of the lung signs of pneumonia were noticed. The breathing was not laboured, nor was there any pain or cough. The temperature again rose and when I inquired on the Friday, the fifth day from the operation, it was 103°, the pulse had risen, and the basal signs were more marked. The operation wound was reported to be doing well. As described through the telephone, these signs indicated the existence of a secondary infection in one of three situations—in the lung, in the liver, or in the peritoneum under the diaphragm. The pulmonary infection is nearly always in small areas and often multiple and not basal. Sometimes the clinical examination reveals very little. Though I have had several cases recover with marked pulmonary infection, in none has there been typical basic pneumonia. This is indeed the usual experience. The occurrence of marked jaundice on the second day after the operation was in favour of hepatic abscess. This is not the place to discuss the early signs of this complication. The subject has been well treated in our Reports recently by Dr. J. H. Bryant and some years ago by Dr. R. E. Carrington. As described to me the case sounded more like a subphrenic abscess. The liver was depressed—or was it swollen from perityphlitis? The pulmonary signs indicated lung pressure and œdema from a neighbouring infective centre. Suspecting fluid a needle had been twice inserted, on one occasion removing a few drops of serum.

All this information was obtained by telephone, the patient living in the country. My answer was that a subphrenic abscess probably existed, that it was invading the diaphragm, had already given rise to pulmonary œdema, and that we must interfere at once or it would rupture into the pleura or the lung. I arranged to go early next morning. On arrival at 8.30 on Saturday (Feb. 20th) I was met with the remark, "The girl is very bad: she has been coughing up foul pus since 5 o'clock." The event predicted had occurred. Was the pus thin and pale or was it blood-stained and chocolate in colour? The first would mean a subphrenic abscess and a hopeful outlook; the second a hepatic abscess, in which operation could only relieve and retard the fatal result. I found the patient in the greatest distress, with a flushed face, rapid breathing, and great pain in the side. The breath wa[illegible] and she was constantly expectorating [illegible] clear that a subphrenic abscess had perforated into the lung and opened a good-sized bronchus. The pleura had been sealed off, for lung sounds could be heard down to the base.

There were no time and no necessity for prolonged clinical examination, except to localise the abscess and to ascertain the best position for incision. Chloroform was administered and the subphrenic region was explored from *behind* with an aspirator. Three punctures gave no results. Then percussion in front gave a resonant note, with a characteristic dead vibration as of a cavity with an opening, and here pus was found. By this time the girl's condition was much worse. Some 20 minutes had elapsed since she began the inhalation and gradually her colour was becoming more

The Hunterian Oration.

Delivered before the Royal College of Surgeons of England on Feb. 14th, 1905,

BY JOHN TWEEDY, F.R.C.S. ENG.,

PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MR. VICE-PRESIDENTS AND GENTLEMEN,—Before undertaking the duty to which I have been specially appointed to-day, I desire to express our sense of bereavement in the loss of Mr. Luther Holden who died eight days ago in his ninetieth year. Twenty-four years ago Mr. Holden stood in this place to deliver the Hunterian Oration and those who were present will recall the gentle and genial spirit which pervaded his speech and its learning and eloquence. Within seven months this College has lost three of its past Presidents, John Birkett, John Simon, and Luther Holden, each being in turn Senior Fellow of the College. Great and varied as were the abilities and attainments of these distinguished men, and different as were the manifestations of their intellectual and professional activity, they had at least one great quality in common. Called upon to occupy exalted positions in the surgical profession and elected to the highest office in this College they, each and all, in an age of wealth and luxury, lived simple and unostentatious lives, careful only for the faithful discharge of their various duties. In this way they set a worthy example to their professional brethren and in the nineteenth century maintained the high ideal embodied in the Hippocratic oath—"In purity and in righteousness I will pass my life and practise my Art."

Hunter, the anniversary of whose birth we celebrate to-day, did not leave behind him a systematic collection of medical and surgical writings such as the first four writers I have named, nor did he make any capital discovery, such as Harvey's, respecting the circulation of the blood; but the influence which he exercised upon biology and upon surgery was perhaps more immediate and more penetrating than that of any of his predecessors and it has been more continuous and more progressive.

Harvey's discovery was *sui generis* and well deserves the eloquent characterisation of Haeser as "the most brilliant triumph of experimental physiology." In all essential respects it was definitive and final. "A demonstrated truth," says Aristotle, "is an eternal truth," and such was Harvey's. It changed the conceptions of physiologists and physicians as completely as Kopernik's heliocentric theory changed those of astronomers; and it became the starting point of modern progress i[illegible] surgery. Thanks to the labour[illegible] completed by the discovery [illegible] Malpighi and the discovery of the chyliferous vessels by Aselli and Pecquet, physicians and philosophers were enabled to look upon man and his organism, upon structure and function, upon nutrition and growth, and upon the problems of health and of disease from a new point of view.

Throughout the ages of civilisation the growth of knowledge has been slow and often irregular, but it has been continuous and it has been sure. How slow and yet how sure we may realise by comparing the dialectic notions of Aristotle respecting weight and motion with the direct appeals to the evidences of the senses afforded by the demonstrations of Galilei, whereby it was shown that so far from there being in nature bodies possessing positive levity, all matter is equally affected by gravity, irrespective of its form, magnitude, or texture. By the simple experiment of dropping objects from the Tower of Pisa, Galilei, who began life as a medical student, laid the foundation of modern physical science and especially of dynamics. This expedient was one of the first appeals, at least in modern times, to the use of direct experiment in physical science and the truth thereby established became a determining factor in Newton's great discovery of the law of gravitation. From Aristotle to Galilei an interval of more than 18 centuries had elapsed. Galilei and Harvey were contemporaries. John Hunter was born exactly a century after the publication of Harvey's *Exercitatio de Motu Cordis*. It is one hundred and eleven years since John Hunter died. Yet how modern Hunter is. Inventions and discoveries now crowd upon us so thick and fast that we are apt to forget how recently modern physical science began and especially modern medicine. In the order of time medicine, in its rudest and simplest forms, must have been one of the first of the empirical arts, but in the order of ideas it was one of the last to enter into the hierarchy of the sciences. As a system of organised knowledge medicine pre-supposes and requires not only centuries of clinical observation and a complete logical apparatus, but it also requires an advanced state of all the other natural sciences. It concerns itself with the recondite problems of life in the most complex and the most highly differentiated of its manifestations, whether under the conditions of health or under those of disease. Until physics and chemistry had advanced from the conjectural and the *aprioristic* to the scientific stage medicine could only be conjectural and *aprioristic* too, however useful it may have been as a practical art. The thoughts and labours, the experiments and discoveries of the great pioneers of modern knowledge in the physical sciences were the necessary prelude to a scientific progress in biology which in its turn was a condition precedent to any real advance in the science of medicine, surgery, and pathology. Harvey in the order of time and of thought was the necessary antecedent of Hunter.

The history of John Hunter's birth and parentage is well known. The starting point of John Hunter's career as anatomist, biologist, and surgeon was in the year 1748, when he came to London with a receptive and intelligent mind, a quick and observant eye, and a well-trained hand, to collaborate with his brother William in the anatomical school which had been started two or three years before. It has been alleged that John Hunter had little or no school education and that he was a wayward and careless youth; and it has been argued that his lack of scholastic training hampered him in after life, more particularly with reference to his powers of verbal description and exposition. I suspect, however, that the defects of Hunter's general education have been exaggerated. It is certain they had no detrimental effect upon the vigour of his intellect or upon the correctness of his methods of work. John Hunter probably knew little, perhaps he knew nothing, of formal logic or of the history of ideas or of scientific methods, but with the instinct of true genius he soon found the only path that leads to genuine knowledge and he kept it undeviatingly to the end. Contrasts have often been drawn between John Hunter and his brother William and the differences between the two men have usually been ascribed to a difference in education. This, I believe, is not the correct, and certainly it is not the only, explanation. There was a difference between the two brothers but it was a difference of temperament and disposition, a difference which was only indirectly, if at all, determined by education. Be this as it may, the differences were subdued to a great purpose. The qualities of the two brothers became complementary one of the other. The manipulative skill and the tireless research of John furnished ample materials for the display of William's splendid powers of exposition and so each in his own way contributed to the success and fame of the first and greatest school of anatomy in England.

Considering the important part that human anatomy now plays in medical education it is difficult to conceive that there was no systematic teaching of anatomy in England before the middle of the eighteenth century. During the many centuries which elapsed between, say, the time of Hippocrates and the middle of the sixteenth century the dissection of the human cadaver was almost unknown. Forbidden alike by the laws and customs and religion of the ancient Greeks and by the creed of Mohammad, the study of human anatomy was placed under a civil and religious ban until the end of the thirteenth century. In ancient Greece the laws relating to immediate burial were very stringent. Even victorious generals had been condemned to death because they neglected to bury the slain. The pathos of Sophocles's tragedy of Antigone turns, it will be remembered, upon the sacredness of the dead and of the necessity, higher than imperial commands, of immediate burial.

When the tradition of [illegible] medicine passed, in the seventh [illegible] eighth [illegible] into the [illegible] of the

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Mohammadans human anatomy was equally neglected, the practice of dissection being implicitly forbidden by the Qurân. Albucasis, the only surgeon of first rank in the Græco-Arabian school, writing at the end of the eleventh century, deploring the decadence of surgery, says: "The reason why there is now no dexterous operator, is this:—The medical art demands time. He who wishes to practise it ought first of all to study anatomy as it is described by Galen." Albucasis cites several instances within his own knowledge of patients dying from hæmorrhage under the hands of men who had undertaken to operate without knowing where the large blood-vessels lay or how to arrest the bleeding when these vessels were divided.

Even after the dissection of the human cadaver received the sanction of the civil authorities in Southern Europe the teaching of anatomy was cursory and occasional and merely descriptive. Mundino of Bologna in the fourteenth century, who was the first in modern times to dissect the human cadaver, seems to have dissected only two bodies. So little was known of human anatomy and so strong was the tyranny of tradition, that when Vesalius in the middle of the sixteenth century alleged that the anatomical descriptions of Galen could not be adapted to man there were not a few, in their zeal to repel the accusation that Galen had used animals in dissection, who did not hesitate to maintain that the human organisation had changed since Galen's time. In England, notwithstanding Harvey's lectures on anatomy in the first quarter of the seventeenth century, there was no organised teaching of anatomy before William Hunter's time. In this matter William Hunter has not received all the credit he deserves. He came to London in the year 1741, at a critical period in the history of English surgery. In the year 1745 the union which had existed between the Surgeons of London and the Barbers of London for over 200 years was dissolved by Act of Parliament. The surgeons were incorporated by the name of the Masters, Governors, and Commonalty of the Art and Science of Surgeons and from this incorporation our College took its rise. During the union of the two companies there had been lecturers or readers on anatomy in the Barbers-Surgeons Hall, the readers being nearly all physicians, but the teaching of anatomy seems to be for the most part only descriptive and demonstrative. Upon the formation of the new Company of Surgeons provisions were made for the teaching of anatomy but the first masters were not elected until eight years later. There seems to have been throughout the greatest difficulty in getting the stewards of anatomy to perform their duties and partly in consequence of this and partly in consequence of the difficulty of obtaining "bodies" the attempt to teach anatomy was abandoned by the Surgeons' Company.

In the winter of 1745–46 William Hunter undertook for a Society of Naval Surgeons the delivery of a series of lectures on surgery. This he did so satisfactorily that he was asked to include anatomy in his course. He accordingly advertised his first course of anatomical lectures to begin Feb. 1st, 1746, and added that "the operations of surgery, with the application of bandages," would be included in the course; and also, that "Gentlemen may have an Opportunity of learning the Art of Dissecting, during the whole Winter Season, in the same Manner as at Paris." Had William Hunter's ambition been realised he would, nearly a century and a half ago, have solved a problem in early medical education in London which is still perplexing the minds of many thoughtful persons. He desired to establish an anatomical school in London upon an extensive scale. With this object in view he offered to erect a building at the cost of £7000 for the study and teaching of anatomy, provided the Government would grant him a piece of ground to build upon. It was also his intention to give to this institution all his preparations and his books. With an unfortunate lack of sympathy which British Governments have too often manifested in their dealings with science and education William Hunter's offer was declined. Smarting under a keen sense of disappointment and full of resentment he determined to transfer his favours to Glasgow, which now enjoys the possession of his priceless museum and library. *Beati possidentes.*

William Hunter's memory deserves at least this passing tribute of our respect. He attempted to place medical education in London on a sound and permanent basis. But we of this College owe his memory a further debt of gratitude, for he was John Hunter's early patron and protector and took every occasion and opportunity to advance John's worldly interests and to promote his reputation in the surgical and the scientific worlds.

After John Hunter had worked at human anatomy for about ten years he manifested his intellectual growth by directing his thoughts to the higher and more scientific discipline of comparative anatomy and physiology. He realised that human anatomy alone was an insufficient guide to pathology and surgery. He collected all manner of animals at his house and grounds at Earl's Court in order to study their ways and habits and from every available source he acquired animals, living or dead, for the purposes of observation, experimentation, or dissection. In his use of the lower animals for the elucidation of physiological problems he followed while amplifying the practice of Harvey, who in his turn adduces the authority of Aristotle. There was, however, a striking and characteristic difference between the use which Aristotle made of the dissection of animals with reference to human anatomy and that of Hunter. There is no trustworthy evidence that Aristotle or Hippocrates or even Galen dissected the human body, certainly not in the sense we understand by the term "dissection." They dissected the bodies of animals *instead of* those of man and transferred their observations of animals to the corporeal organisation of man. Hunter, on the other hand, practised the dissection of lower animals *in addition to* that of man and transferred his observations to the embryology and morphology of man and to the elucidation of the problems of human and comparative physiology and pathology.

John Hunter was a philosopher in the strict and primary sense of the word. He had a passion for knowledge. "Let no man presume to call himself wise," says Pythagoras, "God alone is wise. Man can never get beyond the passion for wisdom." John Hunter had this passion. He devoted himself to the pursuit of knowledge, searching for it in every department of the organic world, animal and vegetable. In one of his letters to Jenner he says: "I have but one order to send you, which is, to send everything you can get, either animal, vegetable, or mineral, and the compound of the two, either animal or vegetable mineralised." And, again: "Have you any large trees of different kinds that you can make free with? If you have, I will put you upon a set of experiments with regard to the heat of vegetables." With respect to the observations and experiments which he directs Jenner to make he says, "Be as particular as you possibly can." These sentences express briefly and in epitome, as it were, Hunter's habits of mind and his attitude towards the problems of organic life.

John Hunter may have lacked the power of clear exposition and he may have disliked routine teaching. He was, however, full and overflowing with ideas, new and original, to which he often found it difficult to give distinct shape and utterance. In contrast with William Hunter's didactic powers John had the suggestive, the constructive, the creative faculty, the faculty of discovery, of coördinating knowledge, and he had the art of stimulating thought and calling forth effort from others. He taught by example rather than by precept. It is clear evidence of the value of John Hunter's method of teaching that he attracted to his classes the best students and surgeons of his day, men who afterwards rose to the highest eminence—Edward Jenner the vaccinator, Dr. Physick of Philadelphia, Abernethy, Cline, James Earle, Astley Cooper, Lynn, and Anthony Carlisle. These men in after life repeatedly expressed their indebtedness to Hunter and to his personal influence as a teacher.

What, then, did Hunter do? The ready answer comes that he made one of the largest and most instructive collections of anatomical and biological specimens known to history: his famous museum, which is now lodged within the walls of this College and which it is our pride and privilege to protect, to preserve, and, so far as may be possible, to perfect. But I venture to think that however great, notable, and precious Hunter's museum may be it represents only the material part of him. The spirit which animated him, the germinative character of his method, the impulse which he gave to the operation of mind in the pursuit of biological knowledge were infinitely greater and infinitely more precious. *That*, amid the accidents and mischances of time may pass away, but *these* will abide as long as civilisation on this earth endures. What Hunter did from the material side is sufficiently well known. His contributions to surgery and biology have been repeatedly enumerated, expounded, and eulogised in this place and elsewhere. I shall, therefore, not attempt to repeat what has been already done so often and so well but I desire rather to draw attention to Hunter s method—to consider not so much *what* he did as *how* he did it

Ottley, the first and one of the best of Hunter s biographers, remarks that in pursuing his researches Hunter strove not, like many of his more learned and less philosophical predecessors, to unravel the mysteries of Nature by taking up principles *a priori* and seeking for facts to support his theory but that, on the contrary, he followed in the strictest manner the inductive method laid down by Bacon as the only sure though arduous road to knowledge and Babington, in his Hunterian Oration, remarks of him "He had never read Bacon but his mode of studying Nature was as strictly Baconian as if he had" Other critics and historians of Hunter's work and not a few Hunterian orators have written or spoken in a similar strain In my judgment this opinion is entirely erroneous with respect to Hunter s method and it is a complete misinterpretation of the Baconian system Bacon's eloquence and influence undoubtedly did much to attract men to the study and observation of natural phenomena He called attention to the necessity of studying the powers and forces of the world as a means of subjecting the world to the human mind and so far his message was appropriate and opportune The significance of that message is probably greater now than at the time he delivered it The future belongs to the nation which understands best the forces of nature and which can most skilfully and economically employ them But Bacon himself neither knew nor understood the physical sciences His spirit was essentially mediæval and much less modern than that of his illustrious namesake Roger Bacon who lived 300 years before him Francis Bacon's aim was purely utilitarian He had no idea of knowledge for its own sake and he cherished the hope that by increasing our knowledge of nature the secret of the transmutation of substances would be learnt and probably the knowledge of the making of gold He not only had no practical acquaintance with natural science but he lacked insight into the true methods of its investigation He understood very imperfectly the value of the experimental method and assigned a subordinate position to quantitative determination the precise quality which is the most striking characteristic of modern science and which constituted the most original and perhaps most brilliant of the reasonings which Harvey employed in his famous Induction So far from being the founder of the modern scientific method Bacon s writings were themselves one of the products of the intellectual awakening which began at the end of the sixteenth century Notwithstanding his affectation of scientific knowledge and scientific methods Bacon had an unscientific weakness for superstitions He believed in natural and judicial astrology, through not without some hesitation and discrimination He believed in the transmutability of elements and of the metals in charms and signatures as remedies and so completely did he ignore Harvey s discovery of the circulation of the blood that in one of the latest of his writings he ascribes the pulsation of the heart and arteries to the dilatation and contraction of the spirits Well might Harvey say in disparagement of Bacon s scientific writings ' He writes philosophy like a Lord Chancellor '

Bacon s ruling idea was the collection of masses of facts and then the employment of processes of arrangement and separation and exclusion so artificially contrived that a man of common intelligence should be able to announce the truth sought for This method has been slightingly described as a kind of scientific bookkeeping "It is difficult ' says Stanley Jevons ' to imagine a less likely way of arriving at great discoveries The greater the array of facts the less is the probability that they will by any routine system of classification disclose the laws of Nature The answer to the claim that Bacon was the philosophic father of modern methods of scientific investigation is that none of the scientific truths established by the great masters of science can be made even to *appear* in correspondence with Bacon's methods Whether we look to Copernicus who preceded him or to Kepler Galilei Torricelli Pascal Gilbert and Harvey or to Newton De cartes or Huygens or to Thomas Young or to the chemists Black, Priestley, Scheele, and Lavoisier we find that discovery was achieved by a method quite different to that advocated by Bacon So dispassionate a critic of philosophy as John Grote remarks "I have not the smallest belief in Bacon s having reformed the method of discovery, believing rather that if he had had any success in that way in the manner he wished it would have been most calamitous for science ' And even with regard to the claim of Bacon to be the founder of inductive philosophy, Ellis one of the ablest of his editors asserts that the nature of the act of induction is as clearly stated by Aristotle as by any later writer, while Aristotle himself ascribes the credit to Socrates Perhaps the Baconian claim has never been more convincingly refuted than by Augustus De Morgan, at once one of the profoundest and subtlest thinkers of the nineteenth century "Modern discoveries," he says, "have not [illegible] facts, with subsequent dis[illegible] leduction of a truth thus [illegible] have suggested an hypothesis which means a supposition proper to explain them The necessary results of this supposition are worked out and then and not till then, other facts are examined to see if these ulterior results are found in nature Wrong hypotheses rightly worked from have produced more useful results than unguided observation But this is not the Baconian plan What are large collections of facts for ? 'To make theories *from* ' says Bacon, 'To try ready made theories *by*,' says the history of discovery '

Bacon's plan was purely mechanical He ignored the work of the mind in the constitution of knowledge He imagined that he had discovered a method by which scientific truth might be determined with absolute certainty and by a mechanical mode of procedure such that all men were capable of employing it "Our method of discovering the sciences is, he says "one which leaves not much to sharpness and strength of wit but nearly levels all wits and intellects And this opinion is endorsed by most writers of the empiricist school in complete disregard of the teachings of history Those who imagine that science requires nothing but the registering and classification of facts forget that the facts observed can only be connected and related by the mind and that the laws of nature are after all mental products from given data

Not only did John Hunter not follow the mechanical methods of Francis Bacon but it is the work of the mind which is the peculiar characteristic of his method and its chief glory Others could do as well as he the more mechanical part of his task, indeed much of it was done by others, but the suggesting controlling, coordinating mind was Hunter s which amidst the multiplicity of phenomena and of data apparently conflicting discovered unity amidst multiformity which is the special function of science

John Hunter s constant aim was to arrive at principles and he was distrustful of so called facts "The principles of our art he said "are not less necessary to be understood than the principles of other sciences, unless indeed the surgeon should wish to resemble the Chinese philosopher whose knowledge consisted only in facts In that case the science must remain unimproved until new facts arise In Europe philosophers reason from principles and thus account for facts before they arise

Hunter possessed every moral and intellectual qualification necessary for fruitful scientific research He had a large knowledge of facts based on an intimate acquaintance with the phenomena of organic nature He had a fertile imagination ready to suggest possible relations of those facts He had openness of mind and a conscientious scientific spirit which submitted every hypothesis to the test of observation and experiment Scepticism is the first condition of reasoned knowledge Hunter was not only observant but he was rationally sceptical and critical and he himself ascribed his success as a scientific investigator to the sceptical qualities of his mind He took nothing on trust He was always careful to distinguish between mere conjecture and reality and drew a sharp distinction between the actual results of an experiment physically performed and what might have been mentally anticipated

In pursuing any subject he says, "most things come to light as it were by accident—that is many things arise out of investigation that were not at first conceived and even misfortunes in experiments have brought things to our knowledge that were not and probably could not have been previously conceived on the other hand I have often devised experiments by the fireside or in my carriage and have often conceived the result, but when I tried the experiment the result was different or I found that the experiment could not be attended with all the circumstances that were suggested Here in a sentence we note the wide difference between the modern and the mediæval spirit in science. The alchemists performed experiments innumerable, but with them theory ranked above experiment and if experiment gave an unexpected result this was forced into an artificial conformity with the *aprioristic* theory. It was therefore, says Lange in his "History of Materialism," "essentially directed to the production of this previously anticipated result rather than to free investigation."

Many of Hunter's discoveries may be said to have been accidental but they were such accidents as happen only to those who deserve them, as Lagrange remarked of Newton. Chance may sometimes put us in the right way but chance alone does not takes us far. It was chance that showed to Ambrose Paré in the sixteenth century that gunshot wounds did not need the application of boiling oil as he had learned from his masters and as he himself at one time believed. Paré states that when he went to the wars in 1536 he had neither seen war nor gunshot wounds and only knew what he had read in John of Vigo who taught that gunshot wounds were envenomed and that the effect of the poison was only to be counteracted by pouring boiling oil into the wound. Paré, relating his later experiences, states that on one occasion there was not enough boiling oil to cauterise all the wounded, and he used instead for some of the cases a digestive made of yellow of egg, oil of roses, and turpentine. The shortage of the boiling oil caused Paré great distress of mind as he feared that those who had not had the application of the oil would die from poisoning. After a sleepless night he rose early in the morning and was surprised and rejoiced to find that those who had had the milder application had not only not died but that they were suffering but little pain and the wounds were free from swelling, whereas, those who had had the orthodox cauterisation were suffering severely from pain and swelling of the limb and from fever. Henceforth he decided to abandon the barbarous use of boiling oil. But not content with the accidental experience he proceeded in the true scientific spirit to test the alleged venomous quality of gunpowder and proved that not only was it non-poisonous but that it might be used with good effect to ulcers in order to dry them.

In a sense it was chance that disclosed to Hunter the establishment of collateral circulation after the ligature of a main artery. In July, 1785, Hunter tied one of the external carotid arteries of a stag with a view of studying its effects upon the growth of the corresponding antler. He observed that the pulsations of the vessels of the "velvet" ceased and that the antler, which was only half-grown, became cold to the touch. Hunter debated within himself whether the antler would be shed or be retained longer than usual. On examining it a week or two later, when the wound had healed, he found that the antler had become warm and was increasing in size. The question was—Had his operation in some way been faulty? The buck was killed and on examination it was found that the artery had been duly tied and was completely obliterated but that the circulation was carried on by vessels above and below the ligature, which had, under the new conditions, become enlarged and by their anastomoses had restored the blood-supply of the growing part. The knowledge of the establishment of collateral circulation was not new in the history of surgery. Blood-vessels had often been divided and tied in continuity and the nutrition of the limb had not been permanently impaired. Indeed, Celsus, writing in the first century of our era, distinctly states that after a division of a large artery the two ends should be tied and that repair takes place by anastomosis. But Hunter now saw from a new point of view the establishment of collateral circulation after the ligature of a large artery. He readjusted his conceptions. His sagacious insight discovered a deeper meaning in this chance observation and he conceived its applicability to the treatment of, at least, popliteal aneurysm. It so happened that there was a patient under his care in St. George's Hospital with popliteal aneurysm who had consented to undergo amputation. Hunter argued that if the anastomosing vessels in man would carry on the circulation after ligature of the femoral artery as it had done in the artery of the stag he could cure the patient's aneurysm and save the limb. Hunter performed the operation and in six weeks the patient left the hospital cured and with a sound limb. This operation, which has ever since borne Hunter's name, has been instrumental in saving hundreds of limbs and lives.

While the principle underlying this operation was originally suggested by a chance observation, its elaboration and perfection were only possible by a mind stored with clinical experience and emboldened by assurance gained through experiments on living animals. Hunter constantly submitted his observations to verification and, whenever practicable, to the test of experimentation, which Cossa describes as "observation carried to a greater degree of perfection." Hunter did not unnecessarily repeat experiments. It was an axiom with him "that experiments should not be often repeated which tend merely to establish a principle already known and admitted but that the next step should be the application of that principle to useful purposes."

While Hunter was intolerant of a state of doubt in small things as in great, if by any means decision was possible, he ever held his judgment in suspense if certainty was not attainable. Like all strong characters, he cared little for systems or consistencies of opinion. He followed wherever Truth should lead and by his very nature was always open to new and higher knowledge. To a pupil who asked with surprise whether he had not the year before stated an opinion on some point directly at variance with one he had just put forth he boldly replied: "Very likely I did; I hope I grow wiser every year." And again, "Never ask me what I have said, or what I have written; but if you will ask me what my present opinions are I will tell you."

In all his relations of life John Hunter manifested courage, candour, and tenacity of purpose. Truth he believed to be preferable to friendship and at the most painful crisis in his life did not shrink from putting into practice the Aristotelian maxim. Indeed, Hunter possessed not a few qualities in common with the great Stageirite. Hunter was not, of course, Aristotle's equal either in range of knowledge or in intellectual power. Aristotle did indeed take all knowledge to his province. Hunter had not the sweep of thought, nor the largeness of view, nor the grasp of logical and philosophical principles, nor the cyclopædic learning which distinguished Aristotle; but within his range Hunter's insight was as penetrating and as clear, and his zeal for knowledge was as ardent and as untiring, and his methods were sounder, more critical, and more exact.

Ordinary men are to be measured by the standard of their contemporaries but the greatest men are estimated by the influence they exert upon the thoughts and activities of those who follow them. Judged by either or both of these criteria John Hunter ranks amongst the greatest. The time in which he lived was a period of great intellectual and scientific achievement. He had for contemporaries amongst his countrymen Priestley and Black, Cavendish and Davy, Dalton and Thomas Young, Wollaston and William Herschell, and Hunter ranked high among the highest.

In attempting an appreciation of John Hunter's method I have suggested rather than explained the development and growth of the modern knowledge of physics, chemistry, and biology under the influence of the experimental method, but it has not been my purpose or intention to offer any defence of this method. To defend the use of experiment in physics and in chemistry would be manifestly absurd and, I assume, that in this place and before this audience it is equally unnecessary to offer an apology for its use in physiology and pathology. I opine, however, that it is within my province as Hunterian orator to anticipate the possible censure of some who would not hesitate in the sacred name of Religion to traduce the memory of Hunter because he practised experiments in physiology. John Hunter did employ the method of experiment. He employed it with no less zeal than with intelligence. He employed it not from idle curiosity, not from the promptings of vain-glory, nor for the purposes of worldly advancement: all that he had he gave to science. He employed it in the service of humanity and in the study of the nature and laws of life, and the knowledge which he thereby acquired he transferred to the domain of medicine and surgery and applied to the alleviation of sickness and suffering among animals no less than among men.

I pretend not either impiously to affirm or not less impiously to deny all the purposes of Infinite Wisdom in giving man dominion over the fish of the sea and over the fowl of the air, and over every living thing that moveth upon the earth; but we do know that throughout historic time man has not hesitated to capture, to subjugate, and to slay beast and bird and fish, for his pleasure, his sustenance, and his service. Was the lordship over the animals given to man only for the satisfying of his physical and sensuous needs? Is not the life more than food? Was it only with reference to man's bodily well-being that the question was asked: Are ye not of much more value than the birds of the heaven? Does the mind need no aliment? And is the veto to be applied only when animals are to be used for the purposes of elucidating the kindly functions of physiology or of disclosing the baneful secrets of disease?

The vicarious suffering and sacrifice of animals for the service and the salvation of man have obtained throughout the ages and constituted the basis of the elaborate ceremonial system of the ancient Israelites. In anticipation of the great Passover Moses directed the Israelites each to kill a lamb according to their families and to sprinkle its blood upon the lintel and the two side posts. "For the Lord will *pass through to smite the Egyptians*; and when He seeth the blood upon the lintel, and on the two side posts, the Lord will pass over the door, and will not suffer the destroyer to come into your houses to smite you." The complete purification of *one* leper and his reception back into society involved not only the slaughter of three lambs but the convalescent had to appear with two living clean birds one of which was slain while the other, still living, was baptised in the dead bird's blood and then allowed to fly away free. The principle of substitution was actualised in the ceremony of the scape-goat. At the annual Feast of Expiation a young bullock, two kids, and one ram were slain; and two goats were taken upon which lots were cast, one lot for Yahwè, the other for Azazel. The goat on which the lot fell for Yahwè was sacrificed for a sin-offering; but the goat upon which the lot fell for Azazel was presented alive, and when the high priest had symbolically placed upon its head the sins and transgressions of all the people, the goat was led into the desert there to become the victim of hunger and thirst and the prey of ravenous bird and beast.

Are these hecatombs to be regarded as of Divine origin and sanction, while the inoculation of a cat or dog, or it may be a rat, is to be denounced as a desecration and a violation of the purposes and will of God? Who will say but that in our day, as the Angel of Death passes through the land, seeing upon us the sprinkling of the immunising blood, takes that for a token, and is not suffered to come into our houses to smite us? "Dipt in his fellow's blood the living bird went free"; and so we, dipped in blood, aye, the blood of our fellow-man, as the annals of Medical Martyrology bear witness, we enjoy a growing freedom from plague, and pestilence, and noisome disease and in the fulness of knowledge the measure of our freedom will be full.

The Lettsomian Lecture

ON

FUNCTIONAL MENTAL DISORDERS.

Delivered before the Medical Society of London on Feb. 6th, 1905,

BY GEORGE H. SAVAGE, M.D. LOND., F.R.C.P. LOND.,

CONSULTING PHYSICIAN TO, AND LECTURER ON MENTAL DISEASES AT, GUY'S HOSPITAL, ETC.

MR. PRESIDENT AND GENTLEMEN,—In taking the subject of functional nervous or mental disorders I am going upon dangerous ground, for there is a vast difference of opinion as to what is meant by functional disorders. Before coming here I looked up what the Oxford Dictionary said about "function" and "functional." "Function is the mode of action which fulfils its purpose." Functional is defined as "affecting the functions only, not structural or organic." Maudsley, who is considered a purist in the English language, says "functional disease," not functional disorder, "such as epilepsy, chorea, and neuralgia." That, therefore, is the definition of the subject. I have to deal mainly with disorders that are not associated, directly at all events, with any recognised material change in the nervous centres. Functional has sometimes been looked upon as the equivalent of volitional; for instance, every hysterical person was looked upon as a person who was deficient in will; I shall have to refer freely to hysterical conditions, but it will not do to say that functional and volitional are equivalent.

Having given you some definition of function I will now give some definite of mental disorder. In mental disorder I include a great deal more than insanity as it is generally considered. The Right Hon. A. J. Balfour, at the meeting of the British Association for the Advancement of Science last year, pointed out the limitations of science; he pointed out that the organs of sense which were the gauges as it were of truth were themselves but the results, the evolved results, and the experiences of the very impressions which they had from without. Therefore the senses that were supposed to be the ultimate judges of all truth were themselves but the outcome of the impressions which were received from the *things which they were to judge. In the same way we talk* about sanity and insanity and the gauge of sanity is exactly in the same position that the senses are in relationship with science.

Functional disorders, the so-called hysterical, may be divided into certain groups. For instance, we have a muscular group, we have what might be called muscular hysteria, in which there is paraplegia, monoplegia, or aphonia. Or you may find defective control as in those cases of malleation and monotonous movements which are met with in truly hysterical conditions. The functional relationship of some of these disorders with their nervous and mental disorders is shown by what I have called alternation. A patient who was admitted into Bethlem Hospital in a maniacal condition was found one day to be paralysed in her lower extremities and perfectly sane. Later she again became maniacal and at once lost the paraplegia; again later she lost the paraplegia and became maniacal. It may be the same with the muscular activity that is met with in some cases of disordered hysterical movement.

Passing from the hysterical muscular conditions and allied mental stages one has to recognise the sensory ones. And it is interesting to note the various paræsthesiæ and anæsthesiæ that are met with in *hysterical cases*. Among the more [illegible] temporary mental disorder in which there is no direct nervous central change to be discovered.

Comparable with those cases of loss of feeling are those patients who have done peculiar things and yet say they have no memory of them whatever. I believe a large proportion of hysterical people have a direct memory of what they have done but I am equally certain that there are a number who are as completely free from memory as they are free from power to move when they are hysterically paraplegic. There are endless conditions that are inexplicable from our point of view and yet certainly are not to be traced to any definite central disease of the nervous system. The sudden cures that occur under faith-healing and at Lourdes are cases that are associated with functional and not organic nervous disorder. One cannot understand either the one or the other curing an absolute disease and I would propound this question: Are all sudden cures occurring in any forms of mental or nervous disorder to be looked upon as evidence tha [illegible]

I [illegible] tion bet [illegible] as mat [illegible] re- cog [illegible] or disorders that may be still called functional. If, for instance, the person who suffers habitually from hay fever during the hay fever season becomes melancholic or disturbed mentally he does not have hay fever though living under exactly the same conditions as before this would point to both of these disorders [illegible] The same may be said o [illegible] for a patient who has [illegible] attacks to keep quite free of them during the time he is in the asylum and when he gets well they return. It has to be recognised that certain other alternations take place that can hardly be looked upon as purely associated with functional disorder; that a man suffering from melancholia should lose that melancholia when he has a severe attack of gout; that another individual should lose his maniacal attack when he has an attack of rheumatic fever is hardly, I am afraid, to [illegible] rheumatic fever are [illegible]

[illegible] t Commission on the Education or the Care of the Feeble-Minded is bringing before all of us who are interested in mental nervous disorders crowds of individuals who are out of harmony with their surroundings, individuals who have no disease of their body, whose senses are perfect, who you may say have a judgment which is defective. Quite so; but at the same time each of our judgments is defective in some particular way probably. There is a large amount of mental disorder that is functional in so far as it prevents the individual from fulfilling his functions, taking his ordinary position in life. And if he fails to fulfil this purpose there is a failure in the performance of his functions.

The next thing to which I would refer is disorder of function that may lead to insanity. I think perhaps it might be well for me, in a few words, to quote two authorities on the question of function and its relationship to organs. Bristowe pointed out in relationship to functional muscular disorders that the affections here referred to are limited to a single muscle, or to part of a muscle, or to groups of muscles, and occur only or mainly at the time when "certain accustomed specific actions in which they are engaged are in process of performance, the affected muscles apparently acting normally under all other conditions and in other respects seeming to be fairly healthy." If instead of muscle mind is substituted, that covers exactly what I am maintaining. The other perhaps will be looked upon as more eccentric but more characteristic. The late Dr. Sutton in his Pathology says: "It is abuse of natural function, extreme abuse and restraining, hindering and interfering, that bring about disease. Every age of life is characterised by systematic interference. It is through our detestable systems that human misery comes about. Interference is a mistrust of functional activity. Once when I was with Sir William Gull he said to me, 'Sutton, human nature has never had a fair chance,' and it is true. The more I see of the human body the more I admire it for being able to endure so much and suffer so little. The study of pathology reveals that one and all of the functional blessings of man are abused into disease. When we are born we cry that we are come to this great stage of fools, says Lear. The mouth of the new-born babe is stuffed with sugar and butter and its belly crammed and its legs are not allowed to kick. It has indeed come on a stage of fools."

So you see in quoting from Dr. Sutton I am supported in my contention that a great deal of mental disorder depends rather upon the outside conditions than on the central conditions, in fact, in certain cases the patient is not so mad as his surroundings. Therefore I maintain that disorder of function leads not infrequently to real disease. Of the conditions said to lead to insanity the solitary confinement of the prisoner has been scarcely substantiated, but those who have been in the wards with me know how frequently I have pointed out the natural evolution, say, of "governess's disease," the exaltation of ideas, the feeling of grandeur and well-being that may naturally grow from the surroundings and not be innate in the individual. There is the governess, highly educated, very likely over-wrought, perhaps sprung from a lower station, who passed into a higher grade where she is a teacher and where she is recognised as a teaching machine, not as a human being, where she has every inducement to think highly of herself and is not able to associate with any of her fellows. The result is that she falls out of relationship with her environment, that she believes herself to be some important person.

Again, another form I have named "widow's disease." An English widow of middle age is left with a small amount of money and a family. She has to live a narrow cramped life. Things are thrown upon her which she never had to do or think of before and the consequence is that she is out of harmony with her environment and the environment tends to the mental disorder that may be associated with one form of depression or with another form of delusional insanity that people are scandalising her or taking her character away. In the same way you have only to suggest to certain sensitive minds a certain line of thought and it is surely not their brains which are responsible, primarily at all events, for the disorder which may arise.

To pass on to another group altogether, there are the so-called neurotic, the unstable people, you may say, who are pathological specimens from the first; possibly so; I can only say that the world works on two wheels, I believe—the neurotic and the gouty—and I am inclined to think that the neurotic type has to be considered not as a pathological entity but as a variety that may tend to be good, bad, or indifferent. They are characterised almost wholly by a too ready reaction to their environment. They have what might be called exaggerated mental reflexes and here we come to the impulsive classes. I suppose we have not got far enough in pathology. Though we talk about nerve currents and nerve storage as if we knew all about the batteries and the wires that conduct them, and though we talk about discharges in epilepsy and the like for convenience, yet I fail to recognise that as a material pathology. And when referring to Maudsley's definition of functional disease, including epilepsy, I feel strengthened in my contention that I am right in including the neurotic. The neurotic interests one in many ways. First of all his instability, his tendency to impulse. The neurotic child often has a dread of heights and has a dread of moving bodies. The neurotic adult often has the same. The healthy adult when he gets run down may have the same. The senile person may have exactly the same instability, this tendency to exaggerated mental reflexes. It is a very little step between the nervous dread and the extreme nervous sensibility that one meets with in certain cases. I have not time to consider what may be compared to impulses such as obsessions, fixed ideas—which morbid ideas may be recognised by the patient to be morbid.

Now comes perhaps one of the most difficult groups of cases to understand and I must claim for this group that they should be considered as functional, not as organic. They are not common cases. During one period they are, as you might say, without control. They say exactly what comes into their minds or as it is expressed on the tip of their tongues, whether it is polite or impolite, but there are no delusions, no hallucinations. Then a shake, or perhaps not a shake, and the whole thing is changed and they again become sane. Therefore are you not to believe that cases of that kind are and must be considered from some other point of view than that of disease of cells of the brain?

Before concluding I must refer to arrest of function. I remember a man who for an operation was put under chloroform. After recovering from the chloroform he seemed to be dull and apathetic. He had no delusions but he remained where and how he was placed. If he was dressed he remained dressed; undress him and he would stop in his nightgown without getting into bed. Put him into bed and he would remain there. He was simply automatic and remained in that condition for several weeks. He then woke up quite suddenly and was himself again. Then, again, I have seen following shock somewhat similar conditions in which the whole nervous functions seemed to be arrested without being destroyed or affected in any way beyond that.

To sum up my opinion, then, I would say that there are many cases in which disorder of mental function cannot be directly associated with material change in the brain or nervous system. That many cases may depend upon alterations of nutrition of a temporary character in the nerve centres, central or peripheral, I admit. That besides this there are certain disorders which depend on the disharmony existing between the nervous system of the patient and his surroundings. Such disharmony may be original and ineradicable and is met with in certain persons who seem to have been born out of due time, being only suited to primitive states of civilisation. We have to consider that there may be misjudgments of parts of the nervous system, want of will or directing power; and in saying this I do not wish to make it appear that I believe the will to be an isolated part of mind. Yet one constantly meets with instances in which there seems to be want of proper adjustment of what have been called the functions of mind. In obsessions there may exist perfect knowledge and all the necessary constituents of the mind, yet their association may be morbid, and the result may be unreasonable and impulsive action, unreasonable belief, or obsessions of ideas. Besides these we have considered cases of sudden cure and compared them with hysterical attacks, aphonia and paraplegia, which may also be recovered from suddenly. The whole subject, I allow leads, and must lead, to much difference of opinion, but if I have succeeded in laying before you some of the results of my experience I shall feel satisfied. I recognise as fully as any of you the difficulty of my position. There was a time when "functional" was a term which covered and seemed to supply the want of knowledge, but as time passed on more was wanted. But I still think the wise man investigates; it is the savage and the lunatic who are ready with explanations. Science is organised inquisitiveness and its results. But I have little patience with so-called science that looks upon everything as already within the scope of explanation. Functional disorders, not functional diseases, depend on causes, like everything else in this world, every result has certain antecedent conditions, but when we come to consider insanity I would repeat here what appealed strongly to my Guy's class of former years, the statement that there is no such thing as insanity. Insanity, mental disorder, depends as much on the surroundings as on the individual's bodily condition. If we were all turned out like American watches, by the million, all alike, with changeable machinery and parts, it would be different. In so-called insanity, and indeed in humanity, we have to deal with constantly changing environment, different powers of adaptation, and I therefore say at once that I cannot expect to have a clear morbid pathology for all conditions which do not fall within the conventional lines of sanity.

THE EARLY SYMPTOMS OF INSULAR SCLEROSIS.[1]

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I HAVE chosen this subject because it is one of great interest and importance to all of us and it so happens that I have seen a considerable number of cases in the last few years which have impressed this on me. It is from the point of view of general medicine that I propose to speak to you, not with any pretensions to be a neurologist, because we do not in provincial towns of the size of Brighton get sufficient opportunities for the systematic study of neurology, and in these days it is impossible without that systematic study to do more than keep in touch with this subject, which is the most exacting of all the special branches of medicine and the most difficult. But it is just from the general medical standpoint that insular sclerosis is of such importance and for three good reasons. 1. Because it is, so far as my limited experience goes, considerably the commonest of all the chronic diseases of the central nervous system. 2. Because owing to the great diversity of its symptoms it may come first in the early stage under the notice of any man whatever branch of medicine he practises, whether he be a physician, or a surgeon, or a gynæcologist, or an aurist, or laryngologist, or ophthalmic surgeon. 3. *Because it is by no means easy to recognise in* the early stages and is extremely apt to be confounded with hysteria, if, indeed, it be not more correct to say that hysteria is not rarely the prelude to insular sclerosis. If for no other reason, insular sclerosis might well claim our attention as being the only disease which can be said to mimic hysteria, that great simulator of so many diseases. It is exceedingly difficult, as I shall try to show you later, to say in some cases where hysteria ends and insular sclerosis begins and as the disease is often spread over a large number of years it may be impossible to get a continuous clinical history. But it is [illegible] the diagnosis as early as possi[illegible]nd, to save a patient suffering [illegible]entral nervous system from being treated as a wretched hysterical creature and, on the other, to prevent a truly hysterical case from lapsing into chronic invalidism for want of active measures. I may say that it is the first of these two events which is much the most likely to happen.

1. I will now take in order the three reasons which I have given for the importance of insular sclerosis, and first as to its commonness of occurrence. I have gone through my out-patient records for the past five years and find that during that time, I have seen nine cases in which I was absolutely certain of the diagnosis, usually after watching them for [illegible] in which the diagnosis was [illegible] ave seen 5000 new cases of [illegible] so that deducting 1000 for renewed letters and cases in which I did not make the diagnosis myself the average is about 2 per 1000. In the same period I have seen, or at least recognised, only six cases of paralysis agitans, five of locomotor ataxy, two or three of general paralysis, four of cerebral tumour, and a few odd cases of syphilitic disease of the cord, progressive muscular atrophy, and some obscure nerve lesions, including a good many which were traceable to lead poisoning. It will be seen, therefore, that in this list insular sclerosis is considerably the commonest of all the important chronic diseases of the central nervous system, so far as it is permissible to make a deduction from the comparatively small number of cases. It is true, of course, that the diagnosis in the out-patient room is often hasty, but I may say that I have had nearly all these cases in the wards for a short time for more careful observation and that in the two or three which I have not thus watched the disease was quite unmistakeable. I have a strong belief that I have probably overlooked a number of examples and that the list would be considerably larger if I could review many of the cases which I have labelled neurasthenia, hysteria, and neurosis; also that it would be longer relatively to other diseases of the nervous system which are less easily overlooked and less liable to be masked by hysterical symptoms. To these nine cases I have added six that have been under my care in private for varying periods. Insular sclerosis therefore is, I believe, commoner in the out-patient room than the much more often talked of [illegible]

of hysteria, which is so easy in insular sclerosis, very improbable in tabes.

Many cases of insular sclerosis are missed simply because the human mind moves naturally along the paths of least resistance and therefore satisfies itself with the diagnosis of hysteria, which may be fairly correct if the further possibilities of the case are not overlooked; in tabes, of course, it is easy enough to overlook the correct diagnosis where the only symptoms present are lightning pains, or some visceral crisis, or an ocular palsy, but it is rare for any alternative diagnosis to be present as a possible one in the same way as the diagnosis of hysteria is present in insular sclerosis. It is probable, of course, that the figures would be quite different in a hospital for nervous diseases only.

2. I will now come to the second reason which I give for the interest of insular sclerosis—viz., that the diversity of the symptoms may bring it under the notice of anyone, whatever branch of medicine he practices, so that all ought to be alive to the significance of the early symptoms or they will be liable to make serious mistakes. It is unnecessary to describe the chief symptoms of the disease as given in Charcot's classical picture, now some 35 years old; you are all of you familiar with the spastic gait, the tremor (much increased by exertion), the scanning or jerky speech, the [illegible] which go to make up the symptoms of the [illegible] is our debt to Charcot [illegible] separated the disease from the neurological mud heap, it is none the less somewhat of a misfortune that we were most of us brought up on that classical picture and therefore may fail to recognise the disease in its more irregular forms as we know it to-day.

If we waited to make a diagnosis of insular sclerosis until the patient had all the symptoms which I have enumerated we should make it but seldom and we must be content if we get one or two of these symptoms to confirm a diagnosis made partially on other grounds. Nor need I detain you, with a discussion of the pathology of the disease or the disputed question as to whether the morbid change begins primarily in the vascular, nervous, or interstitial tissue. Whichever it be the result is the same—viz., the formation of islets of sclerosis of a peculiar character in various parts of the brain and spinal cord. The important point for us as *regards the diversity of symptoms is this, that though there* are certain seats of election where the change most commonly commences, the distribution is, speaking generally, a random one and therefore the initial symptoms may be of almost any character. As a matter of fact the majority of cases begin in one of two or three different ways. Most patients go first to the physician complaining of weakness in the legs, or of one side, or one limb, or of nervousness and trembling, but a considerable proportion go first (as is also the case with tabes) to the ophthalmic surgeon, often at a date considerably anterior to the appearance of any general symptoms. This point should always be inquired into, as the patients themselves do not connect the eye symptoms, which are usually of a transitory character at first, with the general disease and with the poorer class of patients they are [illegible] forgotten.

I [illegible] cases on which this [illegible] far as I have

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[1] A paper read before the East Sussex Branch of the British Medical Association.

TABLE GIVING PARTICULARS OF 16 CASES OF INSULAR SCLEROSIS.

No.	Sex.	Primary symptoms.	Secondary.	Age at onset.	Causation.	Duration at first visit.	Sphincters.	Optic disc.
1	M.	Weakness of leg and arm.	—	37	? Syphilis.	6 months.	Yes.	*Nil.*
2	F.	Pain in right arm and knee; 9 weeks' loss of power in left hand and foot.	1 month later failure of sight in right eye.	30	*Nil.*	4 ,,	,,	,,
3	F.	Ophthalmoplegia externa; suddenly disappeared in 4 months.	Sudden attacks of loss of power in legs.	44	Worry.	2 years.	,,	Marked pallor.
4	F.	Weakness of legs; right first recovered and relapsed.	—	26	Pregnancy.	3 months.	,,	*Nil.*
5	M.	3 years before stiffness of the left leg and foot.	18 months of failure of right eye.	21	*Nil.*	3 years.	,,	Some pallor.
6	F.	Trembling and weakness.	—	20	,,	6 weeks.	No.	—
7	F.	Weakness of legs and tremors.	—	About 30.	? Syphilis.	5 years.	Yes.	Pallor of discs.
8	M.	Stiffness of left leg.	Tremor of speech and weakness of the left arm.	22	Blow over the right motor region.	3 months.	,,	(?)
9	M.	17 years' weakness of legs.	7 years previously diplopia and again 4 months previously.	23	Syphilis.	17 years.	,,	*Nil.*
10	M.	6 months very shaky.	—	47	Lifting very heavy weights.	6 months.	(?)	(?)
11	F.	6 weeks' weakness of legs.	—	11	*Nil*	,,	Slight.	*Nil.*
12	F.	10 years previously severe vomiting lasted 3 weeks; diplopia; anæsthesia of the right side.	After diphtheria weakness of right leg.	35	Anxiety and diphtheria.	10 years.	Yes.	Pallor.
13	F.	10 years previously sudden loss of vision, returning gradually after a few hours.	4 years ago weakness of legs.	39	Anxiety and chill.	,,	Slight.	,,
14	F.	2 years before weaknes of legs.	—	21	Malarial fever; abortion.	2 years.	Yes.	Yes.
15	F.	3 months before failure of vision in left eye, returning in 24 hours.	Tinnitus like bell booming.	30	Shock and diphtheria.	3 months.	,,	Slight pallor.
16	M.	6 years previously sudden fall in the street.	Diplopia.	69	Anxiety and hard work.	6 years.	,,	?

Note.—Case 11 eventually turned out to be a case of spinal caries.

been able to make out, what the early symptoms are. Of the 16, then, three began with purely ocular symptoms—viz., Case 13, in which the ocular symptoms antedated the others by six years; Case 3, in which they preceded by two years; and Case 15, in which they were three months prior. Besides these diplopia accompanied the earliest symptoms in Case 12, which were rather of a complicated character and suggested hysteria. In four other cases the ocular symptoms were the next to appear at intervals of one month, 18 months, and ten years after the first trouble, the date in the fourth case being unknown. The three cases in which the ocular symptoms came first were all seen in private and had all consulted ophthalmic surgeons who have been kind enough to give me their notes. I should add that in no case was the true nature of the disease suspected by anyone until some time after the appearance of the eye symptoms. In all the other cases the first symptom of the disease was some form of loss of power or disturbance of sensation, chiefly the former, in one of the limbs or both legs, generally of a transitory character and at first rapidly recovered from. One, Case 13, began with an attack of vomiting (amongst other symptoms), analogous, as Charcot long ago pointed out, to the visceral crises of tabes. As regards other symptoms it may be noted that the sphincters were affected to some extent in a very large proportion of cases, often quite early.

There is one symptom which I have never seen noticed anywhere but which has been so frequent in my female cases that I cannot help thinking it to be a result of the disease—viz., menorrhagia. In one the hæmorrhage was terrific at two or three periods, soaking the bed, and in at least four others it was severe. It is *a priori* probable that a disease which so often affects the lumbar centres should have some effect on the uterine functions. In this event a patient may consult a gynæcologist first, as I believe actually happened in one of my cases, No. 14.

In one of the cases above mentioned in which the patient first consulted an ophthalmic surgeon the next symptom that appeared was persistent and very distressing tinnitus for which she came to consult me. Finding nothing wrong with the ears and as no drug seemed to do any good I sent her on to an aural surgeon who reported that it was probably of nervous origin. I mention this because, though tinnitus is a rare symptom, it might easily be the first to appear and the patient might go in the first instance to an aural surgeon. Again, aphonia may be an early symptom and the patient may consult a laryngologist for loss of voice. Lastly, a patient may consult a surgeon for supposed injury to the spine or for some bladder trouble, though this rarely appears till later in the course of the disease. In one case, of which I shall give you more details presently, as being a very typical case of slow hysterical onset, the patient was for some years under a surgeon for various hysterical phenomena, beginning with contracture simulating talipes equino-varus.

Of course it is very difficult to say at what time the existence of the disease might have been recognised in these various cases; as a rule it is not even suspected and I must own that in the case of the female who came to me for tinnitus it was some time before I recognised the real nature of the trouble, and then only because there was difficulty in walking. The total duration of the disease in this instance was only nine months. It is clear, I think, from what I have said that it is necessary for us to examine with some care those cases in which there is temporary loss of sight in one or both eyes, or diplopia, or transient aphonia, or difficulty in walking, or sudden falls without any apparent cause to account for them, the patients as a rule complaining that their legs suddenly give way. We must not put them aside as merely hysterical because they are associated with a highly emotional manner or with other symptoms which are usually regarded as hysterical. The truth is (as Dr. T. Buzzard, who has done more than anyone else to elucidate the relations between hysteria and insular sclerosis, has pointed out) that some of the very symptoms which formerly were regarded as typical of hysteria should now arouse our suspicions and lead us to think that in all probability the case is not one of hysteria, especially those symptoms connected with the eyes.

3. This leads me on to my third reason for insisting on the

importance of insular sclerosis—viz, the difficulty of diagnosis and the confusion with hysteria It is in fact this liability which makes the diagnosis of insular sclerosis of such great importance As regards treatment by drugs and other measures unfortunately it cannot be said that we can do much but on the other hand we do a good deal of harm to the patients by treating them as hysterical and insisting on constant effort and by exposing them perhaps to the reproaches or ridicule of their family, on the ground that they could easily do things if they would only attempt them

The most misleading thing about the early stage of the disease is the transitory nature of the symptoms, it is this which is really typical The patients can see one day and be almost blind the next or they can walk fairly well one moment and the next be unable to move from their beds The symptoms may come on with startling suddenness and depart almost equally suddenly It is not surprising that symptoms which seem to be so entirely capricious in their coming and going should be thought to be hysterical for it is difficult to explain them on the theory of any organic lesion and I do not know that any adequate explanation has yet been given But it is quite certain that an organic lesion exists, if the progress of the case be watched the symptoms which were once transitory become more or less permanent the vision gradually becomes worse and worse and the optic nerve, which at first showed slight pallor, may become entirely atrophied The difficulty in walking persists and leads to contracture the tremor which used to be intermittent remains constant when anything is attempted and makes all occupation impossible There is no longer any question of our having to do merely with some functional disturbance and if the case goes to a fatal termination we *are certain of finding the characteristic* lesion in the brain and spinal cord save in very rare instances

There is another thing which adds considerably to the difficulty of diagnosis—viz, that many of these patients have what we are pleased to call a typically hysterical manner—i e they are very emotional and easily moved to tears or laughter and the voice may have that tremor which is often found in highly nervous people but here may be a symptom of the disease This is by no means the case with all but it is so with not a few and adds considerably to the probability that the case will be regarded as hysterical

Dr Buzzard has pointed out the chief criteria on which we must rely for a differential diagnosis and as I cannot improve on his account I will merely recapitulate what he says Of course there is no difficulty in a fully developed case of the disease in which the tremor, so called scanning speech both much accentuated by effort the spastic gait increased reflexes nystagmus &c are all present but it may be years between the first appearance of the disease and the establishment of conclusive symptoms of this kind and meanwhile the diagnosis will hang in the balance sometimes inclining to hysteria and sometimes inclining to organic disease according as the various symptoms are active or remittent at the time In Dr Buzzard's words ' Until such symptoms as the above make their appearance in a case about which doubt has existed I do not think that we can as a rule safely pronounce a diagnosis of insular sclerosis But in a case in the history of which paresis has occurred in one or more limbs with spontaneous recovery and repeated recurrence of the symptoms in the same or another part together with a history of amblyopia either temporary or persistent my experience would lead me to diagnose insular sclerosis in the absence even of the symptoms first enumerated "

There is one reflex symptom to which Dr Buzzard draws attention in a later paper and about which I should like to say a few words because it is sometimes present when all the others are inconclusive and is almost if not absolutely, conclusive evidence of organic disease of some kind—i e the "toe phenomenon When the sole is stimulated the normal response is, except in infants who have not walked flexion of the toes on the foot at the metatarso phalangeal joint, in pathological conditions where the fibres of the pyramidal tract are involved at any point this flexion is replaced by extension of the toes especially of the great toe Babinsky, who discovered it never found it except in cases of organic lesion and Dr Buzzard confirms this I have tried it in a very large number of cases and never found it present where organic disease of the nervous system was unsuspected except once in a case of diabetes, where it may possibly have existed unsuspected It must be added however that its absence proves nothing and that it is uncertain in its appearance being present at one time and not at another It has never been known to occur in any case of purely functional disease and is therefore a very valuable symptom in the *diagnosis of hysteria, the most valuable of all the reflex* symptoms

I will now give you an account of one or two cases beginning with one which is a very good example of the difficulty of diagnosing between hysteria and insular sclerosis and in fact leads one to wonder where the one ends and the other begins

CASE 7—The patient a woman aged now 39 years, has been several times in the Sussex County Hospital, besides one or two London hospitals and was always regarded as a hysterical patient As far back as 1878 she was under the care of Mr W Turner for contracture simulating talipes equino varus Under chloroform this disappeared but reappeared on her return to consciousness When this leg was put up in plaster the deformity appeared next day in the other leg At another time she was taken in for a superficial ulcer on the abdomen which was almost certainly caused by some injury she herself had inflicted probably with acid She was also admitted at other periods for various ailments which were always regarded as hysterical I saw her first some two years ago, some five years since her last visit to hospital and came to the conclusion that she was suffering from insular sclerosis, a fortnight ago I again saw her a typical example of the last stage of insular sclerosis—bedridden and with excessive tremor complete loss of sphincter control and with those mental changes which are often found in that disease The chief points about this case are briefly these 1 Its very long duration 2 The fact that the first *symptoms of organic disease were preceded by symptoms* which are universally regarded as functional in their character and which undoubtedly occur in hysterical persons who never show any signs of organic disease and are proved by post mortem evidence to be free from it There was therefore every reason to believe that the case was hysterical and that the weakness of the legs for which I first saw her was an hysterical paraplegia but with this there were incontinence of urine and an amount of tremor with ocular symptoms which made it impossible to regard the case as functional At the present moment three years after her condition is as I have said quite unmistakeable We must conclude therefore that this was a case in which true hysteria characterised not only by the physical phenomena but by that psychical condition which leads people to inflict injuries on themselves preceded insular sclerosis

Charcot mentions cases in which hysteria preceded the disease but does not say how many he saw, and it is clear from his classical account of it that he only recognised the disease in its established form and therefore probably did not lay much stress on the connexion with hysteria or the difficulty of diagnosis It is important to distinguish between *those cases in which undoubted symptoms of* hysteria come first and those in which what are really symptoms of insular sclerosis are mistaken for hysterical troubles and only recognised subsequently as the prodromal symptoms of insular sclerosis The latter is much more commonly the case Some of these symptoms are such as are found at times in undoubtedly hysterical patients and these are now believed by the best authorities to be really indicative of insular sclerosis though not conclusive without other evidence I will mention one or two cases of this character

CASE 13—The patient a woman aged 48 years had in 1886 an attack of sudden amblyopia which passed off completely in 24 hours in the left eye but affected the right for several days In 1892 after exposure to cold she began to suffer from weakness *of the legs which had increased* slowly and difficulty of vision which was very variable She also showed some mental changes becoming irritable suspicious, and forgetful Her case had progressed very slowly and she was still able to get about but the ocular symptoms and condition of the reflexes with some loss of sphincter control left no doubt that the case was really one of insular sclerosis with very slow hysterical onset This case was one with rather unusual onset, the anæsthesia and vomiting were regarded as hysterical and subsequent events alone have shown their true significance In this case too the disease has made very slow progress and several of the classical symptoms are still absent but no reasonable doubt can exist as to the nature of the trouble

One word as to causation. In many cases no cause can be assigned but anxiety, hard work, and, in Case 10, severe physical exertion seemed to be potent factors. Case 8 is interesting in that the symptoms seemed to follow directly on a blow, the scar of which could be felt over the right motor region and commenced first in the left leg. In this case the disease progressed very rapidly and in three months showed most of the typical symptoms. Diphtheria in two cases and malarial fever in another seemed to be to some extent responsible at least for an aggravation of the disease and pregnancy, as in Case 4, is well known to be injurious.

In conclusion, gentlemen, I must ask you to excuse me for the inadequacy of this paper, but I hope that I have said enough to show you that the subject is not a barren one and that it is of real importance in cases which appear to be hysterical at least to have a suspicion that they may have an organic basis. I hope, too, that I have shown you that it is a disease of which everyone ought to have some knowledge whatever his branch of medicine and be able to recognise the symptoms from his own point of view as at all events suggestive. We do not as yet know how early it is possible to recognise the disease because it is as a rule difficult to get back to the beginnings of it. It is just in this matter that we are able to do something to assist the nerve specialist because we often see cases over prolonged periods which he only sees rarely and the earliest symptoms usually come under our notice rather than that of the specialist.

If we are ever to do anything to combat this formidable disease, which is very possibly increasing in frequency with the general increase of nervous strain, to which in some instances it is undoubtedly due, we must take it at its commencement and to do that we must learn as much as possible about its earliest symptoms. I would therefore appeal to all those who may have the opportunity to make as accurate a study as possible of the cases which they may come across and especially to note and to report any with abnormal onsets or in which the causation seems particularly clear. Nervous diseases, largely on account of their hopelessness, are not a very tempting study to the man who is not a specialist, but most valuable aid in the elucidation of disease may be rendered by him and to him in the end the specialist must look for much of the most essential information about the history of cases such as those of insular sclerosis.

Postscript (1905).—Of the cases mentioned three are dead —viz., 14, 15, and 16—but all were private cases and in no case was a necropsy obtainable. Of the others Case 11 subsequently developed spinal caries, though she had no symptoms of it at the time and was shown two months later at a London hospital as a case of spastic paraplegia. Of the remainder nearly all have been seen subsequently, especially Cases 2, 3, 4, 5, 7, 12, and 13. In all the course of the disease has confirmed the original diagnosis but it is interesting to note that the prognosis both as to duration of life and to recovery from mental and physical symptoms has been repeatedly falsified. Case 7 who seemed to be in the last stage of mental and bodily decrepitude, is still alive and sufficiently recovered to recognise me at my last visit and to converse rationally. Case 3 is practically bedridden but quite clear in mind, though emotional; she can hardly use her arms owing to tremors and her eyesight is very bad. Case 12 can get out occasionally, though for a time she seemed absolutely helpless; she is emotional and irritable but quite clear in the head and can use her hands perfectly as a rule, writing quite legibly, and her eyesight is very fair.

Two points seem to be clear: 1. That the slower the onset of symptoms the more hopeful is the prognosis as to remissions and the less likely is any given attack to be finally crippling to mind or body. 2. The fact that the earliest symptoms are cerebral does not necessarily imply that those will be specially predominant later; in both the last cases ocular symptoms came first but the brain and upper cord are comparatively little affected, whilst the paraplegic symptoms have been prominent for some years.

Brighton.

VACCINATION GRANT.—Mr. John J. Huey, L.S.A., public vaccinator of the Mexborough, Adwick, and Bamboro' districts of the Doncaster union, has received the Government grant for successful vaccination.

SABOURAUD'S METHOD OF RINGWORM TREATMENT.

BY J. L. BUNCH, M.D. LOND., M.R.C.P. LOND.

UNTIL quite recently the treatment of ringworm has been tedious, trying, and uncertain. Many medicaments and chemical substances have been vaunted as cures; lotions, ointments, and sprays of various nature have been brought forward as infallible, but the fungus has shown itself to be possessed of an extraordinary amount of resistance when once it has invaded the hair of the scalp. The difficulty of the problem depends on the fact that most of these chemical substances and all antiseptics are capable of killing the ringworm and all other cryptogamic parasites *in vitro*, but no antiseptic can penetrate the hair follicle to a greater depth than one millimetre. The hair of a child, however, is implanted in the skin up to a depth of four millimetres, and the parasite of ringworm involves its root down to the terminal enlargement of the hair bulb. The parasite of favus is similar in that it also is inaccessible to antiseptics, but the disease can be successfully treated by five or six epilations repeated at intervals of a month. This method, practicable in favus because the hair remains solid, is impracticable in ringworm because the affected hair becomes fragile and breaks. It cannot be pulled out entire but breaks at its most diseased portion and the fungus spores remain behind with the root. The hair continues to grow but the parasite continues to develop in proportion to the growth of the hair.

The parasite of ringworm is not always the same and from the point of view of treatment by chemical agents[1] a considerable degree of importance attaches to the variety of fungus which is causing the disease. In England the great majority of cases are caused by the microsporon Audouini—in Fox and Blaxall's cases from 80 to 90 per cent., other observers giving 80 to 96 per cent.—whereas in Paris the microsporon only causes 60 to 70 per cent. of the ringworm cases. In the large spored variety the distribution of the ectothrix and endothrix varieties differs, Sabouraud, for instance, having published a series of Paris cases in which the megalosporon ectothrix was absent in all the scalp cases, although it was found to be the cause of all the cases of ringworm of the beard. In a series of cases published by myself[2] the origin of certain cases of ringworm from animals was proved and in these cases the megalosporon variety was found to be much the more common. Little importance attaches from the point of view of treatment to the question whether the epidermis is attacked before the hairs or *vice versâ*, although my investigations have shown the former to be the case; much more importance attaches to the nature of the fungus. Thus the microsporon is much more resistant to treatment than the megalosporon, some cases in children being so obstinate that they persist, in spite of the most active treatment, till puberty and then the disease disappears for some unknown reason, and in any case we cannot fix a limit within which a cure may certainly be effected.[3]

Such, then, being the result of treatment by chemical substances and the root of the hair being inaccessible to antiseptics, the solution of the problem could only be found by discovering an agent which was capable of inhibiting for a time the function of the papilla from which the hair grows. Such an agent is radiotherapy. During the last few years immense improvements have been effected in the technique and methods of application of radiotherapeutics, but it has been well known for some years that the application of the x rays causes the hairs to fall out, and in 1896, one year after Roentgen's discovery, Freund attempted the treatment of ringworm and various forms of dermatosis by radiotherapy. Since then numerous attempts have been made to establish a definite method of treatment of cases of ringworm but the absence of satisfactory methods of measuring the radiations employed and the resulting accidents have made many experimenters timorous. Moreover, the large number of exposures necessary (as many as 40 have been quoted for a single case) made the treatment of ringworm by radiotherapy of no practical value The unsuccessful results were all due to the same cause—uncertain dosage of the rays owing to an absence of measurement or imperfect measurement of the quality and quantity of the rays applied to the diseased area Of these two measurements that of quantity is more important than that of quality, inasmuch as the therapeutic reaction depends essentially on the quantity of rays absorbed Other factors undoubtedly enter into the calculation, such as the age of the patient, the position of the cutaneous area to be treated, the nature and the degree of the lesion, to say nothing of idiosyncrasy, but these biological factors are of minor importance as compared with the physical factor of the quantity of rays absorbed In England the possibilities of radiotherapy as applied to the treatment of ringworm have not been grasped because no satisfactory attempt has been made to measure the dosage of the rays or to proportion to each case the exact amount of therapeutic agent necessary Measurement of the current supplied to the tube by means of an ampèremeter is not sufficient, the rays generated by a tube vary from time to time according to surrounding conditions and according to the internal conditions of the tube—whether it is hard or soft, new or old The variations in production of two different tubes at different times may naturally be still greater, and the chances of obtaining the same results with two different installations or at different times are almost minimal if we do not know exactly in each case the quality and the quantity of the rays absorbed The dose must be proportioned to the disease This rule applies to other diseases besides ringworm, and where more than one séance is necessary one should adopt Béclère's rule of causing to be absorbed at each séance the maximum quantity of rays compatible with integrity of the integument, and interpose between the different séances the minimum interval of time compatible with integrity of the integument Neoplasms and many other cutaneous lesions must be treated thus, but ringworm offers a simple problem inasmuch as the patients are more or less of a similar age, the lesions are situated on similar areas of the scalp and are the same in character and in depth The dose, too, necessary for successful treatment is less than that which will cause a radio dermatitis, so that it can be administered at a single séance, which is of course a great advantage when dealing with children

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[1] This does not include the x rays.

[2] Bunch: *On Ringworm Infection in Man and Animals*, Brit. Med. Jour., vol. i., 1901, p. 323.

[3] Allan Jamieson: Edin. Med. Jour., June, 1900, p. 547.

The amount of dose necessary for the successful treatment of ringworm has been worked out by Sabouraud at the Hôpital Saint-Louis with the greatest care, and from personal observation covering several months I can assert that his treatment is simple and extremely effective The number of successful cases which I have seen is not only very considerable, but the relative proportion of successful to only partly successful or unsuccessful cases is certainly high Sabouraud has himself published results of treatment which show how greatly superior this method is in his hands to all the methods which he has employed before, and his description of this method and his conclusions are included in this paper The method is painless, the actual time necessary for the treatment is short, and the diseased hairs fall out at a definite interval after application of the x rays and are replaced after a certain time by a growth of healthy hair

The essential apparatus necessary is an electric current, constant or alternating, and a Crookes tube The electric energy for the production of the x rays can be derived from a static machine, a Ruhmkorff coil or a transformer, and the Crookes tube can be of almost any pattern or any age Sabouraud uses a static machine of ten plates driven by a three-quarter horse power dynamo[4] with a Béclère "spinter metre" interposed between it and the tube This latter modification warns the operator at any moment of an increase in resistance of the tube and enables him to make any necessary alterations The tube has an ingenious modification of Villars which enables it to be made "soft" at will To a lateral branch of the tube is attached the open end of a tube of platinum, the other end of which is closed When the resistance of the tube increases this tube of platinum is warmed by a Bunsen burner, gets red, becomes porous, and allows a little of the hydrogen of the flame to enter the tube If the tube contains too much hydrogen or is getting old (after about 50 hours of work) a second platinum tube of larger bore should be placed loosely round the first and heated, the tube will become very "hard" again In practice to render the tube which is being employed harder at will there is interposed a lateral derivation of the current—a resistance The relative hardness or softness of the tube is recorded by the radio-chromometer of Benoist, and in practice it is found that the resistance of the tube should correspond to the fourth division of the scale

Thus, by means of the accessory apparatus we know at any moment what is the degree of penetration of the x rays produced by the tube and are warned as soon as this changes and can immediately make the necessary alterations Only one measurement is still wanting It is that of the *quantity* of the x rays generated by the apparatus in a given time To measure this Holzknecht's pastilles have been employed These are composed of a mixture of alkaline salts and resin which slowly change in colour under the influence of the x rays One is placed in the path of the rays at a distance equal to that of the patient's skin From time to time the change in colour is compared to the standard scale, each of the 12 degrees of which is termed by Holzknecht *one unity H* Experience shows that the tint corresponding to 5 unities H on the scale must not be passed, at least at one sitting But these pastilles, although excellent, are a secret preparation and consequently are expensive To use them on a large scale would be a costly matter and Sabouraud has recently adopted the use of paper covered with an emulsion of platino cyanide of barium, which is cheap and can be employed several times It changes in tint when exposed to the rays and the tint which corresponds to five unities H is found and copied in water colour and kept at hand for reference when working It has an advantage over the pastilles in that it does not become darker when withdrawn from the rays, while the pastilles do, and that it regains its original colour again when removed from the rays and exposed to the light It is less sensitive, however, than the pastilles to the x rays and for estimations must be placed at about half the distance of the pastilles from the anti cathode[5] This must be borne in mind but does not otherwise create any difficulty

From the preceding the following rule is deduced To cure a patch of ringworm it must be exposed at a distance of 15 centimetres from the Crookes-Villars tube, the tube having a resistance corresponding to the fourth division of the radio-chromometer of Benoist, until the quantity of the x rays generated amounts to four and a half or five unities H of Holzknecht's scale By keeping to the above rule we can obtain a depilation pure and simple of the portion of scalp desired without complication of burns either trivial or grave—in a word, without accidents The operator and the healthy portions of the patient's scalp must be protected from the rays by inclosing the tube in an impermeable sheath perforated by apertures, one of which admits a metal tube corresponding to the size of the ringworm patch on the scalp. A scalp treated in this way shows no immediate result Towards the seventh day a scarcely perceptible erythema appears on the area which has been exposed to the rays but it may sometimes escape observation if it be not carefully looked for This erythema disappears after three or four days and is replaced by a pigmentation so little marked that it is necessary to search for it From the fifteenth day onwards the hairs fall out over all the area treated without any effort of traction and in a few days depilation is complete The extruded hairs are less glistening than normal and patients say that they look as if they had been scorched The hairs fall out because of the action of the rays on the hair papillæ, the function of which is paralysed for a time, but for a time only The old hair has been extruded by the time the new hair begins to grow but even when the new hair rapidly succeeds the old the two remain separated as a rule by a complete thickness of interposed epidermis

Thus it is possible that a hair which contains a parasite localised to the horny epithelium can be eliminated outside the skin by a physiological process without the new hair which is growing below being contaminated It is fortunate that this is so, for the action of the x rays is not fatal to the ringworm parasite and cultures made from the remnants of hairs in process of expulsion are still positive Re infection of the scalp is, therefore, easy and the greatest care is necessary to prevent such inoculation

The growth of the new hairs is slow. This is one of the inconveniences of the method but also one of the reasons of its success. The last débris of the diseased hair has long been extruded when the new hairs appear. The new growth as a rule becomes visible in the course of the seventh week after depilation, the tenth week after operation. Its date is a little variable but it never fails and hardly ever is later than 12 weeks after exposure to the x rays. The growth is always slow; in normal cases it is almost complete two months after its commencement. The treatment of a single patch of ringworm is simple. A single sitting is sufficient and the danger of re-infection or recurrence is minimal, but where a large proportion of the scalp is affected or there are numerous small lesions scattered over it a certain degree of difficulty arises. For to act upon all the upper surface of the scalp the tube would have to be placed some way off and as the time of exposure necessary increases as the square of the distance the immobility of a child could not be secured for a sufficient length of time. Moreover, oblique rays are weaker and less depilatory than vertical rays and they frequently lead to the development of pustular lesions round the irradiated area, no doubt owing to the staphylococci which are always present on the scalp ready to develop on any region which has undergone injury. Sabouraud goes further and states that oblique rays have a specific injurious action. Oblique rays should, therefore, be eliminated and where a large area of scalp has to be treated this is best done by dividing it up into several smaller square areas and treating each of them separately. Square areas are much more practicable than round, avoiding overlapping or the omission of small triangular patches where two or three circular areas adjoin, and they can easily be managed either by modifying the shape of the screen tubes or by inserting into the distal ends of the tubes diaphragms of lead in which square holes have been cut. The functional aperture of the screen tube is therefore now square, the areas which are treated can easily be mapped out, and no overlapping need occur at their lines of juncture.

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[4] Vide Bunch: Sabouraud's Treatment of Ringworm by X Rays British Journal of Dermatology, July 1904

[5] 3 1 inches

Sabouraud has had six cases of x ray dermatitis in 2000 séances and these happened before estimation of the quantity of rays emitted by a tube in a given time was possible. In estimating this quantity it must always be remembered that it is much more dangerous to work with rays marking about 10° on the radio-chromometer than with those marking about 4°, since in the former case the rays are not only more penetrating but also more numerous. This has a bearing on the way in which tubes are to be employed. It has been pointed out that a Crookes tube after ten hours of service becomes coloured violet in the part exposed to the action of the x rays and after 30 hours this area begins to look smoky. This latter change is accompanied by a modification of the properties of the tube, in that it becomes more and more difficult to obtain from it the non-penetrating rays equivalent to 3°–4° on the radio-chromometer; when the attempt is made the tube does not illuminate properly and the anticathode hardly reddens, although from the same tube rays corresponding to 8°–10° can be obtained perfectly. These latter rays are equally capable of causing the hair to be shed, but when employing them it must be remembered that more rays are being employed in the same time and that the time necessary for depilation will only be half that necessary when rays corresponding to 4°–5° on the scale are made use of. But if this be remembered and the dosage accurately proportioned the effective life of the tube can be lengthened from about 60 to 150 hours. If, on the other hand, the dosage is inaccurate and the rays marking 8°–10° be continued for the half-hour necessary when rays equal to only 4° are used a well-marked dermatitis will occur about the tenth or twelfth day which at the best will not be more than an erythema and will disappear in a week. Even in this case, however, it will cause an alopecia lasting three or four months. If a more definite burn be produced the alopecia will inevitably be total, lasting, and complete.

Attention must also be paid to the danger of using too small a dose and having to repeat the dose. The first séance, if insufficient, will cause an imperfect fall of hair and if a second séance be given those hairs which survived the first time will fall out, but those which fell out as a result of the first treatment will not grow again. The possibility of such an alopecia resulting must be borne in mind and especially when there is a likelihood of two adjacent areas overlapping during treatment must it be remembered that such overlapping may cause a burn if the doses are maximal, even if an interval of several days be interposed between the applications of the rays. Such accidents can only be avoided by accurate measurement of the quantity of rays absorbed by the skin and accurate dosage but given satisfactory radiometry Sabouraud states that the recurrence of these accidents is impossible. Any want of success is due to other causes, such as restlessness of the child or forgetfulness on the part of the operator leaving an island of hairs which are difficult to see and which show up when the disease is cured everywhere else. Or there may be insufficient depilations at one or two points, leaving several diseased hairs which do not fall out, or reinoculation may take place during the course of treatment. But in spite of these possibilities the results are good. Before the time of radiotherapeutic treatment the average length of treatment of ringworm at the Saint-Louis Hospital was 18 months; now it is three and a half months. During the first six months of 1903 only 57 children were cured in the ringworm schools; during the first six months of 1904, 134 children were cured in the same schools; and among the cases successfully treated by the x rays were included over 100 which had resisted all other treatments. Such results have not been obtained in any other country and cannot be obtained by any other method of treatment. Moreover, these results could be considerably improved upon, even with the same apparatus and the same staff, if the children after having undergone x ray treatment were only kept in the ringworm schools until the hair had fallen out and then sent into the country until the new hair had grown. They would be non-infectious and would require only the most cursory medical supervision. When once the new crop of hair had grown again no trace of the disease would remain. In this way a large number of cases of ringworm could be cured in a short time at small cost and return to their ordinary school routine without the slightest danger of infecting other children.

Margaret-street, W.

SOME CASES OF URETHRAL STRICTURE COMPLICATED WITH A PROSTATIC FALSE ROUTE OR PASSAGE; WITH REMARKS.

BY REGINALD HARRISON, F.R.C.S. ENG.,
HUNTERIAN PROFESSOR OF SURGERY (1890–91), ROYAL COLLEGE OF SURGEONS OF ENGLAND; SURGEON TO ST. PETER'S HOSPITAL, LONDON.

THE records of surgery furnish some remarkable instances of this somewhat rare lesion where persons suffering from it have for some time led a more or less active life. I will take some illustrations of it connected with strictures in the deep urethra.

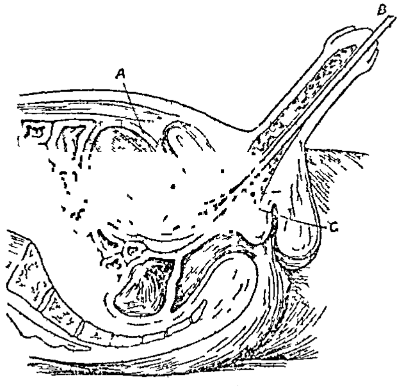
Some years ago a man was landed from a sailing ship in the following circumstances. He was a sailor, aged 40 years, and had suffered for many years from stricture. Three months before I saw him when at sea he broke his small elastic catheter in attempting to relieve an urgent attack of retention of urine. A silver instrument of a larger size was then passed for him by the captain of the ship with much force, pain, and bleeding. This process was subsequently repeated on several occasions during the voyage and the instrument was frequently retained for some hours at a time In the course of some weeks the man passed urine voluntarily in sufficient amount to keep himself comfortable and he was able to get about the ship but not to do duty. His general health, however, began to fail and on his arrival in port he was far advanced in renal disease. I passed a catheter for him but it was obvious that the instrument did not take a natural course, though several ounces of foul urine were withdrawn by it. The line of the catheter could be distinctly traced with the finger in the rectum. He died shortly after his arrival and a necropsy was made. There was a dense stricture in the deep urethra which would only admit a bristle and beneath it was a false passage through the prostate (which was not enlarged) one and a half inches in length which opened into the bladder above the gland and had done duty fairly well for the prostatic urethra.

For the two following cases I am indebted to my old friend the late Mr. W. Cadge of Norwich, whose work in connexion with stone and urinary disorders is so well known and appreciated. Mr. Cadge wrote to me in regard to the first: "This was a case where I made a post-mortem examination and the specimen is now in our hospital museum.

It was that of a man with a chronic stricture and perineal fistula, where a silver catheter had been forced in by a surgeon and the passage gradually dilated up to No 12 (English) The patient wore day and night a soft rubber catheter and he died after a few years of [illegible] After death it was found that the catheter [illegible] urethra at the front end of the stricture and [illegible] the proper [illegible] dder where, [illegible] lined with a smooth, shining membrane and answered the purpose of a catheter fairly well "

The other case was that of a man with an old stricture where a false passage had also been previously made Mr Cadge wrote "I used to pass a No 8 or 9 through the false passage but I felt sure it was a false passage and as he lived a long way from Norwich I put him in the hands of another surgeon nearer him who, with much care and pains got in a minute soft catheter through the stricture, kept it in, and in a fortnight he was able to use No 12 flexible and the patient, I believe, has never had any trouble since Mr Cadge further remarks "So far as my experience goes there is always one sign of a false passage present—viz , when a large catheter is passed and removed the false passage quickly or almost at once collapses and the patient cannot pass urine much better than before any instrument was used "

These two narratives were sent to me by Mr Cadge in response to the written particulars of the following case about which I was desirous of hearing from him It was that of a middle aged man whom I saw some time ago and who had an old tight traumatic or scar stricture and a false passage beneath it from the bulbo membranous urethra tunnelling the floor of the prostate and so entering his bladder through the trigone The lesion or false route seemed to correspond with the first case described in this paper of which I made a drawing (see illustration)



A, The prostate gland B, Catheter leaving the urethra in front of the stricture, passing through the prostate and entering the bladder C, Entrance of the stricture

For some time treatment had consisted in what was supposed to be dilatation of the stricture by the passing of metal bougies Later I was asked to see this patient and I also repeated this process but with the feeling that there was something wrong in the direction of the instrument Subsequently with a set of filiform bougies and fine "whips" I hit off the way through a long stricture immediately in front of the prostate and entered the bladder naturally It was clear then that there were two ways to the bladder through the prostate one by the natural course guarded by a very contracted stricture, and another which had been artificially made, so to speak, for occasions of great and recurring urgency How to close the one and to open the other was the point to determine The stricture was much too scar like and contractile to yield to dilatation, continuous or otherwise Guided by some experience in similar cases it appeared to me that this would be best secured by the combined operation of internal and external urethrotomy[1] This was effected in the following manner, which was planned to avoid adding unnecessarily *to the amount of scar tissue in relation with the urethra* By using a fine Holt's dilator introduced on a filiform guide [illegible] was stretched so as to permit of a Maisonneuve's [illegible] being passed by which the contraction was [illegible] this way I at once enlarged the very contracted urethra sufficiently to enable me to introduce a fair sized median grooved staff into the bladder Upon this a perineal section was performed and one of my full sized gum elastic drainage tubes was put into the bladder along what had been for some years a closely contracted and unused half inch or so of urethra The wound was closed with catgut sutures around the drainage tube which was secured in the ordinary way This patient made an excellent recovery and after many years' painful interruption again passes urine in a natural stream He takes the precaution of occasionally using a bougie for himself

In these cases where the deep urethra is involved in dense masses of cicatricial tissue, mainly the result of disease or injury, or both, and where perineal fistulæ are also present the combined operation is I believe, the surest treatment The possibility of such a complication existing as here described must not be entirely lost sight of in connexion with the symptoms presented in certain forms of deep urethral stricture In the instances which have come under my observation it was found possible to demonstrate that the normal canal though in an extremely contracted form, did exist Further, the cases narrated tend to show that with care and patience it is possible to restore the dimensions of the natural canal by dilatation or otherwise even after long periods of disuse and also permanently to obliterate the false route or passage

Lower Berkeley street W

COLLES'S FRACTURE AND OTHER FRACTURES AND DISJUNCTIONS AT THE LOWER END OF THE RADIUS AND ULNA[2]

By ANDREW FULLERTON, M D R U I,
F R C.S, IREL ,
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THE term Colles's fracture ought to be confined to those fractures of the radius close to the wrist joint in which backward *displacement of the lower fragment occurs* It has, however, been loosely applied to all fractures in the vicinity of the joint The ordinary form of Colles's fracture is usually produced by falling on the hand in the three quarters pronated position and not, as is commonly stated, in the fully pronated position It is usually stated that the accident is most common in women of an advanced age In the series of 69 cases 54 per cent occurred between the ages of 30 and 50 years, and only 38 per cent after 50 years The largest number (17 cases) in any decade occurred between 30 and 40 years and 12 of these were males although taking all the cases together the numbers were 28 males and 29 females About 50 per cent of the women were over 50 years of age, while only 25 per cent of the men were over that age In the men, therefore 75 per cent of the fractures occurred before 50 years The side affected was noted in 47 cases 27 fractures were on the left side and 20 were on the right side In most of the cases the injury was situated within the last inch of the bone The series of sections of bone sawn from side to side and from before backwards shows that the compact tissue ceases about one inch from the tip of the styloid process on the outer side and about three eighths of an inch from its lower end on the inner side Behind, the compact layer descends to within about half an inch of the joint and in front a line or two further down

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[1] THE LANCET June 11th, 1898 p 1611

[2] Abstract of a paper read at a meeting of the Ulster Medical Society held on Feb 2nd 1905 It was based upon a series of 69 cases [illegible] and splints

This accounts for the obliquity from above downwards and from without inwards, which is seen in a large number of the skiagrams. The presence of a spike of bone running up the shaft on the outer side is a marked feature in many cases. (Skiagrams were shown illustrating several unusual forms of fracture, including some of fracture of the radial styloid process alone extending into the joint on the inner side.) The ulna was implicated in over 50 per cent. of the cases. Skiagrams show that in fracture of the styloid process there is considerable variety among the results of treatment. In some this process unites again, in others it becomes thickened, in others it remains distinct, and in others it disappears altogether. In some of the cases fracture of the ulna at the same level as the fracture of the radius was found. Complete separation of the radius and the ulna with probable rupture of the triangular fibro-cartilage takes place in many cases. Fracture of the styloid process of the ulna alone may occur in injuries about the joint, as for instance, when the carpus is dislocated backwards.

The presence or absence of impaction was noted in 45 cases. In 12 there was marked impaction, two of these cases being fractures of both bones at the same level and in others there were probably some posterior impaction and some crushing of the fragments. In all these fractures a good result was obtained by manipulation and splints. Comminution as seen by skiagrams was present in five cases out of 47; it may have occurred in others but was not diagnosed either by skiagrams or by symptoms.

The displacement of the fragments and consequent deformity were carefully noted in all the cases and have been classified under the following three heads. 1. Those in which the lower radial fragment is displaced backwards, this being by far the most frequent form of the injury. 2. Those in which displacement of the lower fragment outwards is the most marked feature. In these cases the patient has probably fallen on the ulnar border of the hand. 3. Those in which forward displacement occurs, this being a very rare form of the injury. The description in text-books in which abduction of the hand is given as a sign of these fractures is open to great objection. In most cases the fingers are either in the normal position or are slightly flexed to the ulnar side, so that adduction of the fingers and radial displacement of the wrist would be a more suitable description. The cases in which there is narrowing of the interosseous space between the radius and ulna must be very rare; in several of those included in the series this space was actually widened in consequence of comminution of the lower fragment of the radius or separation of the radius from the ulna. In the cases with displacement to the radial side the wrist is broadened from side to side, suggesting a line of treatment different from that which is usually employed.

The complications that occurred in the series were as follows: fracture of the ulna at the same level, three cases; fracture of the styloid process of the ulna, 52 per cent.; rupture of the triangular fibro-cartilage allowing of separation of the radius from the ulna (comminution), five cases; injury to the median nerve, two cases; laceration of the tendon of the extensor secundi internodii pollicis by the ragged edge of the lower fragment, one case; fracture of the anatomical neck on the same side, one case; and fracture of a carpal bone (the scaphoid), one case.

In considering the treatment of these fractures it is essential to subdivide them according to the nature of the displacement. In dorsal displacement two splints ought to be applied, the anterior one not coming below the fracture and the posterior one being so padded that the hand is flexed to an angle of 45°. If there is impaction it must in all cases be first broken down, if possible, and the parts firmly pushed into position before the splints are applied. The recent suggestion that no attempt should be made to break down impaction or to employ splints is not to be recommended. The parts, however, ought not to be kept in splints for longer than a fortnight unless in very exceptional circumstances; the patients ought also to be visited every second day and encouraged to move their fingers. In the large majority of cases there was no stiffness of the wrist; when it occurs it is probably due to fracture into the joint or to injury of the carpal bones. In many instances the patients were able to return to their work in four weeks from the date of the accident. In those cases in which radial displacement is the principal deformity I have obtained good results by the use of a newly designed splint consisting of a piece of wood hollowed out to fit the ulnar border of the hand and forearm and having its metacarpal end made at a slight angle to the remainder of the splint. When in position it fits the forearm and ulnar border of the hand and the latter is neither abducted nor adducted. The radial fragment is drawn or pushed into its place and kept there by a pad which is securely fixed by means of a buckled strap passing round the lower end of the splint. The object aimed at is to keep the lower end of the radius close to the ulna by the pressure of the pad and strap. The splint is a little broader than the ulnar margin of the limb, so as to leave room for the circulation of the blood and lymph. Dorsal and palmar splints are useless for the correction of radial deformity.

The 11 disjunctions of the lower epiphysis of the radius all happened in boys at ages varying from seven to 18 years. At that time of life Colles's fracture is much rarer than disjunction of the epiphysis, but among the skiagrams there is one showing Colles's fracture in a boy, aged 11 years. The cause is indirect violence, such as falling from a height upon the outstretched hand or falling in the street on the palm or ulnar border of the hand. Fracture of the tip of the styloid process was seen in one of five skiagrams that were taken. In one case the epiphyses of both the radius and the ulna were displaced slightly inwards as well as backwards. There is reason to believe that the ulnar epiphysis frequently suffers as well as the radial one, for a few days later there is often a swelling at the spot, due probably to a loosening of the ulnar head and consequent epiphysitis. Permanent deformity or arrest of growth is quite exceptional in these cases.

Belfast.

A CASE OF ACUTE HÆMORRHAGIC PANCREATITIS; OPERATION; RECOVERY.

By T. C. LITLER JONES, F.R.C.S. ENG.,
ASSISTANT SURGEON TO THE LIVERPOOL ROYAL INFIRMARY.

A MARRIED woman, aged 26 years, was admitted into the Liverpool Royal Infirmary on Oct. 1st, 1904, with signs of intestinal obstruction. Her history was that except for constipation she had always been in the best of health. No history of indigestion, colic, or jaundice could be obtained. Her periods were quite regular, the last one starting six days before admission. She had had two healthy children. The patient stated that for the last year her constipation had been worse and that her bowels had not been opened more frequently than once a week and sometimes but once a fortnight. Early on the morning of Sept. 30th, whilst turning in bed to reach the baby, she was seized with a severe pain in the abdomen, as if "something had twisted." She had had no motion of the bowels for seven days but went to the closet and passed a small hard motion. The pain being now more severe she sent for a medical man who administered a small dose of morphine and an enema. During the day she had 12 enemata but passed nothing except a little flatus. She was sick ten times. On the day of admission she was sick twice but it was noticed that her abdomen was more distended. She reached hospital about midnight on Oct. 1st, nearly 46 hours after the "accident." Her condition on admission was as follows. She was a well-nourished, well-built woman, with an anxious expression, a dry mouth, and a very foul, furred tongue, which latter condition was out of all proportion to the severity of the case. Her abdomen was distended, there were signs of free fluid in the flanks, and there was a painful area in the epigastrium with localised swelling. Per rectum and per vaginam nothing abnormal was discovered. The pulse, which was 128, was feeble and fluttering. Her temperature was 96·2° F. It was obvious that some accident had occurred in her abdomen and the diagnosis was that of some gastric lesion, possibly perforated gastric ulcer.

The abdomen was opened in the middle line above the umbilicus and on dividing the peritoneum there at once issued a large quantity of bright blood mixed with serum. Probably three pints of free fluid were in the peritoneal cavity. The intestines were only moderately distended. Although her history negatived a ruptured extra-uterine pregnancy I examined the pelvic contents first and finding nothing abnormal proceeded to investigate the condition of the other abdominal viscera. Seeing at the entrance to the lesser sac of the peritoneum fat necrosis I made an opening through the gastro-colic omentum and found the affected organ. The pancreas, which was about three times its normal size, was discoloured, œdematous, and in places hæmorrhagic. There was no bleeding at the time of the operation from the pancreas. I now mopped out from the abdomen the blood and serum and removed from the omentum a small piece of fat for microscopical diagnosis. Having packed the area around the pancreas with gauze I incised that organ longitudinally. Introducing my finger I searched for an obstruction such as a stone or an abscess but found nothing that would account for the condition. My finger gave me the impression of entering a dilated space, which space I packed with sterilised gauze. This packing arrested the hæmorrhage which was never as profuse as I had expected and which at all times could be controlled by moderate pressure. The end of the gauze packing was brought out of the abdomen, the wound was closed in its lower two-thirds, and the patient was returned to bed, having borne the operation well. The packing was cautiously removed in 36 hours' time, when a discharge of clear fluid began and continued. This was pancreatic juice and it soon caused trouble at the upper part of the incision, the lower two-thirds of the wound healing by first intention. Apart from an *abscess which formed in the abdominal wall, owing*, perhaps, to the tube being taken out a little too soon, the patient made an uninterrupted recovery, leaving the hospital quite well, with the wound firmly healed, on Dec. 10th. For the first three weeks after the operation fat-containing food was withheld as much as possible. Her urine was most carefully examined on two separate occasions and nothing in the nature of the crystals described by Cammidge could be obtained. A motion which was passed naturally on the day following the operation was apparently normal and no history of any previous alteration in the appearance of her evacuations could be elicited.

With regard to the pathology of the condition nothing very definite is known. Mayo Robson and Barling emphasise the association of this condition with gall-stones; knowing this I looked carefully for any sign of such at the operation. Halsted, arguing from a necropsy after an unsuccessful operation for acute hæmorrhagic pancreatitis, where the duodenal orifice of the duct was obstructed by a minute calculus, suggested that the bile entered the pancreatic duct by retrojection from the common duct. Opie performed experiments to test this opinion and his conclusions are that the necrosis of the parenchymatous cells and the hæmorrhage represent the primary action of the bile, and that inflammatory action rapidly follows. Mayo Robson asserts that the immediate cause of the various forms of pancreatitis is bacterial infection. Heaton showed specimens of a very similar case recently.[1] In his case the ducts were patent and the microscopical sections showed acute inflammatory changes in the gland and areas of blood extravasation. Deaver, in the American *Medical News* of March 5th, 1904, strongly advises early operation as giving the best results. He recommends free drainage to check progressive necrosis of the pancreatic cells due to the action of the ferment and says that a tense œdematous condition of the organ, without marked involvement of the peripancreatic tissues, calls for an incision in its long axis. The points of interest in this case, apart from its rarity, are the age of the patient, the extremely foul, furred tongue, the absence of any known cause, the difficulty in diagnosis, and the uncertainty of treatment.

Liverpool.

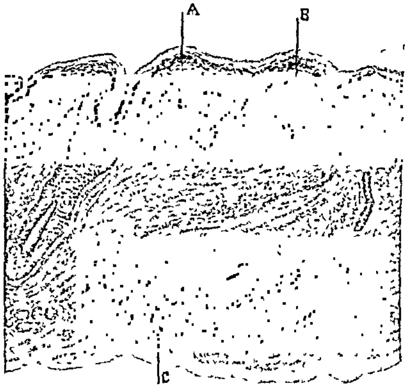
THE HISTO-PATHOLOGY OF SEBORRHŒA, SEBORRHŒIC DERMATITIS, AND PSORIASIS.

BY R. W. BRIMACOMBE, M.D. BRUX.,
ASSISTANT PATHOLOGIST, ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN.

THAT there is a connecting link between seborrhœa, seborrhœic dermatitis, and psoriasis has been recognised by dermatologists, although as far as I am aware only from a clinical point of view. It is my intention in this paper to demonstrate their connexion as seen under the microscope.

I shall, however, adhere to Sabouraud's definition of the word seborrhœa, "flux of sebum," and consider that seborrhœa should be restricted only to those cases in which there is a sebaceous hypersecretion. In all such cases there is hypertrophy of the sebaceous glands. That seborrhœa persists throughout life without any other change is evident, that a dermatitis is liable to develop is certain, and consequently we have seborrhœic dermatitis. In these cases, as I shall show, the secretion is mainly sudoriparous, as the sebaceous glands have become atrophied. Taking a section of a papule at this stage the most striking feature in a microscopical specimen is the partial and in most cases total disappearance of the sebaceous glands. There are, however, other important changes. The horny layer shows slight increase of horny cells—that is to say, increase in depth of layer—but here and there are small areas showing a greater development of *horny cells (piling up) in which are included* a few deeply stained leucocytes (polynucleated cells) (A). This is due to the increased capillary circulation in the cutis pushing up or flattening out the epithelial layers. The epithelial layers themselves are slightly increased, due to a swelling of the epithelial cells and dilatation of the lymph spaces between them. Where the narrowing of the epidermis has taken place the leucocytes pass from the capillary circulation through the dilated lymph *spaces into the horny layer and it is here the more* highly developed horny cells form a kind of roof to these leucocytes (B). At this same point the stratum mucosum cells are flattened, the nuclei of which are slightly swollen, and the protoplasm of the cell does not take the stain so deeply as that of the normal cell. The capillary circulation throughout is increased but it is especially at this shrinking of the epidermis that the greatest development takes place. The endothelial cells are swollen and an inflammatory exudation takes place in which are seen the mononucleated and polynucleated cells. This thinning of the epidermis and increase of the horny cells naturally suggest to one the starting point of psoriasis. The changes which have taken place in the cutis, apart from the atrophy of the sebaceous glands previously mentioned, are the hypertrophy of the sweat glands with wideness of lumen and swelling of epithelium (C). (Fig. 1.) I should, however, mention that in some very few cases there is only marked atrophy of the sebaceous glands and in these the cubical cells forming the wall of the gland and the sebaceous cells are very wasted. Where a papule appears over a hair follicle—more often it does not—the follicle becomes dilated and filled out with horny material only. Here, then, it seems to me we have a *definite cause for seborrhœic dermatitis* and can dispense with the micro-organism theory put forward by continental dermatologists and seconded by the Americans. That micro-organisms are present is evident but they are due to secondary inoculation and are readily

FIG. 1.



Section of seborrhœic dermatitis papule.

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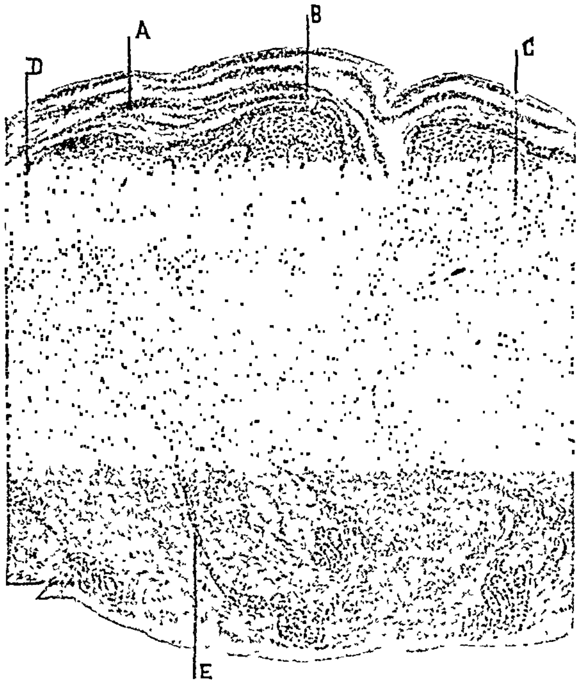
[1] Brit. Med. Jour., Dec. 17th, 1904.

demonstrated in healthy subjects. Surely if the coccus is the cause of seborrhœic dermatitis we ought to be able to find it in the deeper layers of the skin and not only in the horny layer. The sebaceous glands having failed the sweat glands take on an extra amount of work and become hypertrophied in the attempt to keep the skin normally lubricated. This they fail to do and the amount of secretion being altered accounts for the dermatitis. That the secretion at this stage is a sudoriparous one bears out Unna's theory that he has found fat in the coil glands and believes the coil glands to be the source of most of the fatty secretion characteristic of eczema seborrhœicum. Fat globules, however, are readily demonstrated in the normal coil glands.

Clinically, cases of seborrhœic dermatitis and psoriasis mixed are numerous, also cases of seborrhœic dermatitis passing on to psoriasis, but microscopically the connexion between the two so-called diseases becomes evident. In psoriasis the horny layer is well developed, the cells showing well-marked nuclei on account of the cell being softer and not having acquired that characteristic horny condition as seen normally. That is to say, the process of cornification is incomplete and is due to the rapid formation of scales. Between the horny cells are seen some atrophied wandering cells—polynucleated leucocytes (A). The stratum granulosum cells become flattened without well-marked granulation (B) and the stratum mucosum cells are swollen, with dilatation of the lymph spaces between them. The inter-papillary cone (C) shows high development and is pushed down into the cutis. The papillæ (D) are widened, the connective tissue œdematous and staining badly. (Fig. 2.)

FIG. 2.



Section of patch of psoriasis.

The capillaries in these spaces are dilated and increased with surrounding leucocytosis. Owing to the development of the capillaries and consequent pressure the whole epidermis becomes thinned and the epithelial cells flattened out, only one or two layers of the stratum mucosum remaining instead of the eight or ten normally. This condition, together with the dilated lymph spaces, accounts for the leucocytes wandering amongst the horny cells and the well-known clinical sign of a readily bleeding surface after removal of the scale with the finger-nail.

As in seborrhœic dermatitis, so in psoriasis the cutis shows the most important changes. There is a great increase of connective tissue with swollen bundles and *proliferation of connective tissue cells. The lymphatics and* blood-vessels are dilated with infiltration of leucocytes around their walls. The sebaceous glands as a rule are absent but occasionally they are present in a very atrophic state. The most noticeable feature, however, is the atrophic condition of the sweat glands and duct. I do not mean to infer that they are completely atrophied or useless. All stages are seen both in the duct and the glands, from the swollen epithelium in one part to the atrophic condition of the cells in another and their total disappearance elsewhere (E). Where the swollen epithelial cells are present there is wideness of the lumen of both duct and glands and where atrophic cells are present the lumen is narrowed and in some cases closed up by the approximation of the two atrophic cellular layers. The duct of the sweat glands is increased in length, having to accommodate itself to the greater increase of cutis and the lengthened duct is probably due to the pressure on each side of it of the œdematous connective tissue. The atrophy is also to be explained in a great measure by disuse. In old-standing cases of psoriasis the œdema of the connective tissue has disappeared and the depth of the cutis more closely approximates that of the normal. It is also in these cases that the atrophic condition of the sweat glands and duct is most marked. The natural secretions of the skin failing, the accompanying inflammation must be looked upon as a *secondary process* and not as stated by Unna and Elliott "to be a primary affection and not a disturbance in secretion."

Cavendish-square, W.

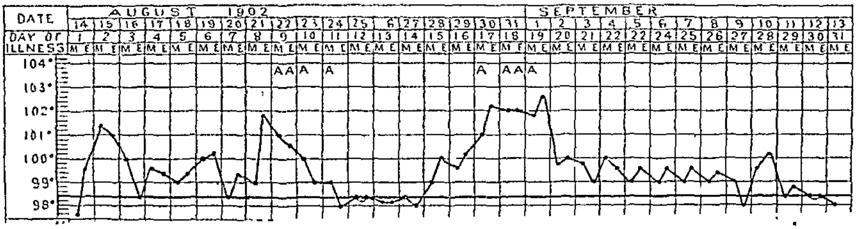
A CASE OF ENDOCARDITIS WITH PERICARDITIS FOLLOWING SCARLET FEVER; TREATMENT BY ANTISTREPTOCOCCIC SERUM; RECOVERY.

BY ALFRED R. SPENCER, M.B. LOND., M.R.C.S. ENG., L.R.C.P. LOND.

THE following case is of interest for two reasons—first, because antistreptococcic serum, although of proved efficiency in other conditions, is still on its trial in cases of endocarditis of malignant type, and secondly, because endocarditis and pericarditis are not common sequelæ of scarlet fever.

The patient, who was a boy, aged five years, was taken to the South-Western Hospital of the Metropolitan Asylums Board on June 22nd, 1902, suffering from scarlet fever. He was transferred to the Board's Northern Hospital at Winchmore-hill, N., as a convalescent on July 22nd. While at the South-Western Hospital he had otorrhœa of both ears early in July, but on arrival at the Northern Hospital both discharges had ceased. He had never had rheumatism but had always been a weakly child. There was cardiac trouble on the father's side and the mother had had rheumatic fever three times, her last attack being shortly previous to the patient's birth. After his transfer on July 22nd the patient had been up and about up to August 13th. His temperature on the night of August 13th was found to be 101° F. and it continued so till the early morning of the 14th, dropping to 97·6° later in that day. In the evening it was again 101°. The patient was now definitely ill, restless, and complaining of slight pain behind the right ear but chiefly of pain on the right side of the chest; he had also slight cough. His respirations were rapid, being 48 per minute in the evening; at night they were more rapid still—namely, 60 per minute—and he was in great pain and distress. On examination the fauces were found to be reddened; some loose mucous exudate was also seen on them and on the posterior pharyngeal wall. The chest was fairly covered and was of fair shape and size; there was no obvious bulging of the præcordium or of the bases of the lungs. Cardiac pulsation was seen and felt over the cardiac area in the fourth and fifth intercostal spaces of the left side outwards as far as the nipple line. The impulse was forcible but showed some irregularity in both force and rhythm. There was no cardiac thrill. No pericardial or pleural friction was felt. There was some impairment of the movement of the left base in the axillary line. The lungs showed signs of pleurisy and slight patchy consolidation at the left base in the axillary line and in both bases posteriorly. The area of maximum intensity of the cardiac impulse was just internal to the nipple line in the fifth space. The right and upper limits of dulness were normal; the left limit was just internal to the nipple line. Auscultation of the heart revealed at the apex a well-marked somewhat rough systolic murmur which was heard over the area of maximum intensity of impulse and was localised to this area. Also, localised to this area a pericardial rub was heard at the end of the systolic murmur and throughout the diastole; this rub was confined to the region of the apex. Over the pulmonary and tricuspid areas the heart sounds were embryonic in character. At the aortic cartilage the first sound was weak.

On August 15th his temperature was 101° and his pulse quickened to 156 per minute, from 130 on the day before. On the 16th there was a morning fall of temperature. The cardiac impulse was seen and felt half an inch external to the nipple line. No pericardial sounds were heard. On the 18th the cardiac impulse was three-quarters of an inch external to the nipple line but the outer limit of the cardiac dulness was one inch external to it, and the upper limit of the dulness reached the lower border of the second rib. On the 20th pulsation could be seen in the third, fourth, and fifth intercostal spaces and percussion revealed dulness in the first and second spaces close to the sternum. The skin showed a raised confluent erythema in irregular patches, gyrate, scattered on the trunk and more widely scattered on the limbs. There was none on the face and there was no irritation. Later in the day there were diarrhœa and also vomiting of the contents of the stomach. On the 21st the diarrhœa and vomiting continued; at times there was some irregular sweating; the facial expression was anxious and frightened as though the patient were fearful of some impending calamity and there was much respiratory and cardiac distress. The eruption continued to spread; it was still gyrate; it was paler centrally than at the periphery, where there was a well-marked border, dusky purple-red in colour. On the 22nd the patient was prostrate in bed, apparently unconscious of his surroundings and possessing very little control of the sphincters. His tongue was dry; the teeth and lips were covered with sordes; the pulse was flickering; his temperature was 101° at 10 A.M. There was profuse sweating at irregular intervals. The eruption had spread so that the trunk was almost covered. At 1.20 P.M. ten cubic centimetres of antistreptococcic serum were injected hypodermically into the loose tissue of the flanks. His temperature at 6 P.M. rose to 102·2° and at 10 P.M. dropped to 100·6°. Ten more cubic centimetres of serum were given. On the 23rd the patient was much better, the rash was fainter, and the sweating was less copious. Ten cubic centimetres of serum were given at 12 noon. His temperature at 10 P.M. was 99°. On the 24th the rash was almost gone. There was obvious bulging of the præcordium and pulsation was diffuse in the third, fourth, and fifth intercostal spaces. The cardiac impulse was three-quarters of an inch external to the nipple line but the outer limit of the cardiac dulness extended outwards to the anterior axillary line. The results of auscultation were as follows. Succeeding the systolic murmur at the apex there was a diastolic murmur replacing the second sound. At the base, over both pulmonary and aortic cartilages, there were soft systolic murmurs followed by a sharp second sound. There was also a shuffling pericardial friction sound, altering in the time of its occurrence with reference to the cardiac cycle. There was no enlargement of the liver or spleen.



On the 25th and 26th the temperature did not reach above 99°. On the 28th it rose to 100°. There was on the abdominal wall an irregular papular rash, light pink in colour, fading on pressure, quite symmetrical on the two sides, and bounded laterally by the nipple lines; towards Poupart's ligament it became a raised erythema in large scattered patches, darker in colour than above described, and its colour was more persistent on pressure. This rash did not extend below Poupart's ligament and on the next day it had almost disappeared. On the 30th bulging of the præcordium was much more marked and dulness extended over the inner ends of the first and second intercostal spaces on the left side for one and a half inches. The liver dulness extended a finger's breadth below the right costal margin. Injections of serum were recommenced as shown on the accompanying chart. At night the patient was very restless and was observed to lie chiefly on his left side but he did not complain of pain. The respirations varied much in amplitude and frequency, at times assuming a Cheyne-Stokes character; the diaphragm moved normally. On the 31st there was some reappearance of the rash; the inguinal glands were enlarged and tender. The pulse-rate was 156 and the temperature was 102·4°.

On Sept. 1st pulsation was seen over the whole of the præcordium and in the left mid-axillary line in the fourth and fifth intercostal spaces. Dulness extended outwards to the left mid-axillary line below and reached in the third space to the nipple line. A to-and-fro pericardial rub was heard at the inner ends of the second, third and fourth spaces and over the sternum adjoining. At the base of the left lung behind and in the axilla there were signs of compression of the lung. The axillary glands were slightly swollen, those on the left side being tender as well. On the 3rd the dulness on the right side of the heart was extending in the lower spaces. On the 6th signs of lung compression were well marked at the left angle of the scapula. Over the aortic cartilage there was a systolic murmur conducted up into the carotid arteries and heard over the subclavian. On the 7th two large irregular patches of erythema appeared on the skin of the abdominal wall with a few faint spots on the thighs. There was pain over the left hypochondrium and friction fremitus was very well felt over the inner ends of the intercostal spaces, especially close to the sternum. The patient was very wasted and very pale. On the 8th the bulging over the præcordial area was a marked feature at this stage, as also the pulsation visible over the whole area, somewhat undulating in character. On the 11th auscultation at the apex revealed a whistling systolic murmur, preceded by a rough, loud, harsh presystolic murmur. Over the aortic cartilage there was a well-marked to-and-fro murmur; capillary pulsation was not obtained.

By Sept. 22nd the patient was assimilating food well and was not wasting so much. By the 29th the fluid in the pericardium was practically absorbed; there were signs of pericardial adhesion and of much dilatation of both left cardiac chambers. The aortic murmurs had cleared up and the pulmonary sounds were then embryonic in character.

On Oct. 20th the patient's appetite was good and he was gaining strength and flesh rapidly. The cardiac impulse extended outwards to the anterior axillary line in the sixth left intercostal space and did not change as the patient changed his posture. In the fifth space, internal to the position of the impulse, there was some systolic recession. There was some impairment of the percussion note at the inner ends of the first and second left spaces for an inch or more. The cardiac dulness on the right side did not extend across the middle line. On auscultation both sounds at the apex were found to be replaced by murmurs. The systolic murmur was rough and loud; it was heard best at the point of impulse but was conducted out to the axilla, and was heard also over the whole of the cardiac area and over the whole of the back of the chest. The diastolic murmur was very soft, blowing, and quite localised to the apex and neighbourhood.

Summarising the general features of the case it may be remarked that the patient did not suffer from rheumatism or joint trouble. A systolic murmur localised to the apex may occur in patients convalescent from scarlet fever; this murmur disappears later and is probably hæmic in origin or arises in connexion with the slight cardiac dilatation so often met with in these convalescent cases. It is evident that in the case above described the mitral valve was very definitely affected and permanently impaired. The aortic murmurs, which subsequently cleared up, may have been due to pressure of exudation outside the aorta causing functional derangement of valvular action, and the return to normal valvular action may have been consequent on subsidence of the exudation; at the time of recurrence, however, it was feared that the aortic valve was permanently damaged structurally. The occurrence of irregular temperature with a cardiac murmur, accompanied by vomiting, diarrhœa, rash, and sweating, rendered the diagnosis of early infective endocarditis tolerably certain. The grave constitutional symptoms observed on August 22nd pointed to a profound toxæmic condition, with probable involvement of nerve centres.

With regard to the use of serum treatment in cases of infective endocarditis I find that up to the date of this patient's illness eight instances of the use of antistreptococcic serum in such cases had been published in THE LANCET and opinion was divided as to its efficacy; of the eight then reported cases four had recovered and four had died.

From a study of these published observations it is clear (1) that the earlier the treatment is begun the better is the hope of recovery; (2) that it is undesirable to wait for a positive confirmation of the diagnosis, such as embolism or infarct, before beginning treatment; and (3) that the size of dose should be regulated, not by the age of the patient but by the gravity of his or her condition.

The accompanying temperature chart is a *résumé* of a four-hourly chart; it shows the temperatures at 10 A.M. and 10 P.M. but does not show the daily remissions as clearly as they occur on the four-hourly chart. The improvement with serum in each case is apparent.

After I had written the above Dr. Cyril Ogle published in THE LANCET of March 14th, 1903, p. 720, a *résumé* of 19 recorded cases of malignant endocarditis treated with the serum in which an attempt was made to identify the organisms present. Of these some were mixed infections; in seven of the cases streptococci had been found in the blood; of these seven three cases of recovery were reported with only one recovery in the case of the others. Dr. Ogle's conclusions were (1) that though, taking all cases of septicæmia treated with the serum, there was a certain chance of recovery in most, yet in malignant endocarditis the chances were less favourable on account of the colony of cocci involved in the vegetations being in constant contact with the blood stream; (2) that the occurrence of staphylococci, or a mixed infection, was frequent; and (3) that if examination of the blood prove negative then it would be prudent to inject sera "anti" to both varieties of organism.

With regard to the nature of the micro-organism present in acute cardiac conditions in infectious disease it may be interesting to state that in the Western Hospital of the Metropolitan Asylums Board at Fulham I had under my care a case of acute pericarditis coming on early in the acute stage of scarlet fever; the illness proved rapidly fatal, and cultivation of the blood taken before death gave a copious pure culture of staphylococci.

I am indebted to Mr. F. N. Hume and Mr. R. M. Bruce, medical superintendents of the Northern and Western Hospitals respectively, for their permission to publish the above.

FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE AT LISBON.—Dr. R. Saundby has accepted the post of reporter in the Section of Medicine on the subject of the Treatment of Cirrhosis of the Liver.

TRAUMATIC LUMBAGO.

BY FRANK ROMER, M.R.C.S. ENG., L.R.C.P. LOND.

BY traumatic lumbago I mean a condition in which pain and stiffness in the lumbar region caused by injury persist long after the immediate and acute effect has passed away. Many such cases have come to my notice and they have shown good results from treatment based on the assumption that the condition is due to some adhesions in the muscular or tendinous structures of the lumbar region.

It is obvious that absolute proof of the exact lesion in cases of this kind is not to be found. In the first place, if the subjects of this complaint come under treatment they are fortunately very unlikely to be the objects of a post-mortem examination at all soon after. As a matter of fact, I have never had an opportunity of investigating post mortem the lumbar region of any person who had recently suffered from, or been treated for, traumatic lumbago. In the second place, the damage, whatever its exact nature, is deeply seated in a part of the body where muscular and tendinous fibres are thickly superimposed. It is not possible, therefore, to be certain of bands or adhesions in the same way that can be done in the case of a knee- or elbow-joint, for instance, or between viscera in the abdomen. The nature of the accident, however, that produces the condition and the results of treatment leave in my own mind little doubt that the causative lesion is of the nature of adhesions, and possibly adhesions affecting the bony structure of the sacro-iliac joint, as well as neighbouring tendons.

The history of these cases generally tells of some definite, though frequently slight, sprain or rick of the back, necessitating, perhaps, but a few days' rest for apparent recovery. Instead, however, of perfect recovery the pain, though rarely severe, does not quite disappear and as time goes on becomes more persistent. Lumbar stiffness increases and a condition arises similar to that of chronic lumbago. In the majority of these cases pain, though present in the whole lumbar region, is especially referred to one defined spot in particular. Treatment is then usually instituted on the supposition that ordinary lumbago is the condition to be dealt with. Such treatment is of little or no use in the cases to which I am referring.

On examination the lumbar muscles generally are found to be wasted, whilst on the affected side they are usually also rigid and contracted. It may be assumed that it is here that some matting of the muscles or adhesions amongst the deeper tendons exist. In making this examination my first care is to exclude the possibility of the case being one of early spinal caries. This being determined treatment aims at stretching the contracted muscles and rupturing the adhesions which are deemed to be present. An anæsthetic is given both for the prevention of pain and to insure complete muscular relaxation and absolute freedom in manipulation. The patient is placed on his back, the leg on the sound side is flexed at the knee, and the thigh is flexed on the body till the knee touches the chest wall. It is then brought back to the extended position. The leg on the affected side is now put through the same movements and comparison can be made as to the difference in resistance. Almost invariably it will be found that the leg of the affected side is not brought up with the same ease as was the other. Both legs are now brought up together and both knees should be kept pressed against the chest for about a minute. The legs are now brought down again flat on the bed and the patient is raised to a sitting posture. The operator places one hand firmly over the affected lumbar region, whilst with the other he thrusts the patient back towards the bed. The hand in the small of the back causes the part against which it is placed to be extended. By this procedure the lumbar portion of the spinal column is put through flexion and extension as the patient is pressed forwards and backwards. As a rule little pain is experienced after the manipulation and there is no need to enforce rest once the effects of the anæsthetic have passed off.

The after-treatment is directed towards the maintenance of movement, for which purpose it is advisable to have the lumbar and gluteal muscles skilfully shampooed within six hours of the operation. In the course of a few days exercises graduated by means of pulleys and weights should be commenced in addition to the rubbing. These serve both to restore the muscle waste and to keep the part supple. Later swimming is the finest of all exercises for the same purpose. With the increase of strength there are freer movement and decrease of pain. I append brief notes of the following cases as examples of traumatic lumbago.

I may say that Case 1 illustrates remarkably well the kind of accident which is liable to cause the damage that results in traumatic lumbago. The patient, a strongly built young man, was returning from the hunting field. He was leaning sideways to stop a swinging gate when his horse suddenly swerved. The twist suddenly given to his back in the effort to retain his seat caused immediate sickening pain in the lumbar region. The dull pain that subsequently persisted was well localised to a small portion of the left lumbar region. All treatment failed till the proceedings above described were carried out. The result was complete recovery.

CASE 1.—The patient, a male, aged 28 years, sprained and twisted the left side of the back eight months previously. He rested a fortnight absolutely but had never recovered lifting power. There was dull pain in the lumbar region. For the past two months this had been worse and he had laid up again. This gave no improvement. He had tried treatment for rheumatism. He was operated on as described above and also shampooed and exercised afterwards. In two months' time he was able to play cricket and to ride free from pain. (He has remained well for six years.)

CASE 2.—The patient, a male, six months previously sprained the right sacro-iliac region lifting his wife who was ill. After this he spared it as much as possible. It had been painful off and on ever since, more continuously for the past few months. No treatment but rest had been tried. He was operated on as described above and shampooed and exercised. He did well. I saw this patient recently. He has been sound since the treatment and has hunted regularly.

[illegible] months [illegible]o treat- [illegible]ill four [illegible] treated [illegible] and he [illegible]l, espe- [illegible] to ride or to row. When I saw this patient the lumbar muscles were very wasted and contracted, especially on the left side. I operated on him in the manner described. Afterwards he was shampooed and exercised. Marked improvement took place within ten days. When last seen he was able to ride and to walk about freely with very little pain.

CASE 4.—The patient, a male, sprained his back wrestling three years previously. He rested. Again at football three months previously he repeated the injury. Absolute rest was instituted. Pain on attempting to lift anything from the ground, especially on the left side, persisted in spite of prolonged rest. The left lumbar muscles were rigid and contracted. He was treated as the preceding case. He did very well and when last seen was entirely free from pain with perfect movement.

CASE 5.—The patient, a male, four years previously "ricked the back." Eight months previously he ricked it again. He kept quiet for a few days. Pain had been constant of late. Riding was painful and lifting was painful, with loss of power, especially on the left side. No treatment was tried but rest. The lumbar muscles on the left side were rigid. Movement was impaired. Operation was carried out as described above with shampooing and exercising. He was practically sound in three weeks. He is now able to bend and to lift with ease.

CASE 6.—The patient, a male, in May, 1903, on moving quickly experienced sudden and acute pain in the lumbar region, entirely incapacitating him. He was treated for lumbago. In the following August he was worse. Rest and rheumatic treatment were tried. Massage improved the condition. On attempting exercises three months previously he became much worse. He tried Droitwich for six weeks with heat baths. There was no improvement. The patient had been an athlete and was powerfully built. In November, 1904, he was unable to stand straight and sitting any length of time caused lumbar pain. There was considerable lateral lumbar curvature and he was doubled up, as in extreme old age. The lumbar muscles were so contracted that movement was nearly impossible. I operated as in the previous cases. Shampooing and exercises followed. He began to show immediate improvement. He was able to lace his boots within a week and within a month to touch his toes without bending the knees. He then went to the country to carry on treatment for himself but returned in two months, having strained himself in the right lumbar region. I stopped the exercises and ordered him to be shampooed only. Gradual improvement followed. Pain is now (January, 1905) practically absent, the curvature has disappeared, and movement is nearly perfect. This case was particularly interesting from the extraordinary amount of deformity present.

Cases 1 and 2 I saw with my partner, Dr. Wharton P. Hood, who first advocated this treatment and it is with his permission that I publish them.

Seymour-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A NEW METHOD OF ACCURATELY EXAMINING THE HYMEN IN MEDICO-LEGAL CASES.

By J. LIVINGSTONE LOUDON, M.D. GLASG., D.P.H.

IN all cases of alleged rape it is of the utmost importance that the condition of the hymen should be ascertained and if it has sustained any injury the full extent, nature, and position of it accurately estimated. Of course, it is only in cases where the victim has up to the time of assault been a virgin that the hymen will most likely show traces of injury and the younger the woman the more difficulty there is in making an examination which is at the same time painless and yet thorough.

The following method of thoroughly exposing the hymen I have frequently found most effectual; it is, moreover, simple, easily managed, and, if done carefully, painless. The patient being in the lithotomy position and swabs from the vagina (for examination for semen) having been taken the parts are freely treated with a 20 per cent. solution of cocaine, possible toxic effects where there are large raw surfaces being kept in mind. An ordinary soft red rubber catheter is then taken and over its point for about one inch or one and a half inches there is placed an ordinary indiarubber condom which is tightly bound into the stem of the catheter by a few turns of thread. There is thus improvised an instrument closely resembling one which used to be employed for arresting hæmorrhage in cases of epistaxis, the armed catheter being placed in the nose and the point inflated and so caused either to press on the bleeding point or plug the nostrils. This arrangement is gently passed into the vagina; the point is then expanded either by inflation or by injecting a small quantity of warm water; this done the catheter is clamped. There now is inside the hymen what may be termed a miniature Champetier de Ribes bag and by making *very gentle* traction on the catheter the hymen is put slightly on the stretch and bulged from within. In this way the whole hymeneal margin is fully exposed to view, so that any interruption in its integrity is at once detected, however slight it may be. In very young girls this method will be found particularly useful, as the hymen is very inaccessible then.

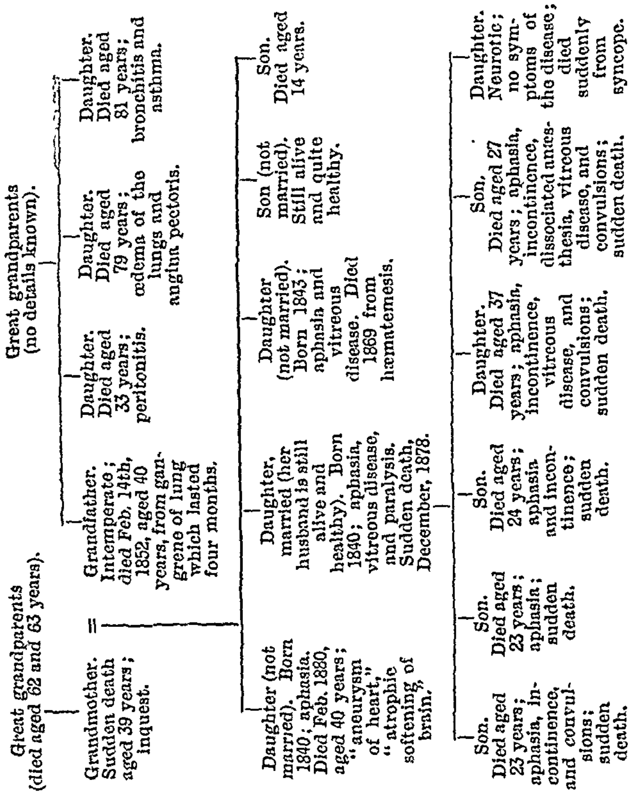
Hamilton, Lanarkshire.

A NOTE ON A CASE OF HEREDITARY APHASIA.

By W. GREAM STONE, M.A., M.D. OXON., F.R.C.S. ENG.

THE following case, for the details of which I am indebted to Mr. R. H. Jocelyn Swan, is reported to complete a series of cases published in the autumn number of *Brain*, 1902. The patient was the last survivor of a family of six, five of whom had suffered and died from this disease, which also affected their mother and two of her sisters. The main clinical features of the disease, which does not appear to [illegible] to adult life, are the [illegible] aphasia with loss of power on the right [illegible], (2) incontinence of urine, probably due to analgesia of the bladder wall; (3) gradually increasing opacities in the vitreous humour of the eyes; (4) loss or diminution of the senses by which pain and temperature are appreciated; (5) epileptiform convulsions; and (6) sudden death preceded by complete unconsciousness. The pathology of the disease in the only case in which there was an opportunity of examining the organs after death proved to be a spinal leptomeningitis which extended from below upwards until the cerebral meninges were affected in a like manner; the posterior columns of the cord and the posterior nerve roots showed well-marked degeneration.

The following family tree will show the number of children in each generation and the degree in which they were affected by the disease:—


Great grandparents (died aged 62 and 63 years).
Great grandparents (no details known).
Grandmother. Sudden death aged 39 years; inquest.
=
Grandfather. Intemperate; died Feb. 14th, 1852, aged 40 years, from gangrene of lung which lasted four months.
Daughter. Died aged 33 years; peritonitis.
Daughter. Died aged 79 years; œdema of the lungs and angina pectoris.
Daughter. Died aged 81 years; bronchitis and asthma.
Daughter (not married). Born 1840; aphasia. Died Feb. 1880, aged 40 years; "aneurysm of heart," "atrophic softening of brain."
Daughter, married (her husband is still alive and healthy). Born 1840; aphasia, vitreous disease, and paralysis. Sudden death, December, 1878.
Daughter (not married). Born 1843; aphasia and vitreous disease. Died 1869 from hæmatemesis.
Son (not married). Still alive and quite healthy.
Son. Died aged 14 years.
Son. Died aged 23 years; aphasia, incontinence, and convulsions; sudden death.
Son. Died aged 23 years; aphasia; sudden death.
Son. Died aged 24 years; aphasia and incontinence; sudden death.
Daughter. Died aged 37 years; aphasia, incontinence, vitreous disease, and convulsions; sudden death.
Son. Died aged 27 years; aphasia, incontinence, dissociated anæsthesia, vitreous disease, and convulsions; sudden death.
Daughter. Neurotic; no symptoms of the disease; died suddenly from syncope.

The case here referred to is the daughter who died at the age of 37 years. She had suffered from vitreous opacities for nearly ten years and, like one of her aunts, had become quite blind before her death. In its general course the disease in her case resembled that of her mother and aunts, rather than that of her brothers, for the eye symptoms were prominent long before the more marked clinical features appeared and she lived to a very much greater age than any of her brothers, dying at the age of 37 years, while they died at 23, 23, 24, and 27 years of age respectively. This suggests a tendency on the part of the disease to take a different course in the two sexes, being more chronic in women, with at first much predominance of the vitreous disease, and acuter in men with early spinal symptoms. Ultimately this patient appears to have exhibited the complete syndrome of symptoms with the exception, perhaps, of the dissociated anæsthesia for she had frequent attacks of aphasia with loss of power in the right arm, convulsions of great violence and long duration, incontinence of urine (and finally also of fæces), and coma for some hours before death. It is unfortunate that no post-mortem examination could be obtained in her case to corroborate the pathological changes found and reported in the case of her brother.

Denmark-hill, S.E.

UNIVERSITY OF OXFORD: BOARD OF FACULTY OF MEDICINE.—The following have been elected members of the Board of Faculty of Medicine and will hold office until February, 1907: Sir William Selby Church, Bart., D.M., Christ Church, Honorary Fellow of University College; Walter Ramsden, D.M., Fellow of Pembroke College; Ernest William Ainley Walker, D.M., Fellow of University College; Walter William Fisher, M.A., Corpus Christi College; Samuel Hatch West, D.M., Christ Church; and William Bruce Clarke, B.M., Pembroke College.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

BOLINGBROKE HOSPITAL, WANDSWORTH COMMON, S.W.

SOME CASES OF ABDOMINAL INJURIES IN CHILDREN.

(Under the care of Mr. HAROLD BURROWS.)

CASE 1. *Ruptured intestine.*—A boy, aged nine years, was admitted to Bolingbroke Hospital on August 22nd, 1903. 24 hours previously, while playing in the street, he had been knocked down by a brougham, both wheels of which, it was said, had passed over his body. The occupant of the carriage at once got out and inquired how much the boy was hurt, but he declared that he was not hurt at all and subsequently he walked home, a distance of a quarter of a mile. A medical practitioner who was requested to visit and to examine the patient was unable to find any evidence of a serious injury and assured the parents that there was no harm done beyond a few bruises. However, shortly afterwards the patient began to have pain in the abdomen which soon became severe; vomiting then commenced and was repeated at intervals throughout the night and the next day, and the abdominal pain became intense. On his admission to the hospital the patient was in great pain and was frequently retching and vomiting. He said that the shaft of the carriage struck his forehead—where there was a bruise—and that both wheels had gone over his stomach. His pulse was of small volume with a frequency of 128. The abdomen was moderately distended and rigidity and tenderness were marked. There was a bruise extending from the right hypochondrium to the left inguinal region. Light percussion over the region of the liver produced a tympanitic note. Perforated bowel was diagnosed and immediate operation was performed. A median incision was made above the umbilicus and gas escaped from the peritoneal cavity. There was diffuse peritonitis. About 12 inches from the duodeno-jejunal flexure the jejunum was found to be divided completely except for a strip of mucous membrane which remained untorn near the mesenteric attachment. Much bile-stained material had escaped into the peritoneal cavity from the bowel. The gut was united, the peritoneum was cleansed by sponging, and the abdominal wound was sutured. The patient did not rally and died 12 hours after the operation.

CASE 2. *Lacerated mesentery.*—A boy, aged five years, was admitted to Bolingbroke Hospital on June 9th, 1904, having been run over a few minutes before by a hearse which was carrying to the cemetery the body of a man who had died in the hospital. Mr. E. M. W. Hearn, the resident medical officer, at once diagnosed internal hæmorrhage. On the arrival of Mr. Burrows the patient was pale and collapsed with a pulse of 160. There was dulness in both flanks. A diagnosis of rupture of the liver or spleen was made and operation was undertaken at once. A median incision above the umbilicus revealed blood in the peritoneal cavity, but the blood was mostly below the transverse colon, and an examination of the liver and spleen proved them to be undamaged. The incision was continued downwards and the mesentery was found to be lacerated in no fewer than eight places, several of the rents passing completely through the mesentery, while the largest one extended from the intestine obliquely upwards into the mesenteric root. A large vessel was bleeding at the upper end of this rent. This vessel was ligatured and the three largest rents were sutured with fine silk. The feeble condition of the child made it undesirable to prolong the operation by sewing up the smaller tears in the mesentery. The small intestine was nearly empty and was uninjured. The abdominal wound was then sutured. Although it was feared that the bowel might suffer from injury to its blood-supply no complication of this nature occurred Recovery was uninterrupted and the patient was discharged on July 1st

CASE 3 *Ruptured spleen* —A girl, aged four years, was taken to the Bolingbroke Hospital on July 26th, 1904, with the following history She was walking hand in hand with another child at a school treat when the horse in the provision cart took fright and bolted, knocking both the children down A medical man was at once summoned and was requested to examine the patient's companion who had a bruised head but he was told that he need not trouble to examine the other as she was not hurt—indeed, she was sitting in a chair eating a piece of cake and looking quite well Later in the day she complained of pain in the abdomen and became faint and was taken to the hospital On her arrival there it was noticed that she had an anxious expression as though there were some abdominal injury She complained of pain in the stomach and when asked to show where the pain was she placed her hand on the epigastrium The abdomen moved freely on respiration, was soft, and the only physical signs discovered were slight dulness in both flanks, more marked in the left, and absence of free mobility of the left costal arch The patient was not pale The pulse was 140, the temperature was 97 6° F , and the respirations were 32 Immediate operation was not advised but the nurse in charge was requested to keep a half hourly record of the pulse rate and to make known immediately any increase of its frequency Throughout the night the pulse varied between 124 and 140 but at 6 30 A M the child appeared suddenly to get faint and the pulse was found to be 168 having been 140 half an hour before On the arrival of Mr Burrows soon afterwards he found the child collapsed There were rigidity and tenderness in the left hypochondrium. The pulse was 176 and the respirations were 32 The abdomen was opened in the mid line above the umbilicus and blood was at once apparent in the recess between the stomach and the transverse colon The liver was examined and found to be intact The spleen, however, was felt to be lacerated The incision was extended to a short distance below the umbilicus The spleen could now be brought to view and was seen to be torn in halves by a horizontal rent extending beyond the hilum There seemed to be no bleeding from the lacerated spleen, but the patient was very faint no pulse being manifest at the wrist, and the pedicle had to be drawn upon in order to bring the spleen into view, either of which circumstances might have accounted for a temporary arrest of hæmorrhage The laceration was too extensive to permit of security from renewed bleeding together with conservation of the spleen, so this was removed Three interlocking silk ligatures were passed beneath the spleen and tied and the spleen was cut away with scissors a portion of its substance in the neighbourhood of the hilum being left in order to prevent the ligatures from slipping off Blood was sponged out of the abdomen and the wound was closed For 48 hours after the operation the child was in a condition of collapse with rapid feeble pulse and shallow respiration She then began to rally and for the next nine or ten days was in a curious condition She was dull, drowsy, and apathetic, but if thoroughly roused became irritable and frightened The pulse remained rapid On the evening of the ninth day after operation the temperature abruptly rose to 103 2° and the pulse increased in frequency from 92 to 168 beats a minute The wound was healthy and no physical [illegible] hich might account for the fever [illegible] ith the view that the symptoms [illegible] spleen, spleen extract and fresh bone marrow were ordered and one minim of liquor arsenicalis was also given three times a day [illegible] declined, reaching normal on [illegible] general condition appeared to improve con[illegible] A week later [illegible] to get [illegible] every [illegible] On August 24th the spleen extract was discontinued On the following day the patient was listless, disinclined to play, and usually if spoken to would begin to cry. Next day there was more marked indisposition and the child was kept in bed and in the evening the spleen extract was resumed On the following morning the temperature was 102 6° and the pulse was 150 In the evening the temperature was 99 2° and the pulse was 140 Two days later there was an evening rise of temperature to 101 2°

Ten days after removal of the spleen enlargement of the lymphatic glands of the neck, axilla, and groins was noticed The child was discharged on Sept 1st, five and a half weeks after admission She is now said to be in good health

Remarks by Mr BURROWS —Abdominal injuries are always interesting and for this reason and also because they permit of some useful comment I wish to place the above cases on record It is remarkable that in two of the cases—the torn intestine and the ruptured spleen—there were no symptoms to cause a suspicion of the grave injuries received until a considerable time had elapsed after the accident, and although similar cases have been reported before there can [illegible] heir possibility by recording two [illegible] it is important to be cautious [illegible] an opinion on a supposed case of abdominal injury To give comfortable assurances to the relatives before a few hours have elapsed is to run the hazard of a loss of reputation which will very likely be accentuated at a subsequent inquest While it is true that a grave abdominal lesion may be present without immediately giving rise to unmistakeable signs of its presence, it is equally true that well marked "peritonism" is not always an indication of severe abdominal injury About the time when Case 1 was admitted to the Bolingbroke Hospital a little girl was also taken to the children's ward, having been run over in the street a few minutes previously Her case forms a marked contrast with Cases 1 and 3 On admission she was pale and collapsed The skin was cold and sweating, no pulse could be felt at the wrist the respirations were very shallow, and it seemed as though the child were dying That there had been some violence applied to the abdomen was manifest, for the right rectus muscle was partially [illegible] Nothing was done beyond th[illegible] and other stimulants A little [illegible] somewhat and the pulse, though very rapid, could be distinguished at the wrist There now appeared great pain and tenderness in the upper part of the abdomen but the liver dulness was unimpaired and there was no dulness in the flanks The pulse showed a rapid and continuous improvement and the respirations became deeper On the following day the child appeared quite recovered except for tenderness in the place where the rectus muscle was injured No further symptoms developed and the patient was discharged a few days after her admission

Perhaps the different degrees of sensitiveness of the visceral and parietal peritoneum are sufficient to account for the unreliability of pain as a symptom in abdominal injuries It has been shown that the visceral peritoneum is nearly insensitive and therefore injury to the gut or spleen without injury to the parietal peritoneum does not cause pain until peritonitis due to hæmorrhage or sepsis has ensued The child mentioned above as a contrast case may have suffered from a tear of the parietal peritoneum without severe visceral injury The conclusion to be drawn from these and other similar cases is that symptoms of peritonism do not justify an exploratory operation in cases of abdominal injury unless they persist or else are associated with definite physical signs such as loss of liver dulness, dulness in the flanks, or an increasing frequency of the pulse

Loss of liver dulness —There appears to be much difference of opinion among surgeons as to the value of this sign The confusion is probably due to the different methods of percussion employed Among 50 consecutive abdominal emergency cases which have recently been under my care loss of liver dulness on gentle percussion was observed in six only, and in every one of these six a perforation of gut other than the appendix was found at the operation or the necropsy The six cases were as follows two perforated gastric ulcers, one perforated stomach due to swallowing hydrochloric acid, one perforated duodenal ulcer, one traumatic perforation of the rectum (without a history or external evidence of any such injury), and the case of ruptured intestine referred to above In no case where liver dulness was present was there a perforated gut (other than the appendix) In only three other emergency cases has there been absence of liver dulness, in one due to a stab wound of the left lung and diaphragm without intestinal injury and in the other two to pneumothorax One of these is worthy of a brief mention A boy, four years old, was run over by a cart [illegible] over his epigast[illegible] discovered that [illegible] rupture of the intestine. However, the true nature of the case soon became apparent. There were no broken ribs and two days later the patient was quite well, although a few hours after the injury there was considerable dyspnœa and the respirations were between 50 and 60 a minute. Such cases are not very uncommon in children where injury has been received to the lower part of the thorax.

The following propositions with regard to loss of liver dulness appear to be warranted: (1) that if light percussion over the front of the liver yields a tympanitic note there is free gas between the liver and the percussed finger; and (2) that this gas may have escaped from lung or from stomach or intestine. The highest importance may therefore be attached to loss of liver dulness as a symptom in abdominal emergencies but the percussion must be of the lightest character. Heavy percussion will yield a resonant note over the liver in the absence of free gas if there be much intestinal distension. A tympanitic note elicited by gentle percussion is conclusive proof of the presence of free gas in front of the liver.

Blood in the abdominal cavity.—A striking feature of Cases 2 and 3 was the small quantity of blood found in the abdomen. Although there was sufficient to cause dulness to percussion in the flanks there was by no means a quantity proportionate to the constitutional symptoms of hæmorrhage. It seemed probable that though much blood had been effused it had been rapidly absorbed by the peritoneum. The remarks on the necessity for gentle percussion in testing the liver dulness apply with equal force to the examination for fluid in the flanks. Small quantities will be overlooked if the percussion is forcibly performed.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Influence of Stigmata of Degeneration upon the Prognosis of Epilepsy.—A Group of Associated Malformations, including almost Complete Absence of the Muscles of the Abdominal Wall and Anomalies of the Genito-urinary Apparatus.

A MEETING of this society was held on Feb. 14th, Sir RICHARD DOUGLAS POWELL, Bart., the President, being in the chair.

Dr. W. ALDREN TURNER read a paper on the Influence of Stigmata of Degeneration upon the Prognosis of Epilepsy. The purpose of the communication was to ascertain, by means of a statistical investigation, whether the presence of structural stigmata of degeneration exercised any influence, and if so to what extent, upon the prognosis of epilepsy. Stigmata of degeneration were defined as structural deviations from the normal, arising during the periods of development and brain growth, in those who were the subjects of a hereditary degenerative predisposition. 100 consecutive cases of confirmed epilepsy from amongst the patients resident at the Colony for Epileptics, Chalfont St. Peter, were examined with this object. The stigmata to which attention was especially directed were: (*a*) Facial, including nasal, deformity and asymmetry. This was found to be more common in females than in males. Although present in 42 per cent. of the total number of cases it was only found in 14 per cent. as a single stigma. (*b*) Deformities of the hard palate. These form some of the most frequent and trustworthy of degenerative phenomena. Abnormal palates were found in 42 per cent. of the cases but only in 17 per cent. as a solitary stigma. (*c*) Deformities of the external ears, indicated by abnormal size, shape, and symmetry, were present in 33 per cent. but in only 9 per cent. as a solitary stigma. (*d*) Dental anomalies and displacements. Brief reference was also made to stammering and high errors of refraction as physiological stigmata. The statistical facts bearing upon prognosis were considered under the following headings:—1. Sex. Of 100 epileptics 62 were males and 38 were females. Males exhibited neuropathic stigmata to a much greater extent than females in the proportion of 52 males to 23 females. Of the total number of cases, males and females, 75 per cent. presented stigmata and 25 per cent. were free. 2. Hereditary history. Owing to the difficulty in obtaining precise and trustworthy information on this point it was not possible to deduce any general conclusions but it was observed that direct parental heredity to epilepsy or insanity was usually associated with more pronounced stigmata than collateral heredity. 3. Age at onset of the convulsions. Those cases in which the disease commenced between birth and five years of age showed a larger percentage of stigmata than at other ages. This was in harmony with what had been shown elsewhere that epilepsy commencing during the first quinquennium was characterised by the highest percentage of cases showing profound mental impairment and was most favourable for the development of the confirmed malady. 4. It was apparent from a study of the duration of the convulsions that the absence of stigmata did not necessarily imply an early or favourable termination of the disease. 5. The type of the seizures. The greatest difference in the proportion of cases with and without stigmata was observed in those which presented the combined *grand* and *petit mal* type. Such combination had also been shown to be associated with the highest grades of dementia. The purely petit mal type did not exhibit marked evidence of hereditary degenerative disposition. 6. The relation between the presence of stigmata and *the mental state* was especially obvious. Those epileptics who only showed the slighter degrees of mental impairment presented a nearly equal proportion with and without stigmata (21 per cent. with and 19 per cent. without). On the other hand, of those in whom there was marked mental enfeeblement 53 per cent. exhibited, and only 7 per cent. were free from, them. Hence there would appear to be a close association between degrees of mental impairment and the presence of neuropathic stigmata, a fact which was proffered as an argument in favour of the view that the interparoxysmal mental condition in epilepsy was an integral part of the disease.—Dr. C. H. BOND stated that although the epileptics in his charge at the Ewell colony were under the Lunacy Act his statistics on the questions under discussion bore a strong resemblance to those of Dr. Turner. He thought that additional value would be given to such statistics by mentioning the ages of the patients at which the various stigmata had been observed. An important advance would be made when congenital and acquired conditions of idiocy were separately dealt with.—Mr. STEPHEN PAGET asked whether the stigmata mentioned were related especially to epilepsy or were general in neuropathic conditions and what essential difference there was between the appearance of such malformations as had been referred to and the antenatal factors which lay behind variations in height and stature. He believed a certain amount of asymmetry to be general and the presence of badly formed palates and jaws almost universal in the London poor.—Dr. G. E. SHUTTLEWORTH thought that the presence of a single stigma was of little importance but the combination of two or three or more was certainly an evidence of degeneration. He agreed that the percentage of developmental defects was much greater in males than in females but that when they did occur in the latter they were likely to be strongly marked.—Dr. FLETCHER BEACH asked for Dr. Turner's experience of cranial abnormalities such as microcephalus, hydrocephalus, and changes in the skull as the result of paralysis. Had any cases of webbed fingers been noticed in the series of cases?

Dr. A. E. GARROD and Dr. LL WYNNE DAVIES communicated a paper on a Group of Associated Malformations, including almost Complete Absence of the Muscles of the Abdominal Wall and Anomalies of the Genito-urinary Apparatus. Dr. Garrod and Dr. Davies described in detail the clinical features and the post-mortem appearances observed in the case of a male infant which presented a malformation-complex such as had been described in a few other cases which had come under observation in this country, in America, and on the continent of Europe. These cases had been collected and discussed by Stumme of Leipsic in a very complete monograph published in 1903. The deformities in question, which were evidently inter-related, included:—(1) Almost complete absence of the muscles of the abdominal walls; (2) hypertrophy and dilatation of the urinary bladder which had in most instances been attached to the umbilicus either directly or by a urachus; (3) a linear scar-like umbilicus; and (4) undescended testicles. In several cases, as in the one here described, there had been deep furrowing of the skin of the abdomen. Owing to the absence of muscles the abdominal viscera could be felt with very remarkable distinctness. Some other deformities were present in this case, such as double talipes varus. The child died from broncho-pneumonia and erysipelas and Dr. Garrod and Dr. Davies were able to include a report by Dr. F. E. Batten on the microscopical appearances of the vestiges of muscular substance in the abdominal walls and upon the condition of the spinal cord of the patient. The spinal cord had not been examined in any previous fatal case and a gap in their knowledge was thus filled in. The possibility that the condition of the muscles was due to intra-uterine poliomyelitis was excluded by Dr. Batten's report. Brief abstracts were included of the few similar cases hitherto recorded and the resemblances between them and the differences which they presented were discussed. Dr. Garrod and Dr. Davies favoured the view which was advocated by Stumme in his monograph that of the three possible theories—viz.: (1) that the condition of the bladder is due to the non-development or atrophy of the muscles; (2) that the two malformations have a common cause; or (3) that the non-development or atrophy of the muscles is secondary to a temporary obstruction of the escape of urine occurring during intra-uterine life—the last was the most likely to be correct. No existing obstruction was found in any case, but the distension of the bladder, and in some cases of the ureters also, suggested that such had existed at some period. As all the cases hitherto observed had been in males it was tempting to ascribe the supposed obstruction to a kinking or constriction of the penis, but it might be that, as Stumme suggested, the attachment of the bladder to the umbilicus was the primary cause. However, such attachment had not been invariably present, even in cases in which the navel had the characteristic slit-like form. Dr. Batten considered that the microscopical appearance of the vestiges of muscles in the abdominal walls pointed to non-development and not to atrophy of originally developed muscles. Stumme ascribed the non-descent of the testicles to occlusion of the inguinal canals by intra-abdominal pressure.—The PRESIDENT emphasised the importance of the paper and of putting on record every case of the kind, as they evidently belonged to a well-defined symptom-complex.—Dr. L. G. GUTHRIE preferred to believe that the condition owed its origin to a primary non-development of the abdominal muscles and explained how such a condition would give rise to hypertrophy of the bladder wall and other anomalies. He believed that the attachment of the urachus to the anterior abdominal wall might give rise mechanically to obstruction of the ureters and thus to their overgrowth. There was no direct evidence of any temporary obstruction to the escape of urine during intra-uterine life and such a condition would have to operate a very long time to bring about the muscular atrophy found in these cases, even if that was the natural result.—Dr. E. FARQUHAR BUZZARD was incline to agree with Dr. Guthrie and supported the view that arrested development of the abdominal muscles might be held to explain the other abnormalities in these cases. Before hypertrophy of the bladder had time to arise dilatation of the bladder and ureters would take place owing to the accumulation of secretion which was not properly expelled in the absence of abdominal muscular contraction. He cited other instances of congenital symmetrical absence of certain muscles which he had observed.—Dr. G. NEWTON PITT asked whether the anterior or the posterior bladder wall was the more hypertrophied. In ordinary cases of chronic vesical enlargement the anterior wall was much thicker than the posterior; in the absence of the abdominal muscles he would expect the thickening to be general.—Dr. GARROD replied.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Feb. 13th, Mr. JOHN LANGTON, the President, being in the chair.

Dr. T. R. GLYNN showed a case simulating Intracranial Tumour in which there was spontaneous and persistent escape of cerebro-spinal fluid from the nose, with complete recovery. A man, aged 26 years, in August, 1898, received a blow on the vertex of the head which caused temporary loss of consciousness, headache, and vomiting, and compelled him to give up work. In a month's time the pain was paroxysmal and was associated with vomiting and dilatation of the pupils. Double vision was complained of within two months of the accident. His memory failed and he suffered from vertigo and choking sensations. On examination there was weakness of the left external rectus; the knee-jerks were exaggerated and the plantar reflexes were absent; the abdominal and cremasteric reflexes were less marked on the left than on the right side. Certain hysterical stigmata, left hemianalgesia, and concentric restriction of visual fields were also observed. Early in 1899 optic neuritis developed and he complained of giddiness when he stooped, with a tendency to fall forward. After some temporary improvement he gradually became worse and the deterioration continued until June, 1903, with progressive failure of intellect and of muscular power. His gait became reeling with some propulsion on going downhill. His arms were ataxic and presented volitional tremors. His sight almost completely failed and nystagmus was noted. The superficial reflexes were absent and ankle clonus was present. During 1903 he had several epileptic attacks and suffered from incontinence of urine. In June, 1903, clear fluid commenced to flow from the right nostril and very soon improvement set in, followed by complete recovery in the course of a few weeks.—Dr. E. E. GLYNN explained with the aid of a diagram how the symptoms may have been due to internal hydrocephalus and may have been relieved by spontaneous drainage of the fluid from the distended lateral or third ventricle along the perineural sheaths of the olfactory nerves and so into the nasal cavity.—Dr. STCLAIR THOMSON said that the case supported his theory that spontaneous rhinorrhœa of cerebro-spinal fluid was always the result of internal hydrocephalus. He believed that the fluid escaped directly into the roof of the nose and not into the accessory cavities. Many patients with cerebro-spinal rhinorrhœa died from meningitis.

Mr. W. BRUCE CLARKE showed a case of Cancer of the Stomach one year after pylorectomy. A man, aged 59 years, was admitted into St. Bartholomew's Hospital on Jan. 9th, 1904, suffering from symptoms of cancer of the stomach. The abdomen was opened a fortnight later and the stomach, which was much thickened at the pyloric end, was found to be adherent to surrounding parts. No glands could be felt. The stomach was cut across about two and a half or three inches from the pylorus and about one inch of the duodenum was removed at the same time. Openings in the stomach and duodenum were reduced to the same size and united end to end. The patient made an uneventful recovery and was able to go to a convalescent home about a month later. An examination of the growth showed that the bulk of it was non-malignant in character and was due to the thickening which had occurred around an old ulcer. Close to the pylorus was a small patch of malignant ulceration showing columnar-celled characters. He thought that the case afforded direct evidence of a benign growth in the stomach becoming malignant. There was no sign of any recurrence of the disease.—Dr. E. SYMES-THOMPSON cited another case where the character of the lesion suggested a primary innocent with a secondary malignant condition.—Dr. A. F. [illegible] whether the patient had been tested for free [illegible] before operation.—Dr. F. J. [illegible] impossible to tell clinically [illegible] of the stomach was innocent or malignant and he agreed that ulceration in the region of the pylorus produced symptoms out of proportion to its extent, whereas large diseased areas nearer the cardiac orifice were often unsuspected before a necropsy revealed their presence.

Mr BRUCE CLARKE also showed a case of Oöphorectomy for Cancer of the Breast five years after operation. In 1890 a woman, aged 46 years, noticed a small lump in her breast and five years later blood-stained discharge from the nipple. In April, 1897, there were two lumps in the breast and Halstead's operation was performed. Two or three more operations were performed for glands above the clavicle but abundant recurrence took place accompanied by much pain in the neck and the arm. In March, 1900, double oöphorectomy was performed. Within 48 hours the pain ceased and before [illegible] the skin growth had begun [illegible] months, when she reached [illegible] exception of occasional attacks of pain she had remained well and was able to do all her ordinary household work.

Mr. H. J. WARING showed a case of Double Oöphorectomy for Carcinoma of the Breast. A single woman, aged 37 years, came under observation in September, 1904, when she was found to have a large carcinomatous growth of the right breast which had first been noticed about two years previously. Ulceration of the skin had begun about two weeks before coming under observation. The growth involved the whole mammary gland as well as the underlying muscles and was firmly fixed to the chest wall. Enlarged axillary glands were also present. Double oöphorectomy was performed on Sept. 27th and the patient made a rapid recovery. When discharged a month later the tumour had diminished in size and the general condition of the patient had improved. Since then little change had taken place, although the lymphatic glands in the axilla seemed to be a little smaller.—Mr. A. **CARLESS** stated that he had performed oöphorectomy in 12 cases of mammary scirrhus and had always found that pain was relieved, that the growth and the glands diminished in size, and that the patients were often able to go about their ordinary work for two or three years in comparative comfort. He advocated complete removal of all growth at the same time as oöphorectomy.

Dr. **POYNTON** showed two cases of Exophthalmic Goitre. 1. The patient was a man, aged 23 years, who had noticed for four months that his right eye was more prominent than his left. He was very nervous and suffered from palpitation and sweating after exertion. The thyroid was slightly enlarged and there was some fine tremor of the hands. The heart was not rapid at rest but was easily excited. No local cause for the proptosis could be discovered. 2. The patient was a boy, aged nine and a half years, who had recently become exceptionally nervous and had been taken to the Hospital for Sick Children on account of swelling of the thyroid. Persistent tachycardia was noticed with the occasional presence of von Graefe's sign. There was some coarse but no fine tremor of the hands.—Mr. A. **THORNE** asked whether there was any explanation of the unilateral character of the proptosis.

Dr. J. **BRUNTON** exhibited a case of Aneurysm of the Descending Arch of the Aorta appearing externally to the Left of the Spinal Column. A man, aged 43 years, had complained of pain over the left side of the thorax for 12 months. Early in December, 1904, a swelling was noticed between the vertebral border of the left scapula and the spinal column and this had increased in size. On auscultation a soft bruit could be heard over the pulsating area during both expansion and recoil. There was no abnormal pulsation in front, the second aortic sound was accentuated, and both the respiratory murmur and movements were diminished on the left side of the chest. There was no dysphagia, laryngeal symptom, or inequality of pupils. Arterial degeneration was not marked. A skiagram had not given substantial help to the diagnosis. —Dr. H. E. **BRUCE PORTER** inquired whether it was possible for an aneurysm to bulge so much without giving rise to pressure symptoms.—Dr. C. O. **HAWTHORNE** did not think that the case was one of aneurysm as he had never seen one where the ribs were so eroded in the absence of other evidence of pressure.

Dr. W. **EWART** showed two cases of Diabetes. 1. A man, aged 26 years, was admitted into St. George's Hospital with a history of a few weeks' rapid loss of flesh and strength with polydipsia and with symptoms of threatening coma and strong acetonæmic smell. The urgent symptoms were quickly relieved by large doses of sodium bicarbonate (up to six drachms three times a day) and by dieting. The urine remained acid until Feb. 5th when the dose of sodium bicarbonate was reduced to four drachms, the acid reaction then returning. At present he was having five drachms of sodium bicarbonate, 30 grains of hypophosphites, and 20 minims of liquor strychninæ three times daily. His diet restrictions were not absolute and his progress was satisfactory, there being only a faint smell of acetone in the breath. He passed about three and a half pints of urine daily of specific gravity 1030. 2. A man, aged 24 years, was admitted for polydipsia and weakness of three weeks' standing. The condition was possibly due to excessive consumption of jams, marmalade, and starchy food. His weight was 9 stones 7 pounds; he was passing about five pints of urine daily of specific gravity 1040, and the percentage of sugar was 8·5. He improved rapidly under restricted diet, the sugar disappearing altogether for six days. With the exception of the sodium bicarbonate he had had the same treatment as the first patient and his present weight was 10 stones 4 ounces. He was passing three and a quarter pints of urine daily of specific gravity 1030.

Dr. W. **ESSEX WYNTER** showed a case of Tumour of the Left Lobe of the Cerebellum. The patient, aged 36 years, was laid up with vomiting and constipation in July, 1904. He recovered from this but in August noticed that he became easily fatigued and was told that he walked as if intoxicated. Left facial palsy and deafness in the left ear came on about this time. In September the right leg became too weak and unsteady to bear his weight but he was able to walk with a stick when first seen in January, 1905. Now the gait was partly spastic and partly ataxic; there was complete left facial palsy and complete nerve deafness of the left side. He complained of some vertigo and occipital headache and presented nystagmus and dilatation of the left pupil. The deep reflexes were brisk and there was double extensor response. The optic discs were pink, with vessels full, but there was no definite neuritis.

CLINICAL SOCIETY OF LONDON.

A Case of "Soft-valve" Mitral Stenosis without Murmur.—A Case of Accessory Thyroid laterally placed in the Floor of the Mouth.—Extraperitoneal Uretero-lithotomy in a Child, aged three years.—Calculous Anuria in a Child, aged four years.

A MEETING of this society was held on Feb. 10th, Dr. **FREDERICK TAYLOR**, the President, being in the chair.

Dr. W. **EWART** recorded a case of "Soft-valve" Mitral Stenosis in which no murmur was heard. The patient, a woman, aged 45 years, was under observation for two months before death and during that time no suspicion of the existence of mitral stenosis was aroused and no diastolic murmur was heard. At the necropsy considerable narrowing of the mitral orifice was present but the valve, the chordæ tendineæ, and the musculi papillares showed very little induration. The heart was enlarged, the muscle was flabby, and the other valves were competent. The clinical value of the case lay in the undoubted character of the lesion and in the independent testimony of various observers, during a long period of hospital treatment, as to the absence of murmurs, demonstrating the fact that the characteristic bruits may sometimes be in abeyance for prolonged periods at an advanced stage, though more often in abeyance for short intervals only at an early stage. The anatomical features of the lesion; of special interest in connexion with this latency, were fairly described by the term "soft-valve stenosis," which might be of use in defining a separate type of lesion in which the early fibrous changes did not, as in the "hard-valve stenosis," develop into progressive thickenings and indurations. The action of a relatively soft stenosed mitral valve must be different from that of the rigid stenosis, particularly when, as in this instance, the chordæ tendineæ and the papillary muscles were quite free from stiffness, shortening, or fibrosis. The absence of murmur where this complication was also absent might perhaps, if observed in other cases, be an argument in support of the prevalent view as to the auriculo-systolic mode of production of the presystolic mitral murmur and as to the share taken by damaged chordæ in occasioning diastolic murmurs.—Dr. **SEYMOUR TAYLOR** said that he regarded the absence of the proper auricular driving force as the essential factor in the disappearance of a presystolic mitral murmur and suggested that it was the cause in Dr. Ewart's case. He did not think that the softness of the valve alone would explain the absence of bruit. With regard to the causation of mitral stenosis he was of opinion that in the majority of cases the valvulitis was the result of rheumatism or chorea before puberty, in consequence of which the diseased valve did not keep pace with the development of the rest of the organ. After puberty mitral endocarditis more commonly gave rise to incompetence and rarely to stenosis.—Dr. F. **PARKES WEBER** mentioned a case of mitral stenosis with the ring partially calcified, in which the presystolic murmur had disappeared during cardiac failure.—Dr. W. **PASTEUR** asked whether Dr. Ewart had noticed any alteration in rhythm or in the character of the first sound suggestive of narrowing of the mitral orifice.—Dr. W. **ESSEX WYNTER** thought that the thinness and the yielding character of the valve were of particular interest and might have contributed to the absence of murmur. In his experience mitral stenosis was not found in children under seven and rarely in children between seven and 14 years of age. He agreed with Dr. Seymour Taylor that the continuance of the infantile type of valve owing to disease in early life was often the cause of mitral stenosis. The history of rheumatism was often difficult to obtain on account of the slight character of the symptoms and the absence of arthritis in children.—Dr. F. H. HAWKINS mentioned the case of a woman, 56 years of age, who was under observation for a month before death and had no cardiac murmur. Post mortem there were mitral stenosis and thrombosis of the abdominal aorta and its branches.—The PRESIDENT agreed with Dr. Seymour Taylor that the character of the valve was not sufficient to explain the absence of bruits and pointed out that the left auricle was free from evidence of hypertrophy.

Mr. E. PERCY PATON recorded a case of Accessory Thyroid in the Floor of the Mouth. A girl, aged 16 years, noticed a swelling on the right side of her neck in the submaxillary region for some months before coming under observation. It gave her no pain but she w [illegible] size. It was situated in [illegible] could be felt from inside [illegible] The diagnosis before operation was uncertain but on microscopical examination after removal it was shown to consist of thyroid tissue. In studying the literature of accessory thyroids he had been unable to trace any similar case.—Mr. W. G. SPENCER showed an illustration from a paper by Wilhelm His on the Development of the Thyro-glossal Duct which, he thought, explained the presence of thyroid tissue in the situation where it was found by Mr. Paton.

Mr. H. BETHAM ROBINSON described a case of Extraperitoneal Uretero-lithotomy in a child, aged three years. The child upon whom this operation was performed was admitted to the East London Hospital for Children on June 17th, 1904, with an impacted calculus in the urethra. On examination, after this stone had been extracted, there was felt bimanually a small hard lump on the left side of the pelvis just below its brim which was diagnosed as an impacted calculus in the ureter; the corresponding kidney did not appear to be enlarged. After waiting a few days for the urethral wound to heal and to see whether the stone was making its way to the bladder, which it did not do, he performed uretero-lithotomy and removed a small oval calculus. A fine catgut stitch was put through the outer part of the ureter and a wick drain was left in the wound down to it. The rest of the wound was sewn up with horsehair. There was very slight leaking for three days; after that the wound healed rapidly. There was no blood in the urine after the operation. From an experience of three cases, two in the adult and this child, he considered the operation easier in the child for the following reasons: the small quantity of fat in the [illegible] connective tissue and [illegible] position of the bladder. [illegible] rectum to push the ureter with the impacted stone well up into the wound.

Mr. DOUGLAS DREW read the notes of a case of Calculous Anuria in a child. A boy, aged four years, was admitted into hospital with stone in the bladder and cystitis for which suprapubic cystotomy was performed and the bladder was drained. After the operation the child did not make good progress. The pus persisted in the urine, there were occasional rises of temperature [illegible] did not completely heal. [illegible] of pain in the abdomen bu [illegible] repeated examinations except slight tenderness over the left kidney. This symptom, together with the persistence of the pyuria and irregular attacks of temperature, led to the diagnosis of septic trouble in the left kidney. At the end of four months the child was seized with severe pain and a stone was found impacted in the meatus and was removed. After this marked improvement occurred, the sinus above the pubes closed, the temperature kept normal, and the condition of the urine greatly improved. A month later the child began to vomit, pain recurred in the abdomen, the urine again became alkaline and contained pus and blood, and the wound above the pubes again began to leak. At the same time the quantity of urine, which had been measured daily, diminished from 25 ounces to between seven and 19 ounces. Two radiographs taken at intervals of a few days about this date gave negative results. A few days later the abdominal pain became more severe and for the first time was referred to the left inguinal region. Examination under chloroform showed that the left kidney was enlarged and that the right was of normal size. Per rectum a stone of triangular shape was felt in the left ureter just below the brim of the pelvis. The left kidney was at once exposed and a calculus was found and removed from it; the wound was extended forwards and the calculus in the ureter was manipulated up along it and removed through an incision just below the pelvis. The right ureter could be distinctly felt through the wound and was enlarged; this was the first positive sign of trouble on the right side, as the stone which was found post mortem in the lower end of the right ureter had been missed on palpation per rectum, and there had been no symptoms referred to the right side. The child's condition did not permit of exploring the right kidney at the time the stones were removed from the left side, and although he lived six days after the operation the condition did not improve sufficiently for any further interference. The vomiting persisted, drowsiness increased, and the quantity of urine per urethram gradually diminished, only two and a half ounces being passed during the last three days. The chief point of interest was the difficulty in diagnosis, owing to the negative results of radiography and the very slight degree of pain occasioned by the stones. The case was extraordinary in that calculi were removed from the bladder, the urethra, and the left ureter and kidney.—Mr. PATON referred to a death from unsuspected calculous anuria in a child who had been operated on for cleft palate. There had been no urinary symptoms previous to the operation.

OPHTHALMOLOGICAL SOCIETY.

Tobacco Amblyopia.—Neuro-fibroma of the Eyeball and its Appendages.—Exostosis of the Orbit.

AN ordinary meeting of this society was held on Feb. 9th, Mr. JOHN TWEEDY, the President, being in the chair.

Mr. C. WRAY (Croydon) read a paper on Tobacco Amblyopia. He divided cases of tobacco poisoning as seen in ophthalmic practice into three categories: (1) those with toxic amblyopia; (2) those with amblyopia and tachycardia; and (3) those with tachycardia alone. He contended that in view of the tendency to cardiac failure in various febrile conditions ophthalmic surgeons as a matter of routine should examine the pulse. During the last eight weeks several cases of toxic amblyopia had come under his notice at the Western Ophthalmic Hospital and the Croydon General Hospital, in which the pulse was 96, 84, 135, and 96 to 120. Such cases proved that patients with defective sight due to tobacco should be warned that tachycardia might come on without any such peremptory warning as defective sight. He then asked. Does giving up tobacco entirely cure amblyopia and tachycardia? and stated that the amblyopia usually disappeared if taken early but in all cases the convalescence under recognised treatment was very protracted and occupied many weeks. As regarded the tachycardia it was not easy to make a positive statement but in several cases which he quoted the tachycardia had not disappeared after tobacco had been given up for several years. He alluded to toxic breath and stated that although it was probably always present with toxic amblyopia it was never present when tachycardia existed as the sole manifestation of the poison and he was inclined to think that tachycardia was due to injury or destruction of the cardio-inhibitory neurons in the trachea and bronchi. The amblyopia, he believed, was due to saturation of the blood with tobacco alkaloids and he would explain the relative frequency of amblyopia as a toxic manifestation by the accuracy with which we could gauge the physiological condition of the papillo-macular neurons. He suggested as an explanation of poisoning in some cases and not in others that this was not so much due to idiosyncrasy as to the accident of bad teeth so common in heavy pipe-smokers and so fatal in phosphorus workers, possibly also, and indeed probably, to the condition of the mucous membranes of the alimentary and respiratory tract, in harmony with the rule that when the epithelium was absent or defective substances were more readily absorbed as the poisons were brought into intimate contact with the capillaries. Mr. Wray then went on to say that for some time he had abandoned the orthodox treatment by strychnine and potassium iodide as the results were uniformly unsatisfactory. He then pointed out that nicotine was used to paralyse "ganglion cells" and it was precisely the ganglion cells that suffered in the retina. In the circumstances it seemed justifiable to infer that nicotine was the hypothetical cause of amblyopia and, since that alkaloid was freely soluble in water, that not improbably water might be made to aid in the elimination of the poison. With that object in view his patients were directed to dress warmly and to drink one pint of warm water at 7 A.M. and to walk briskly for 30 minutes in the open air; then to drink a second pint and to walk briskly in the open air for another 30 minutes, after which to rest for a few minutes and then to take breakfast. A third pint should be taken in the middle of the morning and a fourth in the middle of the afternoon. Some of the patients during convalescence smoked a quarter of an ounce of tobacco a day and in three cases practically normal vision was secured in about 14 days, whilst according to some of his notes patients under the strychnine treatment were as long as 12 weeks in obtaining an equally good result. As regarded the effect of the water treatment on tachycardia, he had not had an opportunity of trying it as the new cases of amblyopia that had come under his treatment during the last eight weeks had only a very slight acceleration of the pulse-rate but unquestionably it had not disappeared in the same way as the amblyopia. He thought that there was considerable doubt as to the method of elimination of nicotine. It was excreted by the kidneys, the lungs, and the skin; he thought mostly by the kidneys, *others by the breath, and others by the skin*, but the water treatment had this advantage, that it utilised all three methods.

Mr. E. TREACHER COLLINS and Dr. RAYNER D. BATTEN communicated a paper on Neuro-fibroma of the Eyeball and its Appendages. The case which formed the basis of this paper was that of a girl, aged 14 years, who had been under Dr. Batten's observation since January, 1902. Her right eye was buphthalmic. The cornea was large and hazy and the anterior chamber was very deep. The vision equalled $\frac{1}{60}$. There was also marked hypertrophy of the upper eyelid, the skin of which was coarse and thickened, and there was a soft doughy swelling over the right temporal fossa. The condition dated from birth. The eye being very unsightly and irritable was excised, as was also a wedge-shaped piece of the thickened upper lid. Microscopical examination of the latter showed extensive overgrowth of the fibrous tissue of the corium and marked enlargement of the nerves due to thickening of their peri- and endo-neurium. The condition was evidently one of congenital elephantiasis associated with plexiform neuroma, a condition to which the convenient term neuro-fibromatosis was applied. The chief interest of the case consisted in the condition of the eye. This made the fourth case which had been recorded in which neuro-fibromatosis of the eyelid had been associated with a buphthalmic condition of the eye. The buphthalmic condition of the eye did not, however, seem to be due directly to fibromatosis of the ciliary nerves but to increased tension from obstruction to the exit of fluid. In the present case and another one which Mr. Collins had examined he found congenital adhesion of the root of the iris to the back of the cornea blocking the filtration area. The terminal filaments of the nerves in the cornea were, however, found thickened; they could be seen by the naked eye as grey lines and microscopically as cords of elongated cells. The condition of the choroid in this case was most remarkable and presented appearances which did not seem to have been described previously. Throughout its structure was denser than normal and in parts it was considerably thickened. Microscopically the blood-vessels in it were few and inconspicuous. It was composed of fibrous tissue arranged in layers, highly nucleated, and with many pigmented cells between them. In some places there were numerous small oval bodies which presented the appearance of enlarged nerve-end organs. In conclusion, by a comparison of this case with the few others recorded it was shown that all portions of the ciliary nerves supplying the eye might be affected by this congenital fibromatosis and that in the uveal tract, as in the skin, associated with the neuro-fibromatosis there might be a general hyperplasia of the fibrous tissue of the part. The extent, however, of the affection varied in its distribution, sometimes being confined to one set of ciliary nerves and the part supplied by them and sometimes to another. In some cases only the terminal filaments and end organs of the nerves were involved and in others the larger trunks were also affected.

Mr. A. OGILVY (Bristol) reported a case of Large Exostosis removed from the Orbit. The patient was a healthy man, aged 24 years. There was no previous history of any ailments and there was a healthy family history. The patient was first seen last November; he did not know there was anything in his orbit—he merely came because of epiphora. A large hard mass was felt in the right orbit, evidently growing from the nasal side. Skiagraphs were made showing well the extent of the tumour which was evidently causing myopia and some form of choroidal change. The operation was performed on Jan. 1st, 1905. Great difficulty was experienced in removing the tumour which, however, proved to be pedunculated and measured over an inch in each direction. Recovery after operation was rapid, union being by first intention. The only trouble was diplopia, caused by complete immobility of all the muscles; this passed off in a fortnight.

Mr. EDGAR STEVENSON also described a case of Exostosis of the Orbit. The patient, a girl, aged 22 years, went to the Liverpool Eye and Ear Infirmary on Nov. 20th last with well-marked downward and outward proptosis of the left eye. She stated that the prominence of the eye had been first noticed six months previously and that it was rather rapidly increasing. She had no pain except an occasional neuralgic twinge, the movements of the eye were quite free, and she was not troubled with diplopia. Her vision in each eye was normal with correcting glasses, as also was the fundus of each eye. Digital examination under chloroform revealed a small hard mass lying under the outer and upper margin of the orbit. Three weeks later Mr. Stevenson decided to operate and on Dec. 10th the patient was again put under chloroform and the tumour was exposed. It was found that the growth was much larger than was to be expected from the previous examination. It seemed to be attached to the inner angle of the orbit with its base in the frontal sinus and to extend right across the roof of the orbit. Two attempts to drill through the more prominent part failed on account of the drills breaking and Mr. Stevenson then attempted to chisel through the frontal sinus in order to expose the base. A small part of the tumour here became detached and showed cancellous structure underneath a hard outer shell. There appeared to be some "shake" in the tumour during the chiselling which seemed to indicate that the point of attachment was not very large, so having ascertained that there was not any apparent involvement of the roof of the orbit the tumour was seized with a pair of bone forceps and wrenched out without difficulty. It was of irregular pear shape, weighed 351 grains, and its dimensions were one and a half inches by one and three-eighths inches by seven-eighths of an inch. The patient made an uninterrupted recovery and her vision, muscular balance, and ophthalmoscopic appearances are normal.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Paratyphoid Fever.—Large White Kidney.

A MEETING of this section was held on Jan. 20th, Sir J. W. MOORE being in the chair.

Dr. A. R. PARSONS read notes on three cases of continued fever in which for some time the diagnosis was obscure. They all occurred in the same building and at about the same time. The first proved to be a severe case of typhoid fever and gave a definite Widal reaction with Eberth's bacillus typhosus on the twelfth day of the illness. The pyrexia lasted for 50 days. The second case, though tested on three separate occasions by different strains of bacillus typhosus, gave no reaction but gave very definite clumping with Gärtner's bacillus *enteritidis* on two occasions and with different strains. The pyrexia lasted for 21 days. Case 3 was also negative with bacillus typhosus but positive with Gärtner's bacillus. The pyrexia lasted for 14 days. In all the cases the subjective phenomena were headache and malaise. The objective signs were temperatures of from 102° to 104° F., while the average pulse rate was only 90. In none of the cases was the spleen palpable and only in the first case were any spots visible. Cultures were made from the urine and fæces in the latter cases but the bacillus enteritidis was not isolated. Dr. Parsons referred to cases of paratyphoid fever reported in the *American Journal of the Medical Sciences* and pointed out the necessity for isolating various strains of the *bacilli* of paratyphoid fever against which the blood of obscure cases

of continued pyrexia might be tested Owing to the general absence of ulceration in paratyphoid fever he was of opinion that the diet need not be quite so strictly regulated as in typhoid fever —Dr J CRAIG described minutely the fatal case of paratyphoid fever which he had seen The patient was a man whose appearance suggested typhoid fever His temperature was 103 2° F and his pulse and respirations were 100 and 24 per minute respectively He had three liquid yellow motions and developed a rash which at first consisted of rose spots but later became dark, like that of typhus fever The tongue was thickly coated the cerebration was slow, and he refused food The abdomen was distended He became delirious and 17 days after the rigor which had ushered in the illness he died The pulse averaged from 95 to 100 and the respirations 24 per minute respectively The spleen was easily seen to be enlarged At the necropsy no evidence of enlargement or ulceration of Peyer s patches was found but the greater part of the ileum was in a state of acute inflammation Dr White examined the blood on the fourth day after admission He tried a Widal reaction and obtained clumping with a dilution of 1 in 25 There was no evidence of Eberth s bacillus but one of the forms of bacillus enteritidis had caused the illness In a number of cases hæmorrhage from the bowel had been observed —Dr R TRAVERS SMITH said he had seen two cases which he thought were paratyphoid fever One of them was a woman aged 32 years On admission to hospital her temperature was 103° F her pulse was not markedly quick, there was no diarrhœa or enlarged spleen, and there were no rose spots but there was great abdominal distension and she was rather livid The blood was negative to Widal s reaction She died in about a week and at the necropsy not a trace of disease was found in Peyer s patches neither was the spleen enlarged In the other case the tongue was coated the spleen was a little enlarged, the pulse was rather quick, and the temperature was raised The blood was negative to
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FANNIN said that he once had under his care a youth aged 17 years, who suffered from a continued fever the characters and course of which were the same as those of typhoid fever There were no rose spots and no enlargement of the spleen but there was acute laryngitis At that time the Widal reaction was negative Ten days after the temperature had become normal a relapse occurred It presented the features of typhoid fever, the laryngeal symptoms were renewed rose spots appeared and the spleen became palpable The patient became very ill and was removed to hospital Two or three days afterwards symptoms of perforation occurred An operation was performed and a perforated ulcer was discovered The patient did not recover Dr Thompson was satisfied that the ulcer was like an ordinary typhoid one In that case then repeated examinations of the blood had failed to give the Widal reaction The course of the illness resembled typhoid fever and a fatal result occurred after perforation therefore it was possible that some forms of paratyphoid fever could have the definite ulceration of Peyer s patches —Dr KIRKPATRICK said that he would like to ask whether any differentiation had been made in the clinical history of the fevers which were due to the different groups of paratyphoid bacilli —Professor E J McWEENEY discussed the cases from a pathological point of view He said that he would be inclined to describe Dr Parsons s second and third cases as cases of infection with G rtner s bacillus It had been mentioned that the blood serum failed to agglutinate cultures of the typhoid bacillus but agglutinated cultures of Gartner s bacillus That carried an indication of infection with Gartner s bacillus which was not quite the same thing as paratyphoid fever Gartner s bacillus was not quite the same type as the alpha and beta groups of paratyphoid bacilli but presented certain differences It was quite possible that the second and third cases were paratyphoid fever but the bacilli would have had to be isolated and their characters fully te ted What he found lacking in the pathological description was a statement of the different dilutions which were employed —Dr PARSONS in the course of his reply, said that intestinal lesions had been mostly found to be in abeyance during paratyphoid fever and he thought that in it restriction of the patient s diet was not so necessary as in typhoid fever There was no difference in the clinical course of the fevers produced by the alpha and beta groups In his communication he had
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Dr G PEACOCKE described the clinical history of two cases of Large White Kidney which had been recently under his care The symptoms of each case were very similar and were briefly anæmia universal dropsy diarrhœa and scanty, highly albuminous urine containing numerous casts —Professor McWEENEY, Dr TRAVERS SMITH and others took part in the ensuing discussion

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BRITISH GYNÆCOLOGICAL SOCIETY —A meeting of this society was held on Feb 9th, Dr William Alexander the President being in the chair —Dr H Macnaughton Jones read notes of a case of Ascites with Pelvic Symptoms which proved to be due to a typical fibroma of the left ovary the tube was not involved and the adnexa on the opposite side were healthy —Dr Macnaughton Jones also read notes of a case of Carcinoma of the Ovary in which there had been neither pain nor any evidence of malignancy up to within six weeks of the operation which was undertaken for parametritis and peritonitis The tumour (exhibited) was adherent to a myomatous uterus in front and to the intestine and rectum behind, neither tube was involved nor the other ovary There was no ascites —After the discussion on these specimens the President delivered his Inaugural Address embodying his own experience of the rise and progress of gynæcology When he was a student there was no gynæcology worthy of the name The abdomen belonged to the physician and 'inflammation was a name which included many diseases which were now treated successfully by the surgeon or the gynæcologist Abdominal tumours were in the first instance referred to the physician and only when medical measures failed was the case handed over to the operator Whilst the physician treated all the internal diseases of the abdomen the obstetrician repaired any damage caused by parturition But the obstetricians had but small experience in surgery and did not often care to undertake it and so these cases passed into the hands of the general surgeon Gynæcology afterwards learned from medicine the mutual action of the genital organs and the rest of the system, from obstetrics the changes due to pregnancy, but it was to surgery that the greatest advances of the past 50 years were due Surgery and gynæcology had so much in common that a knowledge of the former was necessary for the successful practice of the latter The earlier gynæcologists were not surgeons but were experts in the application of pessaries and many were remembered owing to the instruments bearing their names No examination was considered complete without the use of sound and speculum instruments which bimanual palpation had rendered obsolete save for some specific purpose One of the most serious operations of that day was perineorrhaphy as shown in a report of 12 cases with two deaths Abdominal operations were rarely performed and generally ended fatally Yet the surgery was excellent and some operators, by instinctive surgical cleanliness obtained much success There was, however no guide until Lister enunciated the germ theory of disease The extensive use of carbolic acid followed and worked wonders in general surgery In 1877, when Lister came to London Spencer Wells had reduced his mortality from 25 5 to 9 per cent, with the carbolic spray he got still better results Soon dissatisfaction was expressed at the irritation of the tissues caused by antiseptic dressings Meanwhile bacteriology had developed and hence arose the aseptic system of treating wounds It was asepsis
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certainty and greater success The knowledge thus acquired once belonged to a few special men but had now become diffused throughout the country and aseptic

gynæcology was brought, as it were, to the doors of patients. He had been surprised at the excellence of the gynæcological as well as surgical work performed in small hospitals and the valuable assistance that could now be obtained in distant places from men whose surgical instincts were kept fresh and keen in such hospitals. There were other improvements which had accentuated the success of both antiseptic and aseptic gynæcology. Foremost amongst these was the Trendelenburg position in pelvic operations, then the avoidance of post-operative hernia by the methods of closing the abdominal wall, and the value of time in diminishing shock was well understood. Gynæcology still afforded an unexhausted field for future research and effort as long as the present high mortality of cancer of the uterus continued. Again, the nervous diseases of women required further study and the conditions, too often erroneously attributed to neurasthenia or hysteria, required to be classified and their treatment formulated. Their present treatment of uterine displacements could hardly be termed rational; it would not be tolerated in the displacements of other organs. The causes of many forms of displacement were involved in obscurity and urgently required elucidation.

THERAPEUTICAL SOCIETY.—A meeting of this society was held at the Apothecaries' Hall, London, E.C., on Jan. 24th.—Dr. W. E. Dixon (Cambridge) read a paper on the Action of Alcohol on the Heart. He said that alcohol was thought of by some as a stimulant, by others as a depressant, but substances such as thyroid extract, which produced little effect on health, might improve nutrition in disease. The action of alcohol was considered: (1) on the rate of the pulse; (2) on the heart itself; (3) on the blood-vessels; and (4) on the blood pressure. In small quantities and in a concentrated form it decidedly quickened the pulse at first but had no effect if it was much diluted; in very large doses it slowed the pulse. Its quickening action depended on its irritating effects on the mouth and stomach, like that of ammonia or even burnt feathers in fainting, but concentrated alcohol was more powerful than either. In too great a quantity it depressed the medulla. If chloroform was first given the stimulating effect was prevented. The heart was caused to contract more powerfully by alcohol at first though if much chloroform was first administered the heart became fatigued and did not respond to the stimulative power of alcohol. The internal vessels were constricted by the action of alcohol, as might be shown by the oncometer, the arm shrinking in bulk 15 or 20 minutes after it had been taken. This constriction drove the blood to the superficial vessels and caused the flushing of the face. Alcohol increased the blood pressure by stimulating the heart and constricting the vessels. Dr. Dixon summed up his remarks by saying that alcohol in small concentrated doses increased the rate of the pulse and the systole of the heart, constricted the deeper vessels, and increased the blood pressure, especially when the heart's action was feeble; it was therefore of great service in cases of fainting. It much diluted it had little effect on the heart but acted as a food, replacing starch in maintaining the heat of the body. In too large doses it depressed the heart.—Dr. H. A. Caley read a paper on Some Points in the Actions and Uses of Bismuth Salts, referring principally to the three insoluble salts in common use—the subnitrate, salicylate, and carbonate. Their local action on the stomach was first considered, their mechanical, astringent, and antiseptic properties were then discussed, and reasons were adduced for regarding the local action on the mucous membrane as the most important factor, their special usefulness in gastritis and ulcer being emphasised. Of the three, the carbonate was the most generally useful as a gastric sedative. In dealing with the action of bismuth salts in intestinal disorders Dr. Caley brought forward experimental evidence bearing on the antiseptic action of the three salts; the subnitrate had definite germicidal action on cultures of the bacillus coli, the salicylate a similar but much weaker effect, while the carbonate was inert as a germicide. Under laboratory conditions this antiseptic action of the first two salts was destroyed by alkalies; on the other hand, therapeutic experience showed that an alkaline medium did not destroy their efficacy. For this and other reasons it was inferred that the principal action of bismuth in the intestines was a local action on the mucous membrane and that the presence of catarrhal inflammation was one of the chief indications for its employment. If given in sufficiently large doses bismuth was potent in many intestinal disorders and was capable to a large extent of replacing the more direct intestinal antiseptics, strong astringents, and opiates. Of these three salts the subnitrate was the most efficacious in irritant lesions of the intestines and where a more marked astringent effect was desired he preferred a combination of this salt with catechu or other vegetable astringents to the more recently introduced subgallate of bismuth.

LIVERPOOL MEDICAL INSTITUTION.—A pathological meeting of this society was held on Feb. 9th, Dr. James Barr, the President, being in the chair.—Mr. W. Thelwall Thomas and Dr. E. Cleaton Roberts showed two specimens of Multiple Villous Growths of the Bladder removed from patients aged 56 and 60 years.—Mr. Thomas also showed two specimens of Volvulus. One was in a woman, aged 56 years, and included 15 inches of large and three inches of small intestine. The stump had a complete turn from left to right with a gangrenous convexity. The other was in a woman, aged 22 years, in whom 18 inches of gangrenous small intestine were removed. Specimens from a third abdominal case exhibited by Mr. Thomas showed the ovary and Fallopian tube to form the walls of an abscess cavity to which were attached four inches of gangrenous small intestine. These were resected and end-to-end anastomosis was performed.—Mr. J. Douglas-Crawford showed Microscopical Preparations of Actinomycosis from the jaw and from the skin.—Dr. R. J. M. Buchanan showed a Megasphere from a case of carcinoma of the lung.—Dr. Nathan Raw showed specimens of Primary Tuberculosis of the Kidney with Secondary Affection of the Bladder.—Dr. W. Blair Bell showed Radiographs (by Dr. C. Thurston Holland) of a case of Morton's Disease before and after treatment which consisted in the excision of the fourth metatarso-phalangeal joint and had resulted in complete cure.—Dr. Ernest E. Glynn showed a greatly Dilated Œsophagus from a man with symptoms of stomach disease; the necropsy showed, however, that the stomach was contracted and the cause of the dilatation remained obscure; there was no microscopical change in the musculature of the œsophagus.—Dr. Glynn also showed a Thrombosed Pulmonary Artery which had caused death in a boy a few hours after a perfectly successful operation for appendicitis.—Dr. A. W. Campbell read a note on Tuberose Sclerosis of the Brain, a very rare but well-defined condition consisting of a peculiar hard whitish appearance on certain areas of the cortex; these were not raised and did not infiltrate below the level of the immediate white matter. Microscopically they showed a glia structure and branched tubular glandular structures lined by columnar epithelium. Giant nerve cells were also seen. In the kidneys were myo-fibromata and on the skin soft tumours called adenoma sebaceum. The patient was an epileptic idiot, aged 27 years.—Dr. G. G. Stopford Taylor and Dr. F. H. Barendt spoke of having seen this condition of the skin in mentally defective persons and Mr. E. M. Stockdale and Dr. W. B. Warrington discussed the nature of the gland like structures.—Dr. C. Thurstan Holland read a note on the X Ray Diagnosis of Kidney Stones and showed a "Diaphragm Compressor" designed by himself. By the use of such a compressor the movements of the kidney during respiration were controlled, much sharper definition was obtained, and good negatives might be readily produced. By this method the negative diagnosis was made more sure—a point of very great importance. The note was illustrated by a series of lantern slides showing stones in the kidney. One slide showed an oxalate stone which when removed was found to weigh two grains, whilst another slide showed a uric acid calculus which weighed five grains.—Dr. Buchanan gave an account of a Method of Staining the Blood Elements, designed to show a difference in the staining characteristics of the red cells of pernicious anæmia. He also gave an account of the centrosome and attraction sphere of cells.

LARYNGOLOGICAL SOCIETY OF LONDON.—A meeting of this society was held on Feb. 3rd, Mr. Charters J. Symonds, the President, being in the chair.—Mr. C. A. Parker showed a case of Tuberculosis of the Larynx in a woman, aged 31 years. The disease commenced during her fourth pregnancy, since which she had been pregnant five times. On three occasions the child was born alive and on two occasions she had miscarriages.—Mr. H. Clayton Fox showed, for Dr. Frederick Spicer, a case of Diffuse Papilloma of the Vocal Cords; and Dr. Edward Law showed a man, aged 69 years, from whom a Laryngeal Growth was removed 21 years ago from the right vocal cord by the late Dr. Whistler. Views as to the present condition were invited. Some members were of opinion that the case was malignant but the general feeling was that this was not so.—Mr. P. R. W. de Santi showed two cases, the first being that of a woman, aged 39 years, exhibited at the last meeting, with a laryngeal swelling which was thought to be tuberculous but a microscopical slide now showed that it was undoubtedly squamous-celled carcinoma. The second case was that of a man, aged 60 years, with a large mass of Malignant Glands in the Neck and Swelling of the Larynx on the same side.—Mr. Stephen Paget showed three cases for diagnosis. The first was a case of Fixation of the Left Vocal Cord; the opinion of the meeting was that this was due to aneurysm. The second case was one of Growth of the Right Ventricular Band. The third was one of Growth in the Larynx which was generally regarded as [illegible]bers inclined to the view th[illegible]. Steward showed a case of R[illegible]onsils associated with Lymphadenoma in a woman, aged 64 years.—Dr. F. W. Bennett showed a specimen and photographs of a Malignant Growth of the Larynx and a case of Nasal Ulceration of the Septum for diagnosis. The latter was considered to be a case of ethmoiditis.—Dr. Herbert Tilley showed a case of Primary Sore on the Tip of the Tongue in a man, aged 40 years. There was slight enlargement of the glands but no rash. Some doubt was expressed whether it was not a simple granuloma resulting from the irritation of the caustics which the patient had repeatedly applied.—Dr. G. C. Cathcart exhibited two cases, the first being that of a patient shown at a previous meeting, with Pachydermia Laryngis (?) Tuberculous; and the second being a case of Combined Functional and Organic Paresis of the Larynx in a singer, aged 34 years.

Dermatological Society of London.—A meeting of this society was held on Feb. 8th, Dr. J. J. Pringle being in the chair.—Dr. T. Colcott Fox showed (1) a man, aged 50 years, who had lived in India and who, six months after his return to England, had developed a generalised pruriginous eruption all over the body and limbs. There were to be seen small infiltrated obtuse papules situated rather deeply in the skin, showing no grouping and not developing into vesicles. The case resembled both the prurigo of Hebra and the eruption described under the name of pseudo-leukæmic prurigo, but there were no enlarged glands or any signs of lymphadenoma. (2) A man who was suffering from an attack of Ordinary Eczema of the Lumbar Region but in whom were found accidentally, on stripping the back to view the eczema, many large nodes situated deeply in the hypoderm over the last two ribs on the left side. The question was, Were these gummata or some kind of true tumour formation? They had been in existence for six years. The majority of members thought that they were probably gummata.—Dr. Pringle showed a man, aged 64 years, with Extensive Symmetrical Sclerodermia of seven years' duration. The patches extended over almost the whole of the legs below the knee, on the thighs, over the area roughly corresponding to the second lumbar segments according to Head, and from the styloid processes of the ulnæ up to the tips of the olecrana, thus corresponding to the first dorsal nerve areas.—Dr. [illegible] showed a case of Mixed Sclerodermia. [illegible] ago with the appearance of a [illegible] subsequently two more patches appeared in the neighbourhood of this. Two years ago the left arm began to waste and when shown there was extensive sclerodermia with rigidity and partial immobility of the elbow-joint from the contraction of the skin. Most of the patches showed the characteristic ivory-white appearance but in some situations there wa[illegible] Weber showed a [illegible]ted Sarcoma i[illegible] the growths. The usual marked œdema and almost purple colouration of the limb were present.

South-West London Medical Society.—A meeting of this society was held at the Bolingbroke Hospital, Wandsworth Common, on Feb. 8th, Mr. E. F. White, the President, being in the chair.—Mr. G. H. Makins gave an address entitled "Some Remarks on the Indications for, and the Results of, the Operation of Gastrojejunostomy." He observed that as to the choice of operation the two main methods open to the surgeon were the anterior and the posterior operation, the object of either being the provision of an efficient anastomosis with the small intestine to short-circuit the pylorus, the most important technical points being the insurance of an opening of sufficient size and that this should be at the most dependent part of the stomach. What is the most dependent part of the greater curvature? By the aid of diagrams this was shown to be beneath the left rectus muscle. The stages of the operation were then reviewed. In preparing the patient it was desirable to wash out the stomach for two or three days prior to operation but not on the day of operation. The skin should be shaven dry, ether soap rubbed in, and the skin scrubbed lightly with a brush, the soap removed with clean swabs, and ether or turpentine applied. An incision from three and a half inches to four inches long was [illegible] A small incision was [illegible] was then necessary. [illegible] was then made for the piece of jejunum wanted. The two pieces of bowel were then clamped with Doyen's clamps. A simple running suture carried obliquely across was the best as it equalised the tension between the sutures and controlled hæmorrhage. A fine silk suture sufficed. The clamps and plugs having been removed the abdominal wound was closed and collodion applied, and it was then covered with gauze soaked in a mixture of gelatin and salicylic acid to which some formalin (one drachm to an ounce) had been added. Two days' rectal feeding was enough. The dressing was comparatively *nil*. Regurgitant vomiting was the chief after-trouble. The possible explanations were: (1) the intestine had not been attached to the lowest part of the stomach; (2) the mucous membrane was redundant and a valve was formed which prevented the flow from the stomach to the intestine; and (3) the opening was too small. Some regurgitation always took place and usually did no harm. The indications for the operation were: 1. Pyloric obstruction. In pyloric obstruction due to carcinoma it could be done in any case if sufficient room was left by the disease. The condition of the patient was sometimes a bar, and this was where the mortality of the operation came in. The relief was temporary but this objection was much less than the similar objection which might be raised against colotomy. Where there was ulceration of the growth the relief from pain was very great. 2. Cicatricial contraction. Here the operation was sometimes absolutely simple and successful but in other cases it was a troublesome one. 3. Congenital hypertrophic stenosis. In these cases it was not a good operation, the intestine being too thin and tenuous, and the results had been bad. 4. As an operation of expediency. The operation had been widely recommended and practised for gastric dilatation of unknown causation, for simple gastric ulcer, and for gastric and duodenal hæmorrhage. It has been recommended on the grounds of securing physiological rest. By the freer drainage of the gastric contents it was said to relieve pyloric spasm. Again, the ulcerated surface was less irritated; hence there were relief from pain and less chance of hæmorrhage. Cases were quoted to show that some fallacy might exist in the results seen after these operations mainly due to errors of diagnosis and perhaps less commonly to the failure of the operation to perform what was expected of it.

Otological Society of the United Kingdom.—A meeting of this society was held on Feb. 6th, Dr. Thomas Barr, the President, being in the chair.—The President delivered an address in which he spoke at some length on the institution of research work and the formation of a permanent museum in connexion with the society. He said that since the time of Toynbee the pathological anatomy of the ear had not received adequate attention in this country. The pathologist habitually ignored it in the post-mortem room and yet there was probably no part of the body in which a thorough examination was more important in the interest of progress. The thorough examination of the temporal bone and organ of hearing, however, required more time and technical experience than fully occupied otologists could usually command. Moreover, the operative work which they had to perform rendered it perhaps undesirable that they should engage in post-mortem investigations. He therefore suggested that it might be possible to make arrangements by which temporal bones sent by any member of the society might be examined anatomically and pathologically by young men specially interested in otology and possessed of the requisite knowledge for conducting such researches. A permanent museum would be a great addition to the resources of the society, for otology lent itself to the production of anatomical and pathological specimens.—A discussion then took place on Mr. Charles J. Heath's address, entitled "The Restoration of Hearing after Removal of the Drum and Ossicles by a Modification of the Radical Mastoid Operation for Suppurative Ear Disease." This address was delivered before the society on Dec. 5th, 1904, and was published in THE LANCET of Dec. 24th, p. 1767. Several speakers said that the operation described was practically the one already known as Stacke's, or the Schwartze-Stacke, operation.—Mr. Heath, in his reply, said that he had referred to his operation as a modification of Stacke's operation. The only statistics which he could quote were as follows: average duration of treatment before operation, 13 months; average duration of the disease, 15 years; proportion of cases with improved hearing, 84 per cent.—Dr. William Milligan read notes of two cases of Labyrinthine Suppuration recently operated on, with special reference to the path of infection. The patients were males, aged respectively 37 and 46 years. In both of them the duration of the disease was at least 20 years and the result of the treatment was complete recovery.—Dr. Herbert Tilley read notes of a case of Acute Labyrinthine Suppuration in a male patient, the subject of chronic otorrhœa. The radical mastoid operation was performed and recovery followed.—Mr. L. Lawrence showed a patient suffering from Chronic Non-suppurative Middle-ear Disease, in whom a mere touching of either tympanic membrane produced marked and rapidly extending hyperæmia. The condition might be called "urticaria of the drum."—Mr. Arthur H. Cheatle exhibited 250 Temporal Bones obtained from patients at all ages; these bones were sectioned vertically through the antrum and mastoid process.—Mr. Hunter F. Tod read notes of a case of Hernia Cerebri et Cerebelli the result of acute encephalitis. The patient was a boy, aged ten years, in whom acute middle-ear symptoms developed in June, 1904. Schwartze's operation was performed and seven days later the hernia was discovered. Gradual recovery followed and hearing was now normal on the affected side.—Other patients were shown by Mr. Ernest B. Waggett, Mr. Richard Lake, and Dr. H. M. Macnaughton-Jones.

HUNTERIAN SOCIETY.—A clinical meeting of this society was held on Feb. 8th, Dr. F. J. Smith being in the chair.—Dr. Purves Stewart showed a case of Oculomotor Paralysis of the Eye of a woman suffering from tertiary syphilis. She was rapidly recovering under treatment with iodides and mercury but still exhibited divergent strabismus and weakness in the action of the superior, inferior, and internal recti muscles, a dilated pupil, and weakness of accommodation. Ptosis was also present with corrugation of the forehead on the same side, a sign which was not present in hysterical ptosis. The gummatous process probably affected the nerve at the point at which it pierced the dura mater.—Dr. Stewart also showed a case of Cervical Sympathetic Paralysis due to division of the second and third dorsal roots on the right side by a Mauser bullet in the Boer war. The pupil was contracted on the same side and did not dilate on shading from light or pinching the lobule of the ear. The eye was sunken into the orbit owing to paralysis of Müller's muscle. There was ptosis to a slight degree on the same side for the plain muscle fibres in the upper lid were paralysed. The area of sweat fibres supplied by the cervical sympathetic had been marked out on this man and had been found to be the exact half of the head and neck, the front of the chest as low as the nipple and the back as far down as the lower angle of the scapula and the whole of the upper limb. The man was induced to sweat. Then charcoal was puffed over him and adhered to the sweating area. The area of paralysis was dry and the charcoal did not adhere. The patient was then photographed and these photographs were shown to the meeting. Photographs exhibiting spasm of the sympathetic from a case of Graves's disease were also exhibited for contrast.—Dr. Smith, Dr. W. Langdon Brown, Dr. R. Hingston Fox, and Mr. Harold L. Barnard took part in the discussion of the cases.

ROYAL MEDICAL SOCIETY, EDINBURGH.—A meeting of this society was held on Feb. 10th.—Dr. F. W. N. Haultain read a paper on Fibroid of the Uterus. He said that he divided fibroids into two classes—those which gave rise to symptoms and those which did not—and he stated that the condition was more common than one suspected, for probably one in every five women was affected, though the proportion of cases in which the growth became malignant was infinitesimal. In the course of his remarks he considered the question of operative interference in cases where there were inconvenient symptoms and he stated that it was his opinion that the operation should be performed in all such cases when the patient was young and that the approach of the menopause was a contra-indication. He continued by discussing the kind of operation to be performed and stated that he was in favour of suprapubic hysterectomy. Dr. Haultain concluded by giving an account of the clinical and pathological aspects of some of his own cases. During the course of his paper he exhibited some interesting specimens.—Dr. A. C. Geddes moved, and Mr. J. D. Wells seconded, a vote of thanks.—Dr. H. N. Fletcher read a dissertation by Dr. Matthews on Tuberculous Peritonitis.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 8th, Dr. Reginald Eager being in the chair.—Mr. H. F. Mole showed the following patients and read notes of their cases: (1) an infant operated on for Spina Bifida at 14 days old; (2) a case of Ruptured Intestine; (3) a case of Colectomy, &c., for Carcinoma of the Colon; and (4) a case of Excision of the Wrist for Tuberculous Disease.—Dr. J. J. S. Lucas showed (1) a case of Recovery from Tuberculous Meningitis; (2) a case of Exophthalmic Goitre in a man with Glycosuria; and (3) a speciman of Congenital Malformation of the Intestine.—Dr. J. M. Fortescue-Brickdale showed a specimen of Congenital Dilatation of the Ureter and Cystic Kidneys in a child.—Dr. Theodore Fisher showed a specimen of Chloroma of the Dura Mater, and Dr. J. E. Shaw read the clinical notes of the case.—The cases and specimens were discussed by a number of the members present.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on Feb. 8th, Dr. T. Harris being in the chair.—Mr. A. J. Rodocanachi showed a Vesical Calculus which he had removed by vaginal lithotomy. It had been deposited upon a vulcanite button with which someone had plugged a vesico-vaginal fistula following hysterectomy and had been forming for over two years.—Dr. Nathan Raw showed specimens of Lymphosarcoma of the Lungs. Dr. W. J. S. Bythell and Dr. D. Orr gave a lantern demonstration of Colour Photography as applied to Pathological Histology.—Other specimens were shown as card specimens.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held at the Royal Kent Dispensary, Greenwich-road, S.E., on Feb. 3rd, Mr. G. Chisholm Williams, the President, occupying the chair.—Mr. Charles H. Evans of West Norwood and Dr. A. E. Jerman of Erith were duly elected members of the society.—Mr. E. G. Annis, medical officer of the borough of Greenwich, read a paper on Immunity against Disease.

Reviews and Notices of Books.

A Text-book of Clinical Diagnosis by Laboratory Methods. By L. NAPOLEON BOSTON, Director of the Clinical Laboratories, Medico-Chirurgical College, Philadelphia. With 320 illustrations, many in colours. London and Philadelphia: W. B. Saunders and Co. 1905. Pp. 549. Price 18s. net.

THE title on the back of this work hardly conveys an exact idea of its contents, although its sub-title might. It deals chiefly with microscopical and chemical methods applied to the study of disease and there is nothing about auscultation, percussion, or other physical methods of this kind. To some readers the introductory chapter on the Use of the Microscope might seem almost unnecessary but of this we need not complain, for some practitioners to whom this work will prove of great value may find the hints regarding the method of using, cleaning, and observing with immersion lenses very useful.

About 150 pages are devoted to the blood under the following heads: tests for its recognition, estimation of its volume, the histology of fresh blood, its bacteriology and the study of fixed and stained films, special pathology, and the parasitic diseases affecting it The more recent methods for examining and staining blood are fully and carefully described and the subject is illustrated by many original drawings, all of them of great beauty and accuracy Anyone by following the excellent descriptions could soon make himself master of the subject Amongst the coloured plates are those on the blood corpuscles of various animals erythrocytes in various diseases, and the blood in pernicious anæmia, chlorosis, and myelogenic, lymphatic, and spleno medullary leukæmia Cryoscopy is also introduced This is a method which may come to play an important part in the diagnosis and the prognosis of some renal diseases Every method of clinical value for the study of the blood is fully given and with a wealth of illustration not common in some clinical manuals The importance of serum diagnosis is emphasised and its methods are fully set forth The protozoan parasites which invade the blood of the lower animals are described together with the malarial parasite, of which a particularly full account is given, illustrated by many figures in the text and also by coloured plates The various changes of the blood—in its corpuscles and fluid part—in acute infectious and other diseases are all carefully described and a comprehensive account is given of the parasitic diseases affecting the blood

To the urine 240 pages are given and here again there is the same wealth of illustration by means of figures and coloured plates Some of the woodcuts might be omitted—e g , that of a nest of beakers—and the same remark applies in some other chapters This subject is set forth under the following heads physical, chemical, and microscopical In addition to a full account of the method used the significance of the facts observed in relation to disease is stated The influence of some drugs on the excretion of the urinary constituents is given A rather larger chapter than usual is devoted to the sulphates—constituents of the urine which clinicians sometimes are likely to neglect Seeing that the sulphur excreted has an intimate relation to proteid metabolism it deserves careful consideration and estimation The loosely combined sulphur in the urine is a factor many chemists regard as a pre eminent feature which distinguishes Bence Jones albumose from the digestive albumoses as well as from histon and globin The author gives his own method for its estimation (p 188) The xanthin and purin bodies are now beginning to attract more attention and are dealt with accordingly In describing the detection and the estimation of proteids the author sets forth his own method for applying the old nitric acid test (p 207) In this connexion, he says, he has "found but two reagents that are capable of withstanding the tests necessary to render them worthy of special clinical mention—viz , concentrated nitric acid and the nitro-magnesium mixture of (Sir William) Roberts, which is composed of nitric acid two parts and saturated magnesium sulphate solution ten parts' There is a surprisingly realistic drawing on Plate 14 showing Fehling s test, the manner of conducting it, and the precipitate of the red cuprous oxide, besides which tests for glucose, lactose and the tests for the pentoses are given Oliver s peptone test for bile salts (p 240) is cited as one of the most delicate and trustworthy for the detection of bile acids in the urine The value and the significance of the diazo reaction are fully discussed

The subject of gastric contents occupies about 50 pages As to the detection of free hydrochloric acid dimethylamido azobenzol is placed first as the most sensitive reagent and is followed by phloroglucin vanillin, while Töpfer s method for its estimation is given as "sufficiently accurate for practical laboratory studies" A full account is given of the fæces, more particularly of their fauna and flora, both of which are extensive The organisms found are well illustrated by many figures The sputum, buccal and nasal secretions, discharges from the ear, the eye, and the genital organs, the synovial and cerebro spinal fluid, and milk are successively dealt with and with equal fulness and lucidity An unusual amount of space and fulness of treatment are given to the subject of transudates and exudates and to the parasitic diseases of the skin

This work is compact, trustworthy, comprehensive, and well illustrated, and we most cordially commend it as a serviceable and practical treatise on the subjects with which it deals Nothing has been spared in the way of illustration which could help to make it both useful and attractive

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Surgical Diseases of the Abdomen with Special Reference to Diagnosis By RICHARD DOUGLAS, M D , formerly Professor of Gynæcology and Abdominal Surgery, Medical Department, Vanderbilt University, &c Illustrated with 20 full page plates London Rebman, Limited 1903 Pp 883 Price 30*s* net

THE importance of abdominal surgery at the present day can hardly be overestimated A large proportion of the major operations performed now deal with this cavity and its contents and some of the greatest recent advances in surgical knowledge and treatment have reference to the viscera of the abdomen The volume under review deals but briefly with operative technique but is devoted chiefly to the question of diagnosis, which is of paramount importance, for the treatment cannot be determined satisfactorily until the diagnosis is made There is no small risk nowadays of the diagnostic art losing much of its value from the tendency which exists to postpone the diagnosis until an exploratory laparotomy has been performed This course is no doubt sometimes necessary, for the diagnostic signs may be too few and too obscure to allow a diagnosis to be made but the too ready recourse to abdominal section cannot fail to discredit operation in the eyes of the lay public who hardly recognise the difference between an operation for diagnostic purposes and one for treatment Dr Douglas s work is therefore especially valuable in that it devotes a large proportion of its space to the question of diagnosis We have perused the book with much pleasure, for it is representative of modern surgery and though the therapeutic sections are brief, yet we frequently find useful and valuable notes in them We may quote the recommendation that when irrigation of the abdominal cavity has been employed in peritonitis it is well to leave the abdomen full of saline solution, for the author tells us that it relieves shock, allays thirst, and tends to prevent post operative adhesions Each chapter is followed by a list of the recent works and articles on the subject and this should prove of great assistance to the reader The author is evidently well acquainted with current literature and his views seem to be sound The work can be recommended as containing an accurate account of the surgical diseases of the abdomen, especially from the point of view of diagnosis

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Diseases of the Ear, for Practitioners and Students of Medicine By JAMES KERR LOVE, M D Glasg , Aural Surgeon, Glasgow Royal Infirmary , Lecturer in Aural Surgery, St Mungo s College Glasgow , Aurist to the Glasgow Institution for the Education of the Deaf and Dumb Bristol John Wright and Co , London Simpkin Marshall, Hamilton, Kent, and Co , Limited 1904 Pp 339 with 54 photographs, two coloured plates, and many illustrations Price 25*s*

Dr Love tells us in the preface to this large and elegant book that his chief object is to spread a sense of the responsibilities which the modern treatment of suppurative diseases of the ear has thrown on the general practitioner and on the aural surgeon He has therefore devoted a large proportion of his work to this subject forms of piroplasma bovis, showing films prepared from affected animals in various parts of Ireland, and he also showed actual specimens of the varieties of ticks which are the intermediate hosts and the source of contagion from one beast to another. Medicinal and other curative treatments are entered into fully both by the author and by those who joined in the discussion. In the paper on the Selection and Purchase of Army Horses Mr. Hunting deals with what he considers to be the proper ages of horses at time of purchase in peace and in time of war. He discusses the questions of Government assistance to the breeder by contribution and subsidy, and he concludes his paper by a few words on the transport of animals across the sea. In the discussion which followed the paper the methods which were adopted during the recent war came in for a good deal of criticism, it being universally agreed that the way in which horseflesh was purchased and wasted cost the taxpayers of the country many hundreds of thousands of pounds unnecessarily.

JOURNALS AND MAGAZINES.

Ophthalmology. Vol. I., No. 2. January, 1905. Published by H. V. WURDEMANN, M.D., and NELSON MILES BLACK, M.D., of Milwaukee, aided by a large editorial staff. Publishing office: 105, Grand Avenue, Milwaukee, Wis., U.S.A. A quarterly journal, price per number, 6*s.*—The original articles in this number of *Ophthalmology* are six. 1. On Congenital Word-blindness, by William Evans Bruner, M.D. 2. Binocular Fixation and the Hypothesis of the Dominant Eye, by Percy H. Friedenberg, M.D. 3. Cases of Retinal Separation, by Allen Greenwood, M.D. 4. Report of Comparative Tests of Coloured Glass used in Railway Signalling, by Nelson Miles Black, M.D. 5. Improved Series of Wools for the Detection of Subnormal Colour Perception, "Colour Blindness," by Charles A. Oliver, M.D. 6. The Medico-legal Relations of Ocular Injuries, Pensions, and Insurance Rates, and a Reference to a Scientific Plan for estimating the Loss of Earning Ability, by H. V. Würdemann, M.D. In addition there are numerous abstracts from current ophthalmic literature and reviews of books.

The Ophthalmoscope. Editors: SYDNEY STEPHENSON (London) and CHARLES OLIVER (Philadelphia); sub-editor, C. DEVEREUX MARSHALL (London). London: George Pulman. Vol. III., No. 2. February, 1905. Price 1*s.*—This number contains three original articles on the Use of the Magnet in Ophthalmic Surgery. The articles are written by Professor J. Hirschberg, Professor O. Haab, and Mr. S. Snell and are all of considerable interest. They are briefly noticed in another column. A section of the review is devoted to current ophthalmological literature and another to reviews of recent works.

Looking Back.

FROM
THE LANCET, *SATURDAY*, Feb. 17, 1827.

A NEW ELECTRICAL DISCOVERY BY MR. EARLE.

We cannot sufficiently express our satisfaction at being the organ of exclusive communication of a novel and brilliant mechanical discovery of Mr. Earle; our gratification is not the less unalloyed by an anticipation of the extreme chagrin and mortification *Roderick* of the Yellow will experience on a perusal of the following "doings" of his staunch contributor. The case has been extracted from our note book earlier than usual, from the idea, that as spring is rapidly approaching, and all the *world about to physic*, it is highly necessary to know that a morning walk to Mr. Beaume the electrician, is now discovered to be a very genteel and speedy mode of gaining that end, and at the same time of keeping the stomach and mucous membranes intact from their vulgar noisy griping acquaintances, senna and salts. In anticipation of the future fame and gratitude attached to Mr. Beaume's galvanic efforts, we may suggest de Vie as not an inappropriate addition to his already respected name. Beaume de Vie, alias Compound Decoction of Aloes. Such appendage would proclaim at once his calling, and the world's gratitude.

Mr. Earle has had under his care, for a considerable time, a child affected with amaurosis. Its bowels have been constipated; their secretions of a very offensive character; and the biliary secretions, as might be expected, of an unhealthy appearance. The disease of the eyes has been regarded as sympathetic, and the grand sourse of mischief referred to the hepatic organs. Accordingly, mercury has been the grand anchor of hope; calomel, with its irritating step-sister, scammony, has been prescribed without any regard to frequency or quantity. Mr. Earle, at each successive visit, has expressed surprise at *finding no amendment in the biliary secretions*, after the employment of such active medicines. The sovereign remedy was ordered to be followed up with greater vigour, until a healthy action could be induced. But the child's liver was incorrigible, and not to be bullied even by such powerful means. Desparing of success from their further use, the idea of electricity flashed upon his recollection; and forthwith, the liver was electrified. It has been so again and again, but without the wished-for change. If Mr. Earle had himself possessed a little more of the "electrical devil," he would soon have discovered that the continuance of the hepatic derangement was more attributable to the negligence of the dresser, than to the obstinacy of the organ in question. The medicines prescribed, from the commencement were neglected being written for by the dresser, and the child TOOK ABSOLUTELY NOTHING. If Mr. Earle had electrified the *brain of his dresser*, he would have exhibited himself more favourably as a shrewd and attentive hospital surgeon.

NOTICES TO CORRESPONDENTS.

The complaints of a "FRIEND" respecting occasional errors in orthography, are not in some respects devoid of foundation. If he were acquainted with the nature of the evil to be overcome, his excellent judgment would furnish many excuses for that which now appears to be the effect of negligence. As to the *cover*, we take no part in its management, and never see it until the Number is published—this department rests entirely with the Printer.

JEMMY COPLAND says that we cannot *decline* a noun; at all events we have *declined his articles.*

New Inventions.

A NEW FORM OF THIMBLE.

A NOVELTY lately introduced under the name of "Turner's open thimble" seems to present some useful features. It differs from the ordinary form of thimble in having a portion (rather less than one-half) of the side cut away, as shown in Fig. 1, so that even prolonged use of the thimble is not attended with any compression of the finger-tip and nail. When on the finger the thimble is turned to some extent sideways in such a manner that the outer edge of the nail—i.e., the edge furthest from the thumb—is visible in the centre of the open part. The usual form of the open thimble is as shown in Fig. 1, but it is also made with the top cut off, as shown in Fig. 2. The makers (supplying wholesale firms only) are Messrs. W. Turner and Co., 3, Batavia-buildings, Hackins Hey, Liverpool.

FIG. 1.

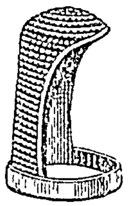
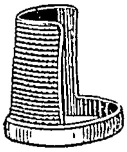


FIG. 2.



THE LANCET.

LONDON SATURDAY, FEBRUARY 18, 1905

The Hunterian Oration

THE name of JOHN HUNTER can never be forgotten His services to surgery were so great that we need no Hunterian Oration to remind us of all that he has done and of all that he was Yet the delivery of such an oration as that of last Tuesday cannot but help us to appreciate more fully to estimate more highly, the character of the man and the work which he accomplished We have listened to many Hunterian Orations and we have valued the eloquence of the orators but we have never been privileged to listen to a Hunterian Oration which contained a more just appreciation of its subject To devote an hour to mere eulogies of JOHN HUNTER is futile, indeed no one would have disliked them more than JOHN HUNTER himself But to occupy the time in pointing out the way in which HUNTER accomplished all he did, to show how he spent his time, his money and even his life itself in the advancement of knowledge and the attainment of progress, is quite another and a much more appropriate method, and this was the method adopted by the most recent orator, Mr JOHN TWEEDY President of the Royal College of Surgeons of England

To understand JOHN HUNTER'S life three things are necessary We must first realise the parlous state of the study of anatomy in England in the middle of the eighteenth century In 1746 WILLIAM HUNTER, JOHN'S elder brother, had commenced the systematic instruction of anatomy, with dissections, for a society of naval surgeons and this was indeed the starting point of the true study of anatomy in this country The successful practice of medicine and surgery is unattainable without an exact knowledge of the structure of the human body and for this dissection is essential While the prejudice against dissection was strong, as in the Middle Ages it was impossible for teachers of anatomy to obtain the material which they needed for dissection this prejudice had in some degree abated when WILLIAM HUNTER established his school of anatomy and surgery but to a certain extent this unreasonable prejudice against dissection exists even now, *for many boards* of guardians decline to permit the unclaimed bodies of paupers dying in their infirmaries to be used for anatomical purposes JOHN HUNTER profited greatly by being introduced early into the progressive school of his brother and this doubtless had much to do in training and fitting him for his future work But Mr TWEEDY shows that there was a second cause for JOHN HUNTER'S extensive contributions to surgery Most of the work of his predecessors was empirical, it was based chiefly on the precedent of previous cases, while of pathology, as affording working theories, there was almost none HUNTER saw that disease could not be treated satisfactorily without a knowledge of the morbid processes and to obtain that knowledge he strove persistently He recognised that for the attainment of this knowledge of pathology careful observation was needed of the products of disease and for that reason he set about the formation of a museum From the first he saw the need of not limiting the study of anatomy and pathology to the human body He felt that man was so near akin to the lower animals that the study of the vital and the morbid processes of the one must assist in the investigation of the life processes and the diseases of the other therefore his museum included numerous dissections and examples of the organs of birds, beasts, and fishes The museum of the Royal College of Surgeons of England, as the present representative of HUNTER'S museum contains one of the most elaborate collections in the world in illustration of the physiology of animals and plants

There was a third factor which assisted JOHN HUNTER greatly in the prosecution of his task All the time during which he was carrying on his extensive and numerous investigations he was in the active practice of his profession This always suggested to him the application of the facts which he elicited in his researches and thus he possessed a touchstone on which he could try the theories suggested by his facts which explains the splendidly practical nature of his work There may have been greater surgeons better pathologists and more erudite anatomists than HUNTER but it may safely be said that never in the whole history of medicine has there been a man who devoted himself more thoroughly and more intensely to the advancement of the medical sciences His influence was great in his own day and from that time to this can be traced in the work of his immediate pupils—ABERNETHY, CLINE, ASTLEY COOPER and JENNER At the present time his work is still bearing fruit and his museum enlarged and extended is of the greatest value in the advancement of medicine and surgery So will it be in the future To few is it given to accomplish so much work while living and to leave behind so vital an effect on the science of succeeding ages, and the reasons why HUNTER will receive the lasting regard of the world are well revealed in Mr TWEEDY'S eloquent oration, which we publish this week

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The Claims of Sociology.

UNDER the modest title of "Sociological Papers,' the recently constituted Sociological Society has just issued what might perhaps be better described as a first volume of 'Transactions containing presumably only a selection from the essays read at its meetings, with reports of the debates and with written contributions to those debates from absent members to whom advance proofs of the essays had been furnished At one of the meetings the chair was taken by Professor KARL PEARSON who opened a discussion by declaring that he was not a member of the society and that he was sceptical of its power to do effective work, a declaration which ultimately called forth a reply several pages in length from the secretary, Mr BRANFORD, but with which nevertheless, we are disposed to think that most readers of the volume will be likely to agree It may be admitted that the course of social organisation must be subject to laws which would be ascertainable if they were rightly sought for; but the efforts hitherto made in this direction have not been conspicuously successful. In 1857 a body called the National Association for the Promotion of Social Science was founded under the auspices of the first Lord BROUGHAM who was said to have been greatly pleased at the "wide and indefinite area" over which its labours were designed to extend. This area was, indeed, so indefinite that the first volume of the Transactions contained a paper by a member of the House of Commons, in which, as a remedy for most of the domestic evils afflicting the lower classes of the labouring population, he gravely proposed that pleasant modulation of the voice should be systematically taught in elementary schools for girls, in order that their future husbands, returning tired from work, should be soothed by the gentle tones of their helpmates and should no longer be subjected to the shrill accents of the scold. For several years the annual meeting of this association was held to be an event of some importance; but its useful work was gradually smothered under a weight of superincumbent trivialities and, after a vain effort to obtain new blood by amalgamation with a society for amendment of the law, it perished from an atrophy mainly dependent upon the unfitness of its nutriment to sustain the vastness of its aims. The new society must to some extent be regarded as its successor and we doubt whether its history is likely to be more fortunate.

The general character of the contributions contained in the volume before us is one of vagueness, arising partly from an absence of sufficiently definite ideas, and partly from an incapacity for expressing them, the latter perhaps sometimes arising from the circumstance that several of the contributors have foreign names, with a consequent probability either that they have written in what was to them a foreign language or that their compositions have been but imperfectly translated. Whatever may be the explanation, we find a general clumsiness of the sentences, a frequent employment of common words in strained or unnatural meanings, and an obscurity of construction which a few well-employed prepositions and conjunctions would have done much to obviate. It is none the less noteworthy that the gentlemen reading papers, and the gentlemen (or ladies) sustaining the discussions, appear to have been profoundly convinced of the importance of their several contributions to the stock of human knowledge; moreover their politeness to one another can only be described as exemplary. It would be difficult to read the reports without some recollection of the historical society described by the poet:—

> "Where, ladling butter from alternate tubs,
> Stubbs butters Freeman, Freeman butters Stubbs."

If proceedings thus conducted are not likely to lead to discoveries of importance, it is at least tolerably certain that they will be sources of harmless pleasure to the great majority of the learned or unlearned persons concerned in them. An important discussion as to which an exception must be made, and which, moreover, was calculated to be of great interest to the medical profession, arose out of the reading of Mr. FRANCIS GALTON'S paper on Eugenics. This paper was so fully referred to when first issued as a "proof under revision," in a leading article in THE LANCET of May 14th, 1904, and has since been so often reproduced in entire or in abbreviated form, that it can hardly be other than familiar to our readers. We need only remind them that its object was to advocate such a system of controlling the reproduction of the human species that the useful classes of the community should contribute more than their proportion to the next generation. The results anticipated by the author are that it might be possible to raise the average quality of our nation to that of its better moiety at the present day. If this could be done, he thinks that "the general tone of domestic, social, and political life would be higher. The race as a whole would be less foolish, less frivolous, less excitable and politically more provident than now. Its demagogues who played to the gallery would play to a more sensible gallery than at present. Men of an order of ability which is now very rare would become more frequent, because the level out of which they rose would itself have risen."

These be brave words and Mr. GALTON'S belief in the possibility of realising what they imply depends upon his corresponding belief in an habitual inheritance by children of the good qualities of their parents. In the very short speech with which he closed the discussion, he said that "much which had been urged against this view might have been appropriately said 40 years ago, before accurate measurement of the statistical effects of heredity had been commenced, but that it was quite obsolete now." As evidence in support of his view he gives, in the volume under consideration, an "Index to the Achievements of near Kinsfolk of some of the Fellows of the Royal Society," the "some" including but eight persons, of whom only one, or at most two, could be described as of the highest eminence. It is scarcely invidious to point out that, even in the Royal Society, there are Fellows and Fellows; but it is more practically important to scrutinise the achievements in question, the great majority of which appear to us to resolve themselves into the capable discharge of duty in positions certainly responsible, but for the attainment of which the persons referred to have enjoyed exceptional facilities dependent upon the social or financial positions of their respective families. We do not regard the existing knowledge of the operation of hereditary influences as being sufficient either to justify the enunciation of general laws or to afford any adequate guidance for the regulation of marriages; and we believe it would be as easy to compile an imposing list of the achievements of persons who are not related to Fellows of the Royal Society as of those who are. What is commonly called an inheritance of genius might often be more correctly expressed as an inheritance of advantages by which a very moderate amount of genius was afforded exceptional opportunities for displaying itself. We expressed last May our doubt whether any science of Eugenics was really in existence, and this doubt has not yet been dispelled. So far as we know, attempts in the indicated direction have not been conspicuously successful in practice. Among the queer so-called "religious" sects now or formerly existing in America, and which were so graphically described by the late Mr. HEPWORTH DIXON, there was at least one in which intended parents were specially selected for pairing by the elders, with a definite view to the production of offspring capable of guiding the affairs of the community to a successful issue. We do not know whether the community in question still exists as an organised body but we have heard that it never produced a single individual of conspicuous ability.

The Indian Medical Service.

We have received from time to time communications from officers of the Indian Medical Service, and from some members of the subordinate medical service who are finding employment in civil hospitals all over India, in regard to various points in the existing medical system of the Empire in which they are severally or mutually interested. The present and the future standing of both services and the relationship of the officers one to another are now much under discussion, and the aspirations entertained by many of the more able and ambitious members of the subordinate medical department will certainly serve to keep these topics from neglect. Not so long ago the difficulties were only in prospect and could not be said to be of an urgent kind, so that it seemed to us more expedient to leave the whole situation to mature, when in process of time it might present features which could be more opportunely and usefully discussed. This has now happened and comment seems to us to be called for. Great changes have been taking place in matters of Indian administration generally and in the growth, spread, and development of Indian medical education. Proof of this has been manifested in our columns but some of the correspondence upon these and cognate matters which has reached us has been dictated by feelings that are of a personal or a purely controversial nature and therefore lacking in sympathy with the best interests of both the public medical services and the medical requirements of India. And so the points thus raised may, it seems to us, be usefully discussed at the present time, if only that a most difficult matter may be removed from the sphere of personalities to that of general policy.

Commissioned medical officers of the Indian Medical Service, as everybody knows, are employed extensively as professors at the large medical colleges of the Empire and give instruction at the great hospitals—those of Madras, Calcutta, and Bombay for example. This for a long time past has always been the case. The consequence is that there are now in India large and increasing numbers of really good medical men belonging to Eurasian and native classes who have been thoroughly educated up to European standards. A reference to some of the papers set for the degree examinations of Calcutta, Bombay, and Madras will remove any doubt that may exist as to the rigour of the qualifying tests. These graduates are, as we have said, chiefly employed as subordinates in the civil hospitals all over India and surgical operations of every kind, major as well as minor, are continually being successfully performed by them. Officers of the Indian Medical Service are not alone in their appreciation of the professional value of the work so done, for it is recognised also by Collectors and magistrates of districts and all classes of the native population. The result is that the Government of India is now, or is fast becoming, fairly well supplied with a highly trained body of servants who, so far as professional qualifications are concerned, are capable of undertaking at less expensive rates of pay most of the duties of the commissioned officers of the Indian Medical Service. Indeed, one of our correspondents goes so far as to forecast what, in his opinion, is likely to be in store for the latter service. He expresses his belief that the policy of the rulers of India towards the Indian Medical Service is based upon the principle of utilising the Service mainly in creating for the Government a sufficiently large and efficient number of subordinate medical servants, recruited from the Eurasian and native classes of India. And in support of this view he adds that such a movement while opening an outlet to the present clamour of the intelligent native who desires Government employment for his educated intelligence might at the same time ease the country of a portion of its expensive administration. The Indian Government, he points out, does, moreover, now occasionally employ such medical subordinates to look after the whole medical and sanitary business of large districts containing no inconsiderable European population when there happens to be no commissioned medical officer available for the purpose. Such a letter as that from which we are quoting expresses the spirit of toleration and generosity which all medical men of a right understanding must feel towards their professional brethren. It is not logical—to say nothing stronger—that we should spare no pains to educate the Indian and, at the same time, should refuse him for ever the opportunities of a free exercise of the talents that we have enabled him to cultivate. But the time when a more liberal scheme can be adopted by the Indian Government is delicate to fix—those who know least the difficulties are clearest as to the absolute necessity for immediate reform and most unable to see how valuable it is for future peaceful developments that the change should come so gradually as to appear a merely inevitable process of social evolution. And in considering the question of the increased employment, and the employment in more responsible and highly placed duties, of the native medical graduates we must not ignore the influence which the difference of race introduces into it—not merely those of a physical nature but racial distinctions of character, religion, education, and methods of thought which, however much we may regret their existence, nevertheless tend to keep the European and the native races of India more or less apart. Nor is it the case that the natives of India do not themselves fully recognise these distinctions. It is a topic upon which we would prefer not to enter but so long as human nature is what it is it cannot be ignored. That in respect of trustworthiness of character there are among the members of the subordinate medical service quite a number of unimpeachable servants will be admitted but that the ethical standards of the native and the European are identical cannot be maintained. The native of India, notwithstanding all his confidence in the British character, has profound confidence in himself and is firmly convinced that either he or one of his compatriots is eminently fitted to administer the business of any official post in India. Ask the same native, however, when he is very ill whether he would prefer treatment at the hands of a compatriot or of an officer of the Indian Medical Service and his preference will be immediate and flattering to our race.

Reviewing the whole situation, we believe that it is a misapprehension to consider that the policy of the Government of India is eventually to displace the European commissioned medical officer in favour of qualified natives or Eurasians. It is certainly not that of the Collector or magistrate, who would strenuously oppose it. Europeans in power in India have naturally enough not the least desire to have either themselves or their families medically treated by either natives or Eurasians instead of by their own countrymen. The education and training of natives of India to be qualified medical men are generally regarded as being among the highest and noblest functions of the Indian Medical Service, so that these men may gradually displace the ignorant "hakedu" and "baid" in ministering to the medical wants of the millions of suffering poor. But it goes without saying that Europeans serving in India will always prefer medical men of their own race. The gradual increase of qualified natives in the towns and the villages has certainly, and very naturally, the effect of diminishing the emoluments from private practice of the officers of the Indian Medical Service, for the former accept much lower fees than the latter and have the advantage of speaking the native languages fluently and of permanency of residence. We consider that it is a legitimate grievance of the qualified natives of India—for it must not be forgotten that it is their country over which we rule—that they are not placed more frequently in medical charge of the smaller districts of India. Whilst the British "raj" lasts, however, in India European medical officers will be required for the larger stations and more important appointments. It would not be for the advance of medical science in India were it otherwise.

Annotations.

"Ne quid nimis."

THE KING'S SPEECH.

THE King, accompanied by the Queen, opened Parliament in person on Tuesday last. The King's Speech made no allusion to any existing position of affairs or pending legislation of especial medical interest, but its whole quiet confident tone showed that in the opinion of His Majesty's advisers the condition of the country is prosperous and the outlook peaceful. We have so often been told that our trade is going or gone and that we are politically isolated and are living on the edge of war that it can only be good for our nerves, as a nation, to feel that those who ought to know best are not afraid to be both happy and hopeful. Among measures of medical interest we note that legislation is promised dealing with alien immigration, the problem of the unemployed, the compensation of workmen, and the adulteration of butter, but we observe regretfully that nothing is said about legislation with respect to re-vaccination.

THE MACLOGHLIN SCHOLARSHIPS.

Mrs. Macloghlin of Southport has decided to found and to endow some scholarships in memory of her husband, the late Edward Percy Plantagenet Macloghlin, M.R.C.S. Eng., and she has offered to the Royal College of Surgeons of England the trusteeship of the fund. The Council of the College has accepted the trusteeship and will invest and administer the £10,000 which Mrs. Macloghlin will bequeath to it, free of legacy duty. The late Mr. Macloghlin received his medical education at University College, Liverpool, where he gained a number of distinctions, among which may be mentioned the Bligh gold medal in anatomy and physiology and silver medals in medical jurisprudence and toxicology and in pathology. In 1884 he became a Member of the Royal College of Surgeons of England and for several years he practised in Wigan but in consequence of ill health he retired from practice and he died in April, 1904, at Southport. In the early part of his career Mr. Macloghlin was hampered by want of means and it was only by his own exertions that he was able to obtain funds for his education. In later life he did not forget these early difficulties and when success came to him the recollection of his own troubles during his studentship suggested to him the idea of founding a scholarship at the Royal College of Surgeons of England with the object of assisting young medical students in real need of financial help to proceed with their studies. Now that Mr. Macloghlin has died Mrs. Macloghlin offers, in accordance with the wish of her husband, to devote £10,000 to carry out this object. It is thought that when invested an income of about £300 will be available and five scholarships are to be founded, the first to be awarded in the first year succeeding the investment of the fund and another in each of the next four ensuing years, so that afterwards one scholarship will be awarded every year. The scholars are to be young men, between the ages of 16 and 22 years, studying and seeking to qualify themselves as Members of the Royal College of Surgeons of England. No student will be allowed to compete for a scholarship unless he is nominated by the Council, which will act on the recommendation of certain persons, provided that the student's conduct has been satisfactory and that he is in need of financial assistance in the prosecution of his studies. The candidates so nominated will be required to enter for the first professional examination for the diploma of Member of the Royal College of Surgeons of England and the scholarship is to be awarded to the candidate passing the best examination. It is intended that chemistry and physics should form the test subjects of the examination. The endowments for the assistance of medical students in London will be materially increased in importance by this very generous gift of Mrs. Macloghlin and we think that no fitter body for the administration of the fund could have been chosen. The yearly amount of each scholarship will be about £60. The total for five years receivable by one student will be £300 and this should prove of very real assistance to many. The struggles which no small number of medical students undergo while working to obtain a qualification are hardly realised even by their more fortunate brethren and not at all by the public. Such assistance as will be afforded by this fund will be of great value.

THE INTRUSION OF THE LAYMAN INTO MEDICAL PRACTICE.

UNDER this title we note a letter from Mr. E. Shenton in the January number of *Medical Electrology and Radiology* in which he states that he had been asked to attend at a patient's house in order to take a skiagram of a case of suspected mediastinal tumour but that the appointment was cancelled at the last moment because a well-known firm of chemists and surgical instrument makers were willing to undertake the case at a lower fee. That the firm in question do undertake x ray work seems to be certain, for in a former number of the same journal, a copy of which lies before us, there is a letter from the firm admitting that they undertake the treatment of patients but defending themselves from the charge that by doing so they are acting in antagonism to the medical profession. The practice of taking x ray photographs might, perhaps, be defended more easily than the treatment of patients by x ray or other electrical methods but we must confess to some astonishment at finding that either practice is followed by a firm of good standing We are aware that electrical methods of treatment have unfortunately been taken up more or less by unqualified persons but we should hardly have thought it a politic procedure on the part of the firm in question We are not surprised to find that protests are being made against such an unjustifiable encroachment upon work which should be confined to medical practitioners

ROYAL COLLEGE OF SURGEONS OF ENGLAND HUNTERIAN FESTIVAL

IN February the anniversary of the birth of John Hunter is celebrated each year at the Royal College of Surgeons of England by the delivery of a Hunterian Oration This year the oration was delivered by the President of the College, Mr John Tweedy It will be found in full in another column and is commented on in a leading article The oration was followed this year by the Hunterian dinner, which is held biennially, the President being in the chair, supported by the Vice Presidents, Mr A W Mayo Robson and Mr Henry T Butlin About 100 guests were present, including distinguished representatives of various professions and callings, as will be seen from the following names the Duke of Abercorn, the Lord Bishop of Oxford, the Dean of Norwich, the Right Hon James Bryce, M P , the Hon Mr Justice Buckley, the Hon Mr Justice A T Lawrence, Sir John R Paget, K C , General Lord Cheylesmore (Mayor of the City of Westminster), the Vice-Chancellors of the Universities of Cambridge and London, the Dean of the Medical Faculty of the University of London, Sir William Ramsay, F R S , the President of the General Medical Council, the President of the British Medical Association, Sir Frederick Bridge, Mus D , Dr W H Cummings, Mus D , the Headmaster of Westminster School, Sir Harry H Johnston, Dr Edward A Wilson (surgeon of the National Antarctic Expedition), Sir William S Church (President of the Royal College of Physicians of London), Sir William H Broadbent, Sir Lauder Brunton, Sir Dyce Duckworth, Professor T Clifford Allbutt, Sir Frederick Treves, the Director-General of the Medical Department of the Royal Navy, the Director General of the Army Medical Service, and the Masters of the Merchant Taylors', Salters', Ironmongers', Clothworkers', Skinners', Leathersellers', Apothecaries', and Grocers' Companies By a curious coincidence the present Master of the last named Company is Mr H Percivall Pott, a descendant of the well known surgeon, Percivall Pott, who was one of Hunter's teachers and whose name is still well known in connexion with Pott's fracture The toast of 'The King" was proposed by the President who referred to the great interest taken in the medical profession by the King, as shown by the fact that he was an Honorary Fellow of the Royal College of Surgeons of England and also an Honorary Fellow of the Royal College of Physicians of London He had too shown his interest, perhaps even in a more important way, by his efforts on behalf of the hospitals of London and by his establishment of King Edward's Hospital Fund which was bringing a spirit of intelligent inquiry to bear upon the hospital administration of London and would, it might be hoped, result in the establishment of a rational system of management and expenditure In proposing the toast of "Queen Alexandra, the Prince and Princess of Wales, and the other Members of the Royal Family," the President remarked that the Queen was a meet helpmate for His Majesty in all good works and that the Prince of Wales showed his interest in hospital affairs by his presidency of King Edward's Hospital Fund He also alluded to the position held by His Royal Highness as President of the Cancer Research Fund and referred to his recent speech as showing a remarkable grasp of details connected with the problems with which that Fund had to deal The toast of "The Memory of John Hunter" was then drunk in silence Mr Mayo Robson proposed the toast of "The Visitors ' and in coupling with it the names of the Duke of Abercorn and Vice Admiral W H Henderson alluded to the good service that was rendered by the committee established under the auspices of the Duke of Abercorn to our sick and wounded officers The Duke of Abercorn, in reply, said he was glad of the opportunity—the first that he had had—of returning his cordial thanks to those members of the medical profession who voluntarily and generously gave their skill and their knowledge to help the wounded officers whom it was the object of the fund which he had started to benefit Vice Admiral Henderson also responded The toast of "The President and Orator ' was proposed by Sir William Ramsay who spoke of the President as "a man of few words but his words contained wisdom " A short reply by the President brought the proceedings to a close A programme of music was performed during dinner by the band of H M Coldstream Guards

FRENCH COPYRIGHT IN PROFESSIONAL PHOTOGRAPHS

ON Feb 10th judgment was delivered in a French law court in the matter of Dr Doyen *versus* a firm of photographers The facts of the case were these In June, 1898, Dr Doyen conceived the idea of having certain surgical operations "cinematographed" during their performance Six different operations were photographed jointly by two photographers, M Clément Maurice and M Parnaland The latter, it is alleged, sold prints from these films to the Société des Phonographes et des Cinématographes and the photographs were publicly sold and even exhibited by showmen (*par des forains*) in public places with Dr Doyen's name in large letters on the posters The following were the chief terms of the judgment delivered by the court The court condemned M Parnaland and the Société des Phonographes et des Cinématographes jointly to pay to Dr Doyen the sum of 8000 francs as damages on account of the charges The court ordered in addition that its judgment should be published in 15 journals to be chosen by Dr Doyen provided that the price of each insertion should not exceed the sum of 200 francs The court also ordered the confiscation and the surrender to the plaintiff of the subjects of the action This decision is of great importance as it lays down definitely the right of men of science to have absolute control over photographs and other graphic documents which may have been taken in their laboratories The decision is an altogether new one Our thanks are due to Dr Doyen for having provided our Paris correspondent with a copy of the judgment from which we have taken the above facts

HEMIPLEGIA WITH PARALYSIS OF THE THIRD NERVE ON THE OPPOSITE SIDE DUE TO TUMOUR OF THE TEMPORAL LOBE.

HEMIPLEGIA with paralysis of the third nerve on the opposite side usually indicates a lesion of the crus cerebri implicating the motor tract going to the opposite side and the third nerve on the same side The fact that this rule is not invariable is shown by the following case reported to the Société Médicale des Hôpitaux of Paris at the meeting of Jan 13th by M Menetrier and M Bloch A woman, aged 40 years, was admitted to hospital with recurrence of cancer of the left breast The primary growth was removed a year previously She was in a somnolent condition and answered repeated questions only , the monosyllables "yes" and "no." There was right hemiplegia with flaccidity of the muscles and without increase of reflexes. Babinski's sign was well marked. The upper part of the face was but slightly involved in the hemiplegia. There was complete paralysis of the left third nerve—ptosis, external strabismus, mydriasis, and protrusion of the globe. Neither vomiting nor headache was present. The patient became comatose and died. The necropsy showed that the cerebral peduncles were free from any secondary growth. But in the infero-internal part of the left temporal lobe was a tumour of the size of a small apple. It caused the base of the hemisphere to project for several square centimetres, pressed outwards the inferior temporal convolutions, and appeared on the surface between the optic chiasma in front and the cerebral peduncle behind. From the anterior part was a prolongation which compressed the third nerve at the point where it entered the wall of the cavernous sinus. A vertical section through the middle of the tumour and the whole of the cerebral hemisphere showed that the former crossed the fissure of Rolando and extended a considerable distance forwards. It was whitish, firm, of a diameter of four centimetres, and dotted with hæmorrhages. It was in contact with the internal capsule which it compressed. The cerebral peduncle was behind it and quite intact. Thus the crossed paralysis was due to two topographically distinct lesions; the tumour sent forwards an extra-cerebral prolongation from its inferior surface which crushed the third nerve while its upper and intra-cerebral part compressed the internal capsule. In contrast with this case M. Menetrier and M. Bloch referred to another case of cerebral growth secondary to cancer of the breast in which there was crossed paralysis of the third nerve due to a lesion in the usual position. The patient was a woman, aged 56 years, who was operated on for cancer of the left breast. 12 days later she was seized with right hemiplegia with complete paralysis of the left third nerve. The necropsy showed a nodule of cancer in the base of the skull compressing the left cerebral peduncle and left third nerve.

THE FATAL CASE OF PLAGUE IN THE MERSEY.

The s.s. *Crewe Hall* arrived in the Mersey on Jan. 30th from Rangoon. She was cleared by the Customs officers on the evening of the same day, the captain answering the usual questions and reporting "all well" on board. The ship was rummaged in the river on the following day, the water being too low (14 feet) to allow the vessel to dock. On the morning of Feb. 1st one of the Customs' officers noticed a lascar sick in his bunk, apparently dying. Upon inquiry he was informed that the man had had a severe cold for the previous seven days. He at once notified the port sanitary authority by special messenger and by telephone. This was the first notification which the authority received. Dr. W. Hanna, the assistant medical officer, visited the ship at once and interviewed the captain and the chief steward, the latter having attended and treated the lascar for the previous seven days. They stated that he had had high fever and they thought that he was suffering from malaria; they also mentioned that he had a painful swelling in the groin. The native serang also stated that the man complained of fever and a painful lump in the groin. Dr. Hanna found the man laid out and examined the body in the native sailors' forecastle; all that could be discovered on examination was a large bubo in the left femoral region. On reporting the matter to the port medical officer (Dr. E. W. Hope) the conclusion was arrived at that there was a suspicion of plague in the case and that it would be advisable to treat it as such. Accordingly, the native crew was cleared out of the forecastle, the body was removed, and the bunks and all effects of the native crew were disinfected. The "contacts," 15 in number, after bathing and putting on disinfected clothing, were removed to the port sanitary hospital for isolation. The rat-catchers to the authority were at once notified and visited the vessel but found no dead or sick rats. They set their traps at once and as a result only 11 rats were caught; these were forwarded to Professor R. W. Boyce, the corporation bacteriologist. A further disinfection of all suspected quarters of the ship was undertaken on Feb. 2nd; these have now been repainted. The cargo was discharged under strict supervision and a careful watch was kept for dead rats. Fumigation of the holds to destroy rats was carried out before the vessel sailed. On Feb. 2nd a post-mortem examination of the body of the lascar was made by Dr. Hanna and Dr. A. A. Mussen. There was marked discolouration of the skin over the bubo. The latter was found to be of large size, very hæmorrhagic on section, with much peri-glandular inflammation. There was also evidence of a septicæmic condition with a considerable amount of pneumonia. Material for bacteriological and microscopical examination was taken which was reported on by Dr. Hanna and later confirmed by Professor Boyce and Dr. E. Klein. Microscopically the gland juice showed very numerous plague-like bacilli. On culture (24 hours) a growth typical of the plague bacillus appeared and the organisms as regards appearances and staining reactions answered all the characters of that bacillus. The source of infection in the case of this lascar has up to the present time not been traced but the medical authorities consider the chances of further infection to be very remote.

FLIES AS DISSEMINATORS OF TUBERCULOSIS.

In 1887 Spillman and Haushalter found tubercle bacilli in the intestinal contents and in the excreta of flies in a hospital ward and Hofmann found the bacilli in flies fed on tuberculous sputum. In the *Boston Medical and Surgical Journal* of Dec. 15th, 1904, Dr. F. T. Lord has published some interesting experiments performed in order to ascertain the part played by flies in disseminating tuberculosis. 30 flies were confined in a glass jar and fed on tuberculous sputum. Within three days 26 died and the remainder had become very inactive. Six flies similarly confined and fed on non-tuberculous sputum died within two days, while four out of six flies fed on water, sugar, and meat were alive at the end of a week. Evidently the short duration of the life of the flies fed on tuberculous sputum was not due to the tubercle bacillus but to some other constituent of the sputum In sections of these flies tubercle bacilli were found in the intestinal contents but in no other part. Examination of cover glasses placed in the glass jar showed that the bacilli appeared in the excreta within 18 hours and that they had increased in number from an average of ten in a microscopic field of the sputum to 150 in one of the excreta. Each fly-mark contained an average of from 3000 to 5000 bacilli and about 2000 marks had been deposited by the 30 flies in three days, making a total of from 6,000,000 to 10,000,000 bacilli. These bacilli were much larger than those in the sputum and showed some evidence of branching. The jar containing the fly-marks was placed in a room and protected from strong diffused daylight by a board. Guinea-pigs were inoculated in succession with 100 fly-marks which were scraped off at intervals of one, eight, 15, 28, and 55 days. The first inoculation was subcutaneous and the others were intraperitoneal. The animals were killed after from five to seven weeks. Tuberculosis was produced in the first three animals inoculated, showing that virulent bacilli were present in the excreta for at least 15 days. After this time the results were negative. The animal inoculated with the marks which were only a day old showed generalised tuberculosis. In the others the process was less extensive. Dr. Lord concludes that fly-marks contaminated by tubercle bacilli may be a source of tuberculosis in man for at least 15 days after their deposit if exposed only to diffuse daylight. One way in which the bacilli might be transferred to man is by the contamination of food with the excreta. To determine whether there was any danger of infection by inhalation Dr. Lord exposed guinea-pigs to a gentle current of air drawn through a glass cylinder in which 23 flies were confined with tuberculous sputum and on which they deposited a large number of marks. The animal was killed and showed no trace of tuberculosis. On the other hand, Cornet has shown that guinea-pigs are readily infected when exposed to tuberculous dust. Evidently fly-marks are not a source of danger when merely exposed to a gentle current of air. Dr. Lord observed that flies readily feed on tuberculous sputum even when other food is accessible. If they afterwards alight on human food they may deposit tubercle bacilli in great numbers. It follows that flies should not be allowed access to the sputum of consumptive patients.

"KINDS OF INSANITY."

THE preparation of a new set of statistical tables by the Medico-Psychological Association of Great Britain and Ireland for the annual recording of the vast clinical and pathological data and returns of all public asylums in the future has brought forward the inevitable question of the nomenclature and classification of the insanities. Dr. C. A. Mercier, in an article in the *Journal of Mental Science* for January, deals with the "kinds of insanity" which he thinks fulfil the necessary conditions of true diseases. The arrangement suggested is first to separate congenital from non-congenital cases of insanity. The congenital cases would include all idiots and most imbeciles. The classification of these is a matter of subordinate importance, whereas the division of the insanities proper into natural groups is the main desideratum in mental science and the most important aid to clearness of thought, of diagnosis, and of prognosis. Cases of insanity are proposed to be considered as of two classes—viz., general paralysis (paralytic dementia) and non-paralytic insanity. Dr. Mercier suggests that the latter class contains "diseases sufficiently distinct to merit the same separation that is given to general paralysis. ... .. As to general paralysis the symptoms are so distinct that it is recognisable at every stage in its progress. It has a definite history, runs a definite course, and forms a complete clinical picture separable from that of any other case of insanity." Examining other varieties of insanity and their titles or claims to be called diseases, Dr. Mercier would admit "acute delirious mania" owing to its characteristic symptoms and its course as a definite variety of insanity. "The clinical picture of acute delirious mania is distinct and prevents it from being confused with any other cases of insanity. On the contrary," he says, "puerperal insanity presents us with no distinct clinical picture. The very fact that it has been divided into puerperal mania and puerperal melancholia is proof of what I say. Puerperal insanity is acute insanity occurring within an uncertain time of childbirth, and if the antecedent of childbirth is disregarded there is nothing whatever in the clinical picture of the disease that is different from other cases of acute insanity that have no connexion with the puerperium, or even from acute insanity occurring in men." The insanity of pregnancy is regarded as having a much better right to be considered a disease, "for the fact of pregnancy is a continuing feature in the clinical picture, a feature which at once marks off the case from all other cases of insanity." What is true of the insanity of pregnancy, he adds, is emphatically true of the insanity of lactation. It is an insanity of exhaustion—of innutrition—and differs in no respect from other cases of insanity of similar origin. Few cases of insanity occurring at the menopause in women deserve recognition as a separate variety of insanity. Similar cases may occur at other times of life and present the same clinical picture. The definite form of insanity of the menopause "with its special facies" is, says Dr. Mercier, rare. Senile insanity has no right to a special place in nosology. "The term means, it appears, insanity not assigned to any distinct category except by its occurrence in advanced age. It would, in my opinion, be unreasonable to base the differentia of the disease on so slender a foundation." The insanity of epilepsy is admitted to have "a good title to the denomination of a disease." Cases of insanity associated with bodily diseases, whether the latter be regarded as a cause or not, in no case present a clinical picture of sufficient distinctness to entitle them to separate rank as diseases. Dr. Mercier would admit the claims of stupor, paranoia, recurrent and alternating insanity, and the two forms of insanity occurring in adolescents or young adults known as hebephrenia and katatonia. Cases of fixed delusion would also find a place in classification, being further subdivided as the delusions are persecutory, exalted, and personal. Alcoholic insanity would be recognised in its subdivisions of *mania a potu*, delirium tremens (acute forms), or alcoholic insanity proper of the chronic form. This threefold subdivision of alcoholic insanity would exclude all cases in which alcohol was not the main actuating cause of the malady. The above-named varieties of insanity, concludes Dr. Mercier, "have claim to the title of distinct diseases from the distinct clinical pictures they present; all other cases must be lumped together under the heading of insanity *simpliciter*."

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

AT the next meeting of the above society to be held on *Tuesday, Feb. 28th, at 8.30 P.M., Sir Frederick Treves* will open a discussion on the Subsequent Course and Later History of Cases of Appendicitis after Operation. Sir William Broadbent will speak next in order and other eminent physicians and surgeons have promised to take part in the discussion. Special attention will be directed to the following subjects: 1. The frequency with which complications such as the following occur during convalescence: femoral thrombosis, pulmonary embolism, pylephlebitis and suppuration of the liver, empyema and septic broncho-pneumonia, acute intestinal obstruction, residual abscesses, pyosalpinx and suppurating ovaries, and fæcal fistula. 2. The after-results in cases where the appendix has not been removed. 3. What proportion of cases are there in which the symptoms are not relieved by operation or in which recovery is imperfect? Statistical tables have been promised from several hospitals giving information on these points. In view of the many questions to be considered the debate will doubtless be adjourned. It is important that those gentlemen who wish to speak should communicate as soon as possible with the honorary secretaries, 20, Hanover-square, London, W.

THE SARANAC LABORATORY FOR THE STUDY OF TUBERCULOSIS.

WE have received a copy of a publication with the title, "Studies from the Saranac Laboratory for the Study of Tuberculosis, E. L. Trudeau, M.D., Director, 1900–1904." It is published at the office of the *Journal of Medical Research*, 688, Boylston-street, Boston, Massachusetts, U.S.A. It contains several interesting communications, notably the records of a series of observations on the tuberculin reaction by Dr. E. L. Trudeau, Dr. E. R. Baldwin, and Dr. H. M. Kinghorn. The first subject of inquiry was, Can the diagnostic use of tuberculin scatter the disease and produce new tuberculous foci? This is an important point, as tuberculin is employed for diagnostic purposes not only in relation to cattle but also in actual medical practice. The detection of a partial reaction enables the necessary treatment to be carried out at a stage of the disease in which the prospects of treatment are very favourable. In localised corneal tuberculosis of the rabbit's eye no spread of the disease in the cornea could be observed after the use of tuberculin injections. On the contrary, a favourable absorptive influence was noted upon the diseased focus. From other investigations it was concluded the specific tubercles must be present in order that a local tuberculin reaction could be manifested. It was, however, demonstrated that local reactions with rise of temperature occasionally resulted from the injection of trypsin, peptone, and sodium cinnamate. These reactions were not uniform and only took place when large doses were injected. Except in fatal poisoning by peptone the reactions did not bear a close resemblance to the typical tuberculin reaction. It is possible that the mixture of albumoses, known as peptone, contains proteid substances chemically similar to tuberculin, the injection of which excites a more or less marked reaction in the tuberculous tissue according to "the age and sensitiveness of the tubercles." Some valuable work is evidently being accomplished in the Saranac laboratory and doubtless further results will in due time be published.

THE DANGERS OF FLANNELETTE.

OUR Manchester correspondent writes: You and your readers may perhaps be weary of the subject of flannelette, but the death-roll, the result of its use, is so heavy as to excuse the mention of two cases that have just occurred here. One child, four years old, was left alone for a few minutes when her clothes caught fire and she was fatally burnt. The other case was very similar. The child was dressed in flannelette, left for five minutes, and when the mother returned was found enveloped in flames which she could not extinguish. The city coroner has often spoken of the danger of this material and has consequently been accused of trying "to rob the poor of their cheap and warm covering." The non-inflammable variety is said to be obtainable at $2\frac{1}{2}$*d.* per yard. There is, moreover, another safeguard the use of which has been strongly urged by the coroners of Warrington and Lancaster. The latter said that the investment of 1*s.* 6*d.* in a fireguard was better than an investment with the undertaker after a child had died a terrible death. And the former said just before Christmas that he had held 14 inquests this winter on children who had been burned, fireguards having been absent in every case. From this gentleman's statement it would seem that callousness and indifference are not confined to the social stratum in which these occurrences usually take place. He said "it was no use making representations to the county council when they sneered at them and the chairman said it would be grandmotherly legislation to adopt their suggestions." These tragedies, he said, "occurred among a class of people who brought children into the world and were absolutely indifferent to their education, physical culture, and welfare, and upon whom no moral suasion had any effect. The legislature should compel them to do what they ought to do." This is a severe accusation to make but though, happily, there are exceptions, those who know most about the matter must acknowledge its truth.

THE JENNER SOCIETY.

HARDLY any fact in epidemiology is better attested than the efficacy of recent vaccination in conferring immunity from small-pox and as it is well known that the protection gradually wears off in the course of years revaccination at proper intervals is essential for safety. In its report of the period from July 1st, 1903, to Dec. 31st, 1904, the executive committee of the Jenner Society expresses regret that the Government has not seen its way to give facilities for introducing a Revaccination Bill and in a subsequent paragraph the report alludes to the influences by which Members of Parliament are likely to be deterred from supporting such a measure. The working classes, with whom the voting power of the constituencies resides, do not recognise the advantages of vaccination and are sometimes actively hostile to the practice. "For such a state of things there is only one remedy, and that is education." The society acts up to its own precepts by liberal distribution of leaflets, pamphlets, and other forms of literature in favour of vaccination, specimens of which may be obtained from the honorary secretary of the society, Dr. Francis T. Bond of Gloucester. In some of these the arguments are strengthened by well-executed photographs showing the marked contrast between modified and unmodified small-pox. Some administrative defects connected with the existing system of vaccination are commented on and the report, which is signed by the Dean of Gloucester, closes with the remark that much remains to be done which the society is unable to attempt for want of funds.

THE MAGNET IN OPHTHALMIC SURGERY.

IN three important articles contributed to our contemporary the *Ophthalmoscope* Professor J. Hirschberg of Berlin, Professor O. Haab of Zürich, and Mr. S. Snell of University College, Sheffield, give the results of their experience in treating cases of accident where fragments of iron have penetrated the eye and are lodged in its tissues. Statistics of a valuable nature can, of course, only be obtained by those who are practising in large cities, or at least in towns where there are numerous trades engaged in, or associated with, metallurgical processes and in the varied occupations where filing, rivetting, hammering, and the manufacture of tools engage the attention of workmen. Professor Hirschberg informs us that there are 50,000 iron-workers in Berlin and that in the course of the last 25 years he has performed 307 operations with the magnet. Professor Haab has had more than 200 cases during the last 12 years under his care and Mr. Snell has had fully 300 instances in which the electro-magnet has been employed. It is justifiable to draw some general conclusions in regard to the utility of the magnet in ophthalmic surgery from 800 cases. In the first place, the general statement may be made that fragments of iron or steel should never be allowed to remain imbedded in the tissues of the eye. Even though they appear to excite no inflammation and are not productive of pain, slow changes are set up which ultimately lead to the impairment of vision. Professor Hirschberg records one remarkable case in which a splinter of iron penetrated the eye and lodged in the retina of a man with preservation of almost normal vision, yet on having the opportunity of again examining the patient after 26 years Professor Hirschberg found that he had become blind from cataract and cyclitis a year after the accident. In the next place, the presence and position of the fragment should be carefully ascertained by naked-eye inspection, by oblique illumination, by the ophthalmoscope, or by means of the sideroscope, or by radiography; its location being determined by one or other of these means so far as possible with precision, the form of magnet to be used and the mode in which it should be applied with the least harm to the patient and the best prospect of success in removing the splinter, should be taken into consideration. Where the fragment is small and superficially situated, as in the anterior chamber or imbedded in the iris, it may sometimes be extracted through the corneal wound with a hand magnet, but if it be deeply situated or firmly fixed a stronger instrument is commonly required and then one or other of the giant magnets devised by the authorities above mentioned should be employed It must not, however, be supposed that this is an easy matter or one to be undertaken in an off hand manner By Professor Haab, who first devised the giant magnet, it is pointed out that inasmuch as the pull upon the splinter on the application of the instrument is apt to give pain and to cause the fragment to be pressed violently into the ciliary region, whence it is not easy to disengage it, the patient should not be placed on a couch with the head fixed but that he should sit upright and thus be able to withdraw his head when pain is felt Professor Haab thinks that the electric current should by a movement of the foot be switched on or off in order that the splinter may be moved by a series of jerks At the same time the overheating of the pole introduced into the eye should be avoided He holds, moreover, that the intruding substance on making its way out, if it be deeply implanted in the vitreous, does not follow the way of entrance but the lines of power of the magnetic force Hence it slides almost regularly around the lens and appears behind the iris and when it has gained this position the patient should be so placed that the point or pole of the magnet is opposite the middle of the cornea As Mr W Lang suggests a steel spud may then be introduced into the anterior chamber, the base of the spatula being connected with Haab's magnet by means of a few strands of soft iron wire, and the particle clinging to it is then readily removed through the corneal opening Iridectomy should be rarely performed Mr Snell, who first suggested the employment of an electro magnet in ophthalmic surgery so long ago as 1881, has by one or two slight modifications of his original instrument designed an extremely useful and handy form of magnet well adapted for all ordinary emergencies It is now in common use in this country When attached to a quart bichromate battery it is capable of raising and of holding suspended a weight of at least seven ounces He contends that the smaller instrument which he employs possesses distinct advantages over the giant magnet It is more easily handled, more portable, and far less expensive Where failure to remove the foreign body occurs on the first attempt, Professor Haab states that he has been successful after two or three trials It is to be noticed that a large proportion of these accidents perhaps half, are followed by cataract Mr Snell gives some interesting statistics showing that in by far the larger number of cases the splinter is lodged in the vitreous, the size varying from small particles to fragments weighing 36 32 and 22 grains

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THE medical officer of health of the Cape Colony states that for the week ending Jan 21st the condition of the colony as regards plague was as follows No case of plague in human beings was discovered during the week but plague infected rodents were found at Port Elizabeth and East London, together with 2 plague infected cats at the latter place In other districts no case of plague in either man or other animal was discovered

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A DISCUSSION will be opened on Saturday, March 4th, in the Council Chamber, Town Hall, Newcastle upon Tyne, on the Aerial Dissemination of Small pox round Hospitals, by Dr Henry E Armstrong The chair will be taken at 11 A M by Mr W Whitaker F R S , F G S , chairman of the council of the Royal Sanitary Institute, under the auspices of which the discussion has been arranged

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A MEETING of the Hospitals Association will be held on Friday, March 3rd, in the hall of Charing Cross Hospital, at 8 P M Mr Thomas Bryant will occupy the chair A paper will be read by Dr Donald J Mackintosh, medical superintendent of the Glasgow Western Infirmary, *on the* Control of Hospital Expenditure with Efficiency

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THE annual meeting of the After Care Association, which exists to look after the interests of poor persons discharged recovered from asylums for the insane, will be held at 52 Wimpole street, London, W , by kind permission of Dr and Mrs Harrington Sainsbury, on Wednesday next, Feb 22nd, at 2 45 P M *The Bishop of St Albans will preside*

AT the Harveian Society of London, Stafford Rooms, Titchborne street, Edgware road, W , on March 9th, at 8 30 P M , Mr Malcolm A Morris will deliver the Harveian lecture on Some Modern Therapeutic Methods in Dermatology, with exhibition of cases treated by the x and the Finsen rays

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THE dinner in honour of the celebration of the hundredth anniversary of the birth of Señor Manuel Garcia will take place on March 17th, at 7 30 P M , at the Hotel Cecil

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SIR Michael Foster has decided to offer himself for re election to the next Parliament as Member for the University of London He seeks re election as a representative of science and higher education, if re elected he will take his seat as a member of the Liberal party A committee, with Sir Thomas Barlow as chairman, has been formed to promote his election This committee comprises graduates belonging to different political parties who are supporting Sir Michael Foster on the ground of his many public services and in the belief that his special knowledge will continue to prove of great value to the House of Commons

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THE epidemic of typhoid fever at Lincoln is assuming serious proportions Over 500 cases have been reported, with 30 deaths

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS

CHAPTER I

Preliminary Editorial Note

WE propose in a series of articles under the title of Medicine, its Practice and its Public Relations, to present to our readers a picture of the present position of the medical profession considered especially with regard to the existing conditions of society at large in this country The articles have been written by a member of our staff and must not be regarded as the last editorial word upon questions some of which are complex and many of which are vexed That we are prepared to issue the series must be accepted as a proof that we consider the writer well equipped for his task as well as in the main sound in his conclusions, while the greater part of his facts will be found scattered through our columns The bringing together of these facts in a systematic way and their presentation as a whole with due regard to their individual importance cannot fail to be valuable to our readers, for such a *résumé* will serve both as a report upon matters of common knowledge and opinion which will save much wearisome work of reference, and, at the same time, as material for debate where subjects of dispute are touched upon The utility of debate depends largely, almost wholly, upon a clear understanding of what are the points to be debated and in the critical period of our social history that is now with us it is of the *first importance* that medical men should know exactly what it is that makes the times out of joint before discussing the proper remedies for the reduction of the dislocations. There is no doubt that the profession of medicine has of recent years made vast strides forward scientifically, yet medical education was never more subjected to adverse criticism. In many respects the life of the medical man of the present day, in whatsoever sphere he is called upon to exercise his calling, is a more dignified one than it was half a century ago, yet never were the hardships and injustices of our career more obvious or more roundly resented. The chapters which will follow deal with the professional life of the British medical man in all its different phases and are intended to summarise and to appreciate at their proper worth the various grievances which undoubtedly prevail. We are certain that those of our readers who have the interests of the medical profession at heart will find such a work valuable. Where they agree with the writer their opinions will be reinforced; where they disagree they can decide, after any discussion which may seem necessary, either to maintain or to qualify their views. In either case they will be compelled to think what those views really are and upon what logical grounds they are founded, a form of contemplative attention which the social side of the medical career seldom receives.

Nothing has of late been more marked in the vital scheme of this country than the destruction of tradition. The spirit which was once wont to estimate as an act of impiety any effort to improve upon the methods of our grandfathers is well-nigh extinct among all classes, however varied their intellectual equipment, their religions, or their position; and, as a matter of course, the profession of medicine has shared in the general striving for improvement. A striving for improvement is, however, apt in the first instance to lead to muddle and discord. Reforms are advocated for which the world is not ready, extreme remedies are recommended for conditions that are not so parlous as they appear. The policies of reformers become to some extent discredited, as their efforts, however well-directed, are largely nullified by the obvious impracticability of some of their proposals. It is necessary, if the medical profession is to formulate for its guidance and improvement any general scheme of reform, not only that the grievances complained of should be verified as actually existing but that the possibility of their removal should also be demonstrated. The series of articles will discuss the grievances of the medical profession as a whole, those of consulting physicians and surgeons, those of general practitioners, and those of the staffs of the naval, military, colonial, and civil services. The conditions of employment, the average rates of emolument, the meanings of these rates when compared with the earnings of other professions, will have to be considered and in this way it will be possible to ascertain the following: (1) what things are certainly hardships which it is the duty of every one of us to strive to remove; (2) what things are expressions of faults in our general social scheme, where the duty of finding a remedy can hardly be said to devolve on the medical profession alone but rather belongs to the whole body politic; and (3) what things cannot be said to be general professional grievances at all, although in individual instances members of the medical profession may be oppressed by them. It is usual for us to receive weekly, and during the sessions of the General Medical Council it is invariable for us to receive daily, communications from readers calling attention to the inactivity or lack of sympathy of the controlling body of the medical profession. Almost without exception these communications are sent to us by persons who have not in their minds a clear conception of what the duties of the General Medical Council are. They do not realise either the vast scope of the work of that body in some directions or its limitations in others, and as a rule they regard the Council as a body existing for the support and protection of the medical profession rather than as a body whose duty lies wholly towards the public, inasmuch as the reason of its existence is simply to guarantee that the public is served by a properly equipped, properly educated, and properly behaved body of medical men. The series therefore fitly commences with a brief statement of the duties and scope of the General Medical Council, passing on to the general and the special grievances of the medical profession. The overwork in some branches of our profession and the underpay in others are noticed, as is the inequality of the distribution of our medical service whereby vast districts—vast, that is, in comparison with the size of these islands—are left without medical service, while other communities have such a choice of professional assistance offered to them that all the evils of overcompetition spring up and menace the amenities of professional life. It will be necessary in such cases to consider the remedies and it cannot be too definitely and certainly stated that the more altruistic the programme of reform is which may be adopted by the medical profession the more practical it will be. All over the civilised world the life of the medical man is recognised as adorned by self-sacrifice. In all countries the medical man is expected to place his services at the disposal of the sick, sparing not time or talents or strength in his endeavours to relieve pain or to save life and giving no thought to reward. No other professional man is placed in the position towards his fellows that the medical man occupies, because those who need the services of a medical man have claims the elementary simplicity of which are recognisable by all. A man may want to go to law or to build a bridge, he may want to do either thing most urgently, but no one will call either the solicitor or the engineer inhuman if he is not prepared to give his professional services immediately and gratuitously where the applicant is without means. Yet not only unprotestingly but with alacrity the medical man does his best for the poor, the claims of pain and sickness being paramount over all personal considerations. It is natural, therefore, that the medical profession should expect that the public which it serves in so ungrudging a manner should be willing to see the calling of medicine placed upon a secure and dignified basis. But this expectation must be suppressed. No attention whatever will be paid by the public at large or by the legislative councils of the country to any such claim, and every scheme for the improvement of the medical profession must be honestly founded upon principles that would work to the advantage of the public. There should be no difficulty about the matter. It is clearly in the interests of the public to be served by capable men happy in the exercise of their talents and happy in the dignity of their calling, and medical men should ask only for the public recognition thus implied.

The training of the medical student is a matter of the first importance in a consideration of the state of the medical profession. In respect to medical education, the debates which have during the last two or three years taken place at the sessions of the General Medical Council show how increasing are the difficulties here. Medical science is advancing by geometrical progression, encroaching in every direction upon provinces which were wont to be considered as definitely allocated to other sciences. Similarly the public at large is vastly improved in general knowledge and requires of those who advise it, whether in theology, law, medicine, or what not, some recognition of this fact. The professional man can no longer out of his superior learning counsel his clients dogmatically or empirically; so that from the mere circumstance that the public is better mentally equipped it is necessary that the education of the medical man should be wider—that is to say, that for the medical man at the present day a larger general culture is required in addition to a more complicated and elaborate professional equipment. How, then, is time to be found for the student to learn even the bare irreducible minimum of what he must learn? or, to get a little further back, what constitutes the irreducible minimum for which time must be found during its acquisition? Here the question is at once obscured by the fact that in the United Kingdom many different examining bodies provide separate schemes of education for medical students, the coördinating authority being the General Medical Council, whose duty it is to see that the qualifying examinations of the various bodies are properly conducted and properly standardised. Nor is the multiplication of educational boards and systems the only difficulty. It is an unfortunate fact that the limits of the authority of the General Medical Council are ill defined, some of the qualifying bodies believing that the Council has not the powers which it claims, so that the extent to which a central control really exists, so far as medical education is concerned, is somewhat a matter of doubt. The General Medical Council can, and does, prevent the evils to the public at large which would result from a down-grade competition between the qualifying bodies, but that it possesses much more coördinating influence than is thus proven appears doubtful. A very considerable easing of the situation would be effected by the creation of a one-portal system whereby every medical man in the United Kingdom would enter the medical profession after the passing of one and the same set of tests. This one-portal system has been advocated at different times by THE LANCET and is again to be advocated in these articles. Times have changed since we in these pages urged the one-portal system as a remedy for most of the existing abuses. Had the system then been adopted we have no hesitation in saying that one of the most obvious grievances in the medical profession would never have sprung into being, for we should not see the London medical student placed in an apparently inferior position to the Scotch or Irish or provincial student of similar attainments. The fact remains, however, that the one-portal system did not commend itself sufficiently to the country at large to obtain legislative support and the chances of obtaining it now are, we fear, very small. But advocacy of its adoption will serve a good purpose—the matter should be threshed out if only to prevent the eternal shelving of questions of reform. If, after mature consideration and debate, the idea of securing a one-portal system in this country appears completely ideal it will save time that we should frankly admit the fact, when abuses that are supposed to be waiting alleviation until the good time when the one-portal system comes into being will be tackled from other aspects. On these matters our endorsement of the writer's views can only be regarded as general, our hope in publishing them being to elicit some solidarity of opinion among medical men upon the matter. It is, in fact, this solidarity of opinion, this real union of medical men, that we want to see created. We want those medical men who take pride in their calling to think for themselves what the present sociology of medicine is, to note where the calling of medicine is out of touch with the times and the general polity of this country, and to appreciate what are its undeniable disabilities and how far they can be practically remedied, not only without trenching upon the rights of the public at large but actually with benefit to that public through the resulting supply of a finer quality of service.

ASYLUM REPORTS.

London County Epileptic Colony, Ewell (Report for the year ending March 31st, 1904).—The colony was formally opened under happy auspices on July 1st, 1903,[1] when on the occasion of the visit of H.R.H. Princess Louise, Duchess of Fife, and in the presence of the chairman of the London County Council and a large assembly of visitors, the opening ceremony was performed by the Duke of Fife. A handsome brass tablet has been placed in the entrance hall to mark the occasion. This therefore is the first report. The colony owes its origin to the fact that the asylums committee of the London County Council was impressed with the knowledge that among the *epileptics housed in its asylums there* were some 300 patients whose disease was mild in character and who seemed suitable to enjoy the benefits of colony or farm life. Accordingly an estate of 112 acres was purchased near Ewell, Epsom, on which a system of villas and buildings of a suitable character were erected. All the villas are of a one-storeyed character and provide accommodation each for 38 patients. The warming and ventilation are on the latest approved pattern and the buildings are lighted throughout by electricity. Roads have been made and gardens planted, the gardens of the villas being separated by earth banks or belts of planted trees and shrubs, so that ingress and egress are found only by the paths. The total number of patients admitted during the year was 315, comprising 250 males and 65 females. During the year the death-rate was low, there being only 17 deaths (14 males and three females). The medical superintendent, Dr. C. H. Bond, states in his report that private cases are admitted but that as the number of such cases received has been small "there still remains one villa not yet in occupation." The necessity of vigilance in regard to the class of patients is emphasised. Thus of the 315 cases sent to the colony 80, or [illegible] distributed as follows: 19 per cent. of cases of insane heredity, 17 per cent. of epileptic heredity, and 10 per cent. of alcoholic heredity. "A well-defined history of trauma, in the form of either injuries to the head or severe falls productive of shock, was found in as large a proportion as 14 per cent." Arterio-sclerosis was present in 14 per cent. of the admissions. Farm and garden work is systematically and daily taken part in by the patients, while the grounds are freely open for all to stroll about in during the intervals. "In a few instances the character of the men's labour is really that of skilled workmen, in about a third it is of fair value, but in the case of the majority it is crude and that of men entirely unaccustomed to agricultural pursuits." The patients are under regular medicinal treatment which includes bromide of strontium and a specially regulated diet. Cricket and other games are provided. The Commissioners in Lunacy state that the colony consists of able-bodied working epileptics, that the buildings are well constructed and suitable to their purpose, that the colonists were neatly clad and looked in good health, and that satisfactory progress has been made in the colony during the first year of its existence.

"LA MÉTAPSYCHIQUE."

ALTHOUGH opinions differ as to the soundness of the *hypotheses discussed* at the meetings of the Society for Psychical Research, there is no denying that the society has secured the active sympathy and coöperation of several eminent authorities in orthodox physical and biological science. At the annual general meeting held at 20, Hanover-square, London, W., on Feb. 6th, an address was delivered by the newly elected president, M. Charles Richet, professor of physiology in the Paris Faculty of Medicine. The proceedings commenced with some brief remarks by the retiring president, Mr. W. F. Barrett, F.R.S., professor of physics in the Royal College of Science of Ireland. Professor Barrett said that the acceptance of the chair by Professor Richet marked an epoch in the history of the society and was also a token of international amity. Professor Richet was a courageous defender of truths which "official science" still regarded with disdain and it was discreditable that science had shown such hostility, not only to the recognition but even to the investigation of supernatural phenomena. Professor Richet, who spoke in French for about an hour, delivered an address which was admirable from the rhetorical, apologetic, and argumentative point of view. Before proceeding very far he made a practical suggestion of obvious value—namely, that a hand-book dealing synthetically with the immense accumulation of recorded facts was a great desideratum. All branches of knowledge were defined and described in treatises which were useful, not only for reference but for the instruction of beginners, and occult science ought to be in possession of similar advantages. "Occult science" was, however, itself an unsatisfactory term, for all sciences at their outset were occult and remained more or less in that condition until they ultimately became exact. After reviewing the objections which attach to the terms "psychical science," "spiritistic science," and the risk of a partial confusion between the words psychical and psychological, he proposed the adoption of the newly-coined designation "la métapsychique." In the proposed text-book metapsychical phenomena would be classified according as they were either (1) purely psychic, involving no vibration or movement of matter; or (2) purely material. Premonitions and telepathy were examples of purely psychic phenomena, while raps, materialisations, passage of solid substances through other solid substances, and levitation were examples of material or mechanical phenomena. Questions relating to raps, luminous phenomena, spirit photography, and clairvoyance were next discussed at much length. In conclusion, Professor Richet said that while he had no doubt as to the reality of many of the phenomena he thought that no satisfactory explanation had as yet been suggested. An explanation would, however, be found some time or other, just as the planetary motions had been observed before they were explained by Kepler and electrical phenomena before they were explained by Ampère, Faraday, Clerk Maxwell, and Hertz. A vote of thanks to Professor Richet for his address was proposed by Sir Oliver Lodge, seconded by the Hon. Everett Fielding, and carried by acclamation in a crowded meeting.

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[1] An account of the opening appeared in THE LANCET of July 11th, 1903, p. 110.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on Feb. 9th, Mr. JOHN TWEEDY, the President, being in the chair.

The death in his ninetieth year of Mr. Luther Holden was reported. He was past president and past member of the Council and of the Court of Examiners. He was also senior Fellow of the College. A resolution was passed expressing sympathy with Mrs. Holden and recording the Council's appreciation of his services to the College.

Diplomas of Membership were granted to 99 successful candidates and diplomas in dental surgery were issued to nine candidates found qualified in dental surgery.

It was also resolved to issue jointly with the Royal College of Physicians of London diplomas in public health to 17 successful candidates.

Mr. W. H. A. Jacobson was re-elected and Mr. Bilton Pollard was elected a member of the Court of Examiners. Mr. Thomas Bryant was reappointed to represent the College on the council of Queen's Victoria Jubilee Institute for Nurses for three years.

It was resolved—

> That a committee be appointed to consider and report upon the practicability of the institution by the College of a school for the teaching of the early and intermediate subjects of the medical curriculum and of advanced pathology.

A letter was read from Mrs. Silcock thanking the Council for the expression of its sympathy with her in the loss of her husband.

Dr. J. Ward Cousins was reappointed the representative of the College on the Central Midwives Board.

A letter was read from the President and the general secretary of the Fifteenth International Congress of Medicine to be held at Lisbon in April, 1906, asking the College to send a representative to the Congress and expressing the hope that they may be able to announce the adhesion of the College to the Congress in the next number of the official programme. It was resolved that a representative should be sent but the selection was postponed to a later date.

Obituary.

LUTHER HOLDEN, F.R.C.S. ENG.,

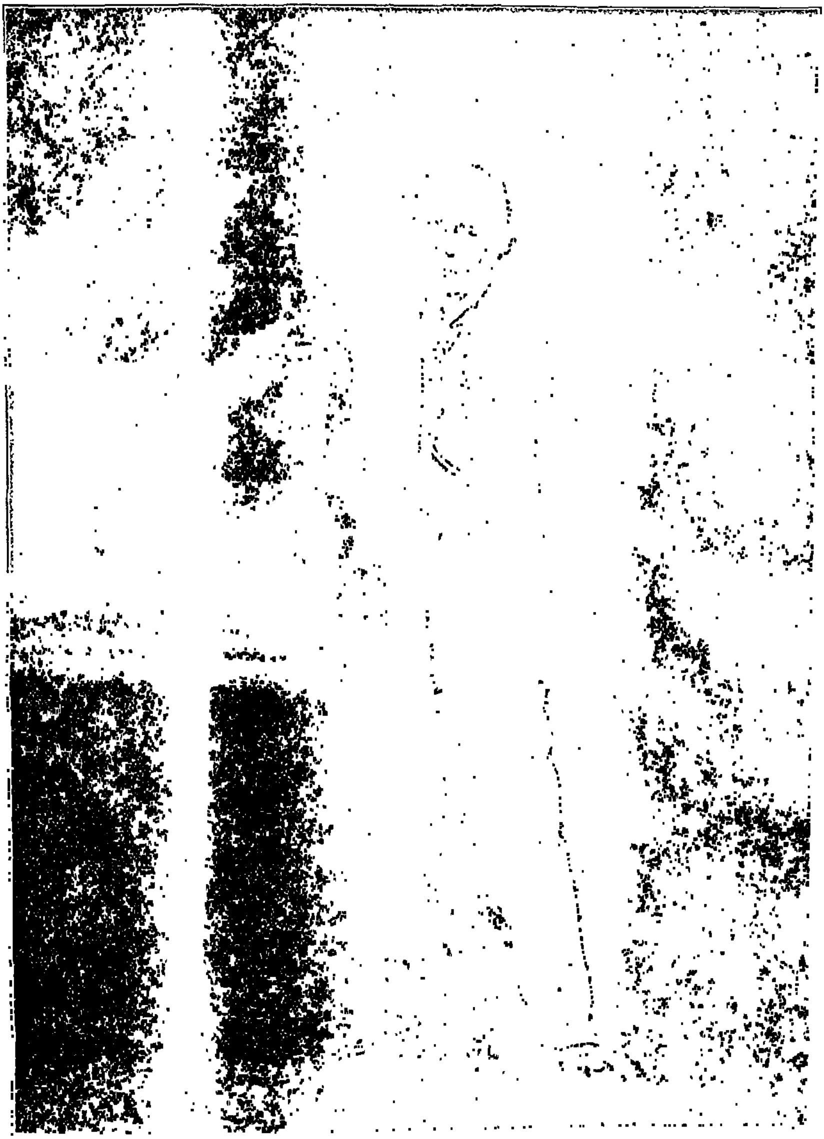
CONSULTING SURGEON, ST. BARTHOLOMEW'S HOSPITAL.

MANY generations of St. Bartholomew's men will have heard with regret of the death on Feb. 6th, in his ninetieth year, of Luther Holden, consulting surgeon to the hospital. He came of an old Staffordshire family, being the second son of the Rev. Henry Augustus Holden, and was born in Birmingham on Dec. 19th, 1815. His elder brother, the Rev. Henry Holden, D.D., honorary canon of Durham, is still alive and is in his ninety-first year, having been born on July 7th, 1814. Luther Holden's father was assistant curate at Wolstanton in Shropshire where, among other duties, he educated his son Luther, and it having been determined that Luther should follow the medical profession, he was, when about 17 years old, apprenticed to Stanley, then one of the surgeons at St. Bartholomew's Hospital. Besides studying in London Holden resided for a year in Berlin and for another year in Paris, reaping there the benefits of the French method of teaching anatomy, which was in those days far superior to that of other countries.

In 1838 Holden became a Member of the Royal College of Surgeons of England and was for some years engaged in teaching anatomy to students of St. Bartholomew's in the dissecting room, although he held no official position at the hospital. On Christmas Eve, 1844, he was elected a Fellow of the Royal College of Surgeons after the first examination held for this diploma. His first official connexion with the school of the hospital was in 1845 when, as appears by the issue of THE LANCET of Sept. 27th of that year (the "Student's Number"), he was appointed as superintendent of dissections, his colleague being Mr. McWhinnie. In 1859 we find him noted as lecturer upon descriptive and surgical anatomy, his colleague being Mr. Skey. In the year 1860 he attained the wish of his heart, being elected assistant surgeon, his age being then 45 years. There were then four surgeons—namely, Lawrence, Stanley, Lloyd, and Skey, the assistant surgeons being Wormald, Paget, McWhinnie, and Coote. Holden became assistant surgeon to Skey. Between 1860 and 1865 all the four senior surgeons retired and Holden became full surgeon in 1865, taking for his assistant Alfred Willett, now a consulting surgeon to the hospital. Holden served for 15 years as surgeon, retiring under the age limit in 1881. He never cared about private practice and consequently did but little.

Holden's work in anatomy was chiefly limited to educational work but in 1850 he read a paper before the Abernethian Society of St. Bartholomew's Hospital on the mechanism of the hip-joint which referred to the influence of the pressure of the atmosphere in retaining the head of the femur within the acetabulum and also to the important part which the anterior portion of the capsular ligament played with regard to the erect attitude of the body. In 1851 there appeared his "Manual of the Dissection of the Human Body."

In 1855 was published the book by which Holden was known to nearly every medical student in the kingdom—viz., his "Human Osteology." It was magnificently illustrated by Holden himself and was the first book in which the now universally used system was employed of marking the origin and insertion of the muscles by means of red and blue lines. When it appeared the reviews generally contained the remark "Why did no one think of this before?" and it may be said that practically every work on osteology which has appeared since has followed the same plan for indicating muscular attachments. Moreover, the late Sir William Flower, when Conservator of the Royal College of Surgeons of England, adopted it for the marking of mounted specimens. Another admirable work by Holden was his "Landmarks, Medical and Surgical," which made its first appearance in 1866 as an article in the St. Bartholomew's Hospital Reports for that year. A further portion of the work appeared in the reports for 1870 and in 1876 it was published as a separate book. As may be gathered from the title it taught the student how



LUTHER HOLDEN, F.R.C.S.

[illegible] he could learn on the [illegible] was yet unbroken. [illegible] is very much to the [illegible] is. He was elected [illegible] two colleagues being John Simon and George Murray Humphry. In 1873 he was elected a member of the Court of Examiners, together with John Marshall and Timothy Holmes, and in 1875 he was elected a member of the Board of Examiners in Anatomy and Physiology, among his colleagues being William Scovell Savory, John Birkett, John Wood, Henry Power, and Christopher Heath. In 1879 he was elected President of the College, having been a Vice-President for the two previous years. In 1881 he delivered the Hunterian oration. In this discourse, owing to careful research into the history of Hunter's earlier years, the orator was enabled to vindicate the great man from the charge which has been brought by so many former biographers of being during his youth inclined to waywardness, indolence, and dissipation. Moreover, in view of a present-day controversy, it is interesting to note that Holden concluded his oration by dwelling on the advantage of a classical training for medical students, stating that as an old teacher he found that those pupils who had received a good public school training could be taught more in two months than others in six. He urged that the youths who were to be the future representatives of English surgery should not be looked upon as "symbols" of an inferior education.

It is worthy of note that Luther Holden died in his ninetieth year, that he has a brother still living who is in his ninety-first year, and that the father and the mother of these two brothers were first-cousins. Luther Holden was a man of striking appearance. He was very tall and marvellously young for his years, carried himself very upright, and walked like a young man. He was always neatly dressed and markedly well turned out, and used to say himself, "I keep my youth by always being about with young people." After his retirement he took to travelling and went nearly all over the world—to Japan, South Africa, South America, and Australia. He was in Johannesburg in 1898 and when he came home he said, "Kruger won't live long, he's got emphysema and granular kidney." Wherever he went he was welcome and used to be entertained at dinner by old St. Bartholomew's men in out-of-the-way places. Luther Holden was twice married and when at home lived the life of a country gentleman on a small estate near Ipswich.

His body was interred in the cemetery of the parish church, Upminster, on Friday, Feb. 10th, the Rev. Hyla Holden, rector, officiating. The Royal College of Surgeons of England was represented by Mr. John Langton and St. Bartholomew's Hospital by Sir Dyce Duckworth and Mr. Harrison Cripps. Mr. T. B. Archer, Mr. Alban Doran (former house surgeons to Mr. Holden), Dr. J. H. Stowers, Dr. G. H. R. Holden of Reading, and many other relatives and friends of the deceased were present.

NATHANIEL DAVIDSON, L.R.C.P. LOND., L.R.C.S. EDIN., L.S.A.

ON Feb. 9th, at 11, Bentinck-terrace, Albert-road, London, N.W., one of the oldest members of the medical profession passed away in the person of Mr. Nathaniel Davidson. He was born in 1805 and would have completed his century if he had survived to the month of March. Mr. Davidson was educated at Edinburgh and took the Licence of the Royal College of Surgeons of Edinburgh in 1828. Coming to London he took the Licence of the Society of Apothecaries in 1829 and practised for many years in George-street, Portman-square. In 1861 he obtained the Licence of the Royal College of Physicians of London. The funeral took place at Shanklin, Isle of Wight, on Feb. 14th.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Gustave Piotrowski, *privat-docent* of physiology in the University of Lemberg.—Dr. I. Felix, formerly professor of hygiene in the Bucharest School of Medicine.—Dr. J. A. Serrano, professor of anatomy in the Lisbon medical school.—Dr. Gustav Ludwig, who was formerly physician to the German Hospital, London. Some ten years ago his health obliged him to give up practice and after travelling a good deal he settled down in Venice where he was able to enjoy his very considerable artistic and antiquarian collections.

MEDICINE AND THE LAW.

Analysts' Certificates under the Sale of Food and Drugs Acts.

AN appeal of a [illegible] recently heard in the Divisional [illegible] lyst's certificate in a case relating [illegible] The certificate impugned was as follows:—

[illegible] cent. of the milk-fat.

The justices had dismissed the charge on the ground that the certificate was bad in that it did not state the standard upon which it was based. The court dissented from this view after hearing argument on behalf of the public authority and ordered the case to be remitted to the magistrates. The Lord Chief Justice in giving judgment said that although the certificate showed that the milk had been compared with some standard it would have been more correct to state in it distinctly what the proper quantity of milk-fat was. Examination would reveal that this did appear from the certificate, or in other words "the standard of calculation could be gathered from the certificate itself," and for this reason the appeal was allowed. In agreeing with his lordship's view Mr. Justice Kennedy pointed out that it is important that the accused should know without elaborate calculations what he is accused of and he expressed the hope that those who gave certificates would err, if at all, on the side of fulness and simplicity. It is hardly necessary to add to this that the certificates of analysts in prosecutions under the Sale of Food and Drugs Acts are carefully scrutinised by the defence, not only in order to defeat the prosecution on technical grounds but in order that the defendant may be able to meet, if possible, the case raised against him and the objections to the form of the certificate are often made because it states too little, never because it says too much.

A Question of Professional Secrecy.

A paper read recently before the Obstetrical Society of Cincinnati, U.S.A., by Dr. E. S. McKee, had for its title "The Ethics of Gonorrhœa in the Female" and for its subject the difficulties which may beset the medical man in preserving the secrets of his patient consistently with his duty to society where venereal disease in a woman is concerned. In a case of this kind it is hardly necessary to point out that the knowledge acquired by the medical practitioner in the exercise of his profession is not confined to the fact that his patient suffers from a disease. It may place her reputation in his keeping, so that it is in his power to destroy it, or circumstances may come under his observation during his treatment of her which may render him the one person who can effectively maintain her honour. On some occasions, again, he may acquire the secret of the dishonour of a man or of a woman other than his patient. In short, the complications that may arise are numerous and each case must be dealt with according to its merits, always keeping in mind certain broad principles of professional conduct. In the paper referred to a curious instance is given of a case in which the duty of the medical man was not altogether clear and in which he had a legal decision to guide him with which he did not agree. A young man came to Dr. McKee and confessed that he had infected his wife with gonorrhœa. Dr. McKee successfully treated her for it. Meanwhile the husband confessed to his wife also what he had done and apparently allowed her to infer that her medical attendant knew to whom her disease was due. Later on divorce proceedings were initiated by [illegible] s equivalent [illegible] ons enforced [illegible] to what the [illegible] e American [illegible] the patient in the course of professional treatment but the judge decided that this did not apply to the evidence sought for in the instance before him on the ground that the wife was the patient and that the confidence, the revelation of which was sought, was not hers but her husband's. In England no privilege attaches so as to protect the medical man in any case but the principle upon which he resists the effort to extort from him in the witness-box the secrets of his patients is no doubt that upon which the American law was originally founded. If we regard the question decided by the judge as a matter of principle we shall see that the point is one not quite easy to determine offhand. The husband, no doubt, spoke in confidence to Dr. McKee and was entitled to have his communication jealously guarded. On the other hand, the wife was the patient and directly she alleged that she had contracted venereal disease and had been corroborated as to this by her medical attendant her honour was impugned unless she could show that her husband and no one else had infected her. Dr. McKee questions the soundness of the judicial decision and observes, probably correctly, that if he had attended the husband for gonorrhœa as well as the wife he could not have been ordered to give evidence on the subject. It may be considered, however, that on the question of principle the medical man is not bound to keep a secret which the person confiding it to him has himself given away, as he is in cases where his confidant has done his best to preserve it. The husband in Dr. McKee's case had told his secret to his wife and had apparently also told her or had allowed her to infer that he had told her medical adviser. In such circumstances he certainly had no right to complain if the medical man obeyed the judge's order without demur.

The Unlawful Detention of a Medical Man.

The Common Serjeant at the recent sessions of the Old Bailey disposed of a case which has been reported on two or three occasions in its earlier stages and which fortunately is of an unusual character. An obstetric assistant, Mr. Shrivell, having been summoned to attend a maternity case at a tenement in Spitalfields, found that the woman was not likely to be delivered immediately and prepared to leave, intending to return later, when he found that the household were not disposed to allow him to do so. Presumably they were afraid that he would not return and that the patient would suffer from his absence. They were aliens—very "undesirable aliens" from the medical man's point of view—and so were not amenable to the persuasion or threats that would have influenced the indigenous poor of the district and they were prepared to use force to bar his exit. The medical man in these circumstances submitted to be locked in, awaited the confinement of his patient, which took place in the course of the night, and when it had been brought to a satisfactory conclusion was allowed to leave. Afterwards, however, he applied, with the support of the hospital authorities, for legal process against his captors. The application was for an offence not often brought before criminal courts and was based upon facts of so unusual a character that Mr. Cluer before whom it was made had some doubt about granting a summons, and when it came on for hearing refused to dispose of the matter summarily. Accordingly the two persons responsible, a man and a woman named Lazarus Linsburg and Fanny Leiss, were indicted at the Old Bailey and pleaded guilty to counts in the indictment alleging imprisonment of the prosecutor. As to this charge the Common Serjeant ruled that imprisonment without a belief in the existence of a lawful cause for it (such as the belief that a felony has been committed) amounts to an assault at law without actual violence taking place. Mr. Bosanquet, however, did not think it necessary to treat the prisoners with severity, for he set them at liberty after binding them over to come up for judgment if called upon. There is a humorous aspect of their practical method of securing the presence of the medical man but at the same time it is to be hoped that the report of the case will have been circulated and read in the newspapers published by the various foreign communities of the East end and that such acts will not be repeated. The experience described has been stated not to be unique and to the gentleman imprisoned it must have been a source of annoyance and trouble. Moreover, if there had been considerable delay or if the case had developed unexpected features demanding communication with the outer world, or still more if through some untoward circumstance it had had a fatal termination, the position of the imprisoned medical attendant might have become a very awkward one.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

The City of Aberdeen.—It is an interesting fact and one that illustrates in a remarkable fashion the progress of preventive medicine that typhus fever has now become so rare that outbreaks of it are worth recording. Dr. Matthew Hay in his report for the month of December last describes an outbreak of this disease which first came beneath his notice owing to the fact that a labourer who was believed to be suffering from measles and who was sent into hospital in consequence of delirium was found after admission to be suffering from typhus fever and a week later the patient's wife was admitted with similar symptoms. Again, two days after this a case of supposed enteric fever was notified and this on being examined proved to be another case of typhus fever. This patient had about 14 days' before he became ill attended upon two friends—a father and a grown-up son—both of whom had died, and it was found that the latter of these two patients had visited a family where there had been several cases of illness and where the father of the family had died in October last. This household had evidently been instrumental in spreading the disease and four of those who had visited this house were already dead. Altogether, up to the date of his report, Dr. Hay had discovered 40 cases and ten deaths. Curiously enough, one of the elementary schools was found to have been operative in spreading the disease among children. As Dr. Hay remarks, the fact that few medical men have seen typhus fever renders the diagnosis of the disease extremely difficult, more especially when, as in this instance, most of the cases occurred in the badly lighted and badly ventilated houses of the poor in circumstances which make it very difficult to determine the presence of the eruption peculiar to typhus fever. Fortunately, the hospital staff do not appear to have become infected and in this sense the disease manifested a marked contrast to its behaviour in the old days of the London Fever Hospital when medical officers, chaplains, and nurses were constantly succumbing to the disease. This outbreak is also instructive as illustrating how very misleading notification, when applied to a but rarely seen disease such as typhus fever, may prove.

The City of London.—Dr. W. Collingridge, in his report for December, 1904, and the first half of January, 1905, draws attention to the momentous subject of the importation of diseased pork from Denmark. It appears that up to the present there has been a sort of informal arrangement between the Danish Government and the City Corporation by means of which the attention of the Danes was called to any case of the condemnation in England of Danish meat. This arrangement was materially facilitated by the practice pursued in Denmark of attaching distinctive labels to meat, and when these labels were returned to Denmark owing to the meat labeled being bad it was easy for the Danes to follow up the matter. It was understood, however, that in such cases steps would be taken to remedy the evil. Unfortunately, although the label system has worked well with respect to beef, it does not appear to have prevented the arrival of pork in a condition unfit for human food, and Dr. Collingridge tells us that during the last three months of 1904 39 pigs were seized, while during the first half of January, 1905, no fewer than 49 were so condemned. It is apparently a common practice in Denmark to remove the thyroid glands and other parts of the carcass, a proceeding which considerably increases the difficulty of detecting diseased meat. Certainly, as the Danish authorities point out to Dr. Collingridge, it might be expected that tuberculosis of pigs would be rare in Denmark seeing that all skim milk has to be boiled in order to prevent the spreading of tuberculosis through this means. But be this as it may, a large number of tuberculous carcasses find their way into this country *viâ* Denmark, so much so, indeed, that Dr. Collingridge suggests the discontinuance of the return of the labels inasmuch as the labels do not now afford a proper guarantee of excellence.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9001 births and 5220 deaths were registered during the week ending Feb. 11th The annual rate of mortality in these towns, which had been 18·1, 18·4, and 18·0 per 1000 in the three preceding weeks, further declined to 17·4 per 1000 last week. In London the death-rate was 17·6 per 1000, while it averaged 17·4 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 8·1 in Hornsey, 8·5 in Walthamstow, 9·2 in Smethwick, 9·3 in Handsworth (Staffs), 9·7 in East Ham, 10·9 in Croydon, and 11·8 in Leyton; while the highest rates were 24·2 in Hastings and in Rhondda, 24·6 in Norwich, 24·9 in Middlesbrough, 28·2 in Merthyr Tydfil, 29·0 in Hanley, and 29·8 in Stockton-on-Tees. The 5220 deaths in these towns last week included 401 which were referred to the principal infectious diseases, against 358, 376, and 368 in the three preceding weeks; of these 401 deaths, 110 resulted from whooping-cough, 100 from measles, 72 from diphtheria, 47 from diarrhœa, 45 from scarlet fever, 24 from "fever" (principally enteric), and three from small-pox. In Hornsey, Brighton, Wolverhampton, Coventry, Derby, Halifax, York, Swansea, and in ten other smaller towns no death from any of the principal infectious diseases was registered, while they caused the highest death-rates in Southampton, Hanley, Nottingham, Burnley, Stockton-on-Tees, West Hartlepool, Rhondda, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Leyton, Portsmouth, Southampton, Reading, Nottingham, Stockton-on-Tees, West Hartlepool, Cardiff, and Merthyr Tydfil; from scarlet fever in Northampton and Stockton-on-Tees; from diphtheria in East Ham, [illegible] Tydfil; fro [illegible] Hastings, I [illegible] l Merthyr Tydfil; from "fever" in Devonport; and from diarrhœa in Burnley. Of the three fatal cases of small-pox registered in these towns last week one belonged to Oldham, one to Burnley, and one to Bradford. The number of small-pox patients in the Metropolitan Asylums Hospitals, which had been 18, 15, and 13 at the end of the three preceding weeks, had further declined to nine at the end of last week; one new case was admitted during the week, against one, none, and one in the three preceding weeks. The number of scarlet fever cases remaining under treatment in these hospitals and in the London Fever Hospital on Saturday, Feb. 11th, was 2077, against 2174, 2096, and 2070 at the end of three preceding weeks; 260 new cases were admitted during the week, against 225, 251, and 229 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 377, 478, and 444 in the three preceding weeks, further declined to 400 last week, but were 76 in excess of the number in the corresponding period of last year. The causes of 54, or 1·0 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Portsmouth, Bristol, Nottingham, Leeds, Newcastle-on-Tyne, and in 47 other smaller towns; the largest proportions of uncertified deaths were registered in Ipswich, Liverpool, Warrington, Blackburn, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 20·1, 20·3, and 19·9 per 1000 in the three preceding weeks, further declined to 18·2 per 1000 during the week ending Feb. 11th, but was 0·8 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·4 in Paisley and 14·7 in Leith to 21·3 in Perth and 22·7 in Aberdeen. The 612 deaths in these towns included 23 which were referred to whooping-cough, nine to diarrhœa, seven to measles, five to "fever," three to diphtheria, and two to scarlet fever. In all, 49 deaths resulted from these principal infectious diseases last week, against 72, 79, and 85 in the three preceding weeks. These 49 deaths were equal to an annual rate of 1·5 per 1000, which was 0·2 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 33, 44, and 46 in the three preceding weeks, declined again last week to 23, of which 17 were registered in Glasgow and three in Edinburgh. The deaths from diarrhœa, which had been 17, nine, and 19 in the three preceding weeks, declined again to nine last week and included four in Glasgow, three in Edinburgh, and two in Leith. The fatal cases of measles, which had been six in each of the two preceding weeks, increased last week to seven, all of which occurred in Glasgow. The deaths from "fever," which had been six and four in the two preceding weeks, rose again to five last week and included four in Glasgow. The fatal cases of diphtheria, which had been nine in each of the two preceding weeks, decreased last week to three, of which two occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 156, 163, and 146 in the three preceding weeks, further declined last week to 130, but were slightly in excess of the number in the corresponding period of last year. The causes of 19, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 21·2, 25·5, and 24·2 per 1000 in the three preceding weeks, rose again to 25·2 per 1000 during the week ending Feb. 11th. During the past four weeks the death-rate has averaged 24·0 per 1000, the rates during the same period being 17·7 in London and 19·6 in Edinburgh. The 183 deaths of persons belonging to Dublin registered during the week under notice were seven in excess of the number in the preceding week and included seven which were referred to the principal infectious diseases, against 10, 18, and nine in the three preceding weeks; of these, three resulted from diarrhœa, two from scarlet fever, and two from "fever," but not any from small-pox, measles, diphtheria, or whooping cough. These seven deaths were equal to an annual rate of 1·0 per 1000, the death-rates last week from the principal infectious diseases being 1·3 in London and 0·8 in Edinburgh. The 183 deaths in Dublin last week included 27 among children under one year of age and 45 among persons aged 60 years and upwards; the deaths both of infants and of elderly persons showed a marked decline from the respective numbers recorded in the preceding week. Nine inquest cases and five deaths from violence were registered; and 60, or nearly one third, of the deaths occurred in public institutions. The causes of four, or more than 2 per cent., of the deaths in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING JANUARY, 1905.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious disease it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 5·8 per 1000 of the population, estimated at 4,684,794 persons in the middle of the year. In the three preceding months the rates had been 9·0, 7·2, and 6·1 per 1000. The rates were considerably below the average in Paddington, Kensington, the City of Westminster, St. Marylebone, Hampstead, Stoke Newington, and the City of London, while they showed the largest excess in Hammersmith, Hackney, Bethnal Green, Stepney, Poplar, Wandsworth, and Woolwich. The prevalence of small-pox showed a marked decline last month; of the four cases of this disease notified during January, two belonged to Woolwich and one each to Shoreditch and Lewisham. The Metropolitan Asylums hospitals contained 15 small-pox patients at the end of last month, against one, three, and 17 at the end of the three preceding months; the weekly admissions averaged one, against none, one, and four in the three preceding months. Scarlet fever was slightly less prevalent last month than in other recent months; among the various metropolitan boroughs this disease showed the highest proportional prevalence in Chelsea, Hackney, Bethnal Green, Wandsworth, and Lewisham. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals at the end of the month was 2067, against 2662, 2566, and 2349 at the end of the three preceding months; the weekly admissions averaged 209, against 359, 249, and 233 in the three preceding months. The prevalence of diphtheria during January was in excess of that recorded in the preceding month; this disease was proportionally most prevalent in Hammersmith, Fulham, Hackney, Bethnal Green, Stepney, Poplar, and Woolwich. The Metropolitan Asylums hospitals contained 836 diphtheria patients at the end of last month, against 940, 893, and 800 at the end of the three preceding months; the weekly admissions averaged

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1905.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1905.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,684,794	4	971	569	—	107	2	23	394	—	2070	5·8	2	107	39	51	100	—	19	—	43	361	1 0	6092	17·0	113
West Districts.																										
Paddington	147,935	—	24	8	—	2	—	1	7	—	42	3·7	—	—	2	—	3	—	—	—	1	6	0·5	179	15·8	122
Kensington	180,083	—	19	13	—	3	—	—	14	—	49	3·5	—	1	—	1	4	—	1	—	2	9	0 7	225	16·3	135
Hammersmith	119 037	—	30	35	—	1	—	3	6	—	75	8·2	—	2	—	3	5	—	—	—	—	10	1·1	127	13·9	83
Fulham	157,210	—	30	25	—	3	—	3	9	—	70	5·8	—	8	2	—	8	—	1	—	2	21	1·7	190	15 8	128
Chelsea	74,496	—	24	3	—	—	—	—	7	—	34	5 9	—	1	1	—	3	—	—	—	—	5	0 9	92	16·1	141
City of Westminster	175,606	—	25	7	—	2	—	—	6	—	40	3·0	—	—	—	—	1	—	—	—	1	2	0·1	231	17·1	110
North Districts.																										
St. Marylebone	129,453	—	10	5	—	2	—	—	19	—	36	3·6	—	—	1	—	3	—	—	—	—	4	0·4	174	17·5	73
Hampstead	88,142	—	7	2	—	1	—	1	3	—	14	2·1	—	—	1	—	1	—	—	—	—	2	0·3	59	8·7	113
St. Pancras	236,183	—	40	28	—	6	—	1	19	—	94	5·2	—	4	2	3	4	—	2	—	2	17	0 9	367	20·3	112
Islington	342,994	—	65	28	—	6	—	1	17	—	117	4·4	—	15	2	1	6	—	—	—	4	28	1·1	427	16·3	105
Stoke Newington	52,828	—	9	3	—	—	—	—	1	—	13	3·2	—	1	2	1	—	—	—	—	—	4	1·0	60	14·8	136
Hackney	228,479	—	58	35	—	11	—	—	25	—	129	7·4	—	11	2	2	2	—	—	—	—	17	1·0	251	14·3	86
Central Districts.																										
Holborn	56,481	—	13	7	—	—	—	—	3	—	23	5·3	—	—	—	1	2	—	1	—	—	4	0·9	107	24·7	130
Finsbury	98,207	—	14	9	—	4	—	—	11	—	38	5·0	—	8	3	—	3	—	2	—	3	19	2·5	175	23·2	131
City of London	22,425	—	1	2	—	—	—	—	2	—	5	2·9	—	—	—	1	—	—	—	—	—	1	0·6	45	26·2	125
East Districts.																										
Shoreditch	116,565	1	21	17	—	3	2	1	11	—	56	6·3	1	8	2	2	5	—	1	—	—	19	2·1	181	20·2	140
Bethnal Green	130,401	—	39	26	—	8	—	—	16	—	89	8·9	—	2	3	4	3	—	—	—	1	13	1·3	219	21·9	145
Stepney	305,466	—	73	95	—	14	—	—	42	—	224	9·6	—	12	2	11	8	—	3	—	6	42	1·8	451	19·3	119
Poplar	170,280	—	32	45	—	5	—	—	18	—	100	7·7	—	10	2	5	3	—	1	—	3	24	1·8	266	20·4	154
South Districts.																										
Southwark	203,528	—	31	22	—	2	—	—	17	—	72	4·5	—	—	1	6	11	—	—	—	2	20	1·3	320	20 0	136
Bermondsey	129,006	—	23	9	—	3	—	1	9	—	45	4·5	—	6	2	1	6	—	2	—	—	17	1·7	212	21·4	99
Lambeth	313,045	—	53	19	—	4	—	1	17	—	94	3·9	—	—	5	—	1	—	—	—	7	13	0·5	369	15·4	103
Battersea	177,532	—	38	13	—	7	—	—	22	—	80	5·9	—	2	1	1	4	—	—	—	2	10	0·7	208	15·3	96
Wandsworth	265,392	—	106	22	—	7	—	3	25	—	163	8·0	—	13	3	4	2	—	2	—	2	26	1·3	279	13·7	96
Camberwell	271,240	—	67	19	—	4	—	3	24	—	117	5·6	—	—	—	—	8	—	—	—	4	12	0·6	336	16·1	114
Deptford	114,495	—	25	8	—	1	—	—	14	—	48	5·5	—	—	—	—	—	—	1	—	1	2	0·2	121	13·8	121
Greenwich	103,493	—	19	9	—	—	—	1	9	—	38	4·8	—	—	—	—	2	—	1	—	—	3	0 4	119	15·0	95
Lewisham	144,420	1	43	12	—	5	—	—	11	—	72	6·5	1	1	—	—	1	—	—	—	—	3	0·3	152	13·7	75
Woolwich	125,372	2	32	43	—	3	—	3	9	—	92	9·6	—	2	—	4	1	—	1	—	—	8	0 8	150	15 6	101
Port of London	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

115 against 139 123 and 99 in the three preceding months The prevalence of enteric fever showed a considerable decline last month , among the various metropolitan boroughs the greatest proportional prevalence of this disease occurred in Hackney Finsbury Shoreditch Bethnal Green Stepney and Battersea The number of enteric fever patients in the Metropolitan Asylums hospitals, which had been 225 178 and 237 at the end of the three preceding months had declined again to 134 at the end of last month, the weekly admissions averaged 17, against 25 25 and 22 in the three preceding months Erysipelas was proportionally most prevalent in St Marylebone Hackney, Bethnal Green Stepney, Battersea and Deptford The 23 cases of puerperal fever notified during the month included three in Hammersmith three in Fulham three in Wandsworth three in Camberwell *and three in Woolwich*

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in public institutions having been distributed among the several boroughs in which the deceased persons had previously resided During the four weeks ending Jan 28th the deaths of 6092 persons belonging to London were registered equal to an annual rate of 17 0 per 1000 , in the three preceding months the rates had been 14 3 14 6 and 18 4 per 1000 The lowest death rates in London last month were 8 7 in Hampstead 13 7 in Wandsworth and in Lewisham 13 8 in Deptford 13 9 in Hammersmith and 14 3 in Hackney , the highest rates were 20 3 in St Pancras 20 4 in Poplar 21 4 in Bermondsey, 21 9 in Bethnal Green 23 2 in Finsbury, 24 7 in Holborn and 26 2 in the City of London The 6092 deaths from all causes included 361 which were referred to the principal infectious diseases of these two resulted from small pox 107 from measles 39 from scarlet fever, 51 from diphtheria 100 from whooping cough 19 from enteric fever and 43 from diarrhœa The lowest death rates from these diseases occurred in Paddington the City of Westminster St Marylebone, Hampstead Lambeth Deptford Greenwich and Lewisham , and the highest rates in Fulham Finsbury, Shoreditch Stepney Poplar and Bermondsey Of the two deaths from small pox one belonged to Shoreditch and one to Lewisham The 107 fatal cases of measles were 98 below the average in the corresponding periods of the ten preceding years this disease was proportionally most fatal in Fulham Hackney Finsbury Shoreditch Poplar Bermondsey, and Wandsworth The 39 deaths from scarlet fever showed a decline of 13 from the corrected average number , among the various metropolitan boroughs this disease showed the highest proportional mortality in Stoke Newington Finsbury Shoreditch Bethnal Green Bermondsey and Lambeth The fatal cases of diphtheria numbered 51 last month against an average of 147 in the corresponding period of the ten preceding years , the highest death rates from this disease occurred in Hammersmith Bethnal Green Stepney Poplar Southwark and Woolwich The 100 deaths *from whooping* cough were 74 below the corrected average number , among the various metropolitan boroughs this disease was proportionally most fatal in Hammersmith Fulham Chelsea Shoreditch Southwark and Bermondsey The 19 fatal cases of ' fever showed a decline of 31 from the average number in the corresponding periods of the ten preceding years , the highest fever death rates occurred in St Pancras Holborn Finsbury Shoreditch Stepney and Bermondsey The 43 deaths from diarrhœa were slightly below the [illegible] ns [illegible] y [illegible] ay [illegible] th [illegible] per [illegible] by the proportion of deaths [illegible] r of age to registered births [illegible] The lowest rates of infant mortality were recorded in Hammersmith St Marylebone Hackney Bermondsey Battersea Wandsworth Greenwich and Lewisham , and the highest rates in Chelsea Stoke Newington, Shoreditch, Bethnal Green Poplar, and Southwark

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

THE following appointments are notified —Fleet Surgeon A E Weightman to the *Spartiate* Staff Surgeons H P Jones to the *Hermes* on commissioning , P K Nix to the *Blake* A W B Livesay to R M Depôt, Deal , and H W G Green to the *Dido* on recommissioning Surgeons A J Hewitt to R M A Barracks Eastney , P F Alder on to Plymouth Hospital , F M V Smith to the *Dido* on recomm [illegible] C D Walsh to the *Scylla* for the [illegible] Surgeon J Brunt is placed o [illegible] seniority of Oct 1st, 1879

Deputy Inspector General of Hospitals and Fleets Gerard James Irvine has been promoted to the rank of Inspector General of Hospitals and Fleets in His Majesty s Fleet Fleet Surgeon Arthur William May has been promoted to the rank of Deputy Inspector General of Hospitals and Fleets in His Majesty s Fleet (dated Feb 7th 1905)

The undermentioned Surgeons have been promoted to the rank of Staff Surgeon in His Majesty s Fleet —Alexander George William Bowen and George Ley (dated Nov 11th, 1899), Robert Dundonald Jameson (dated May 16th, 1902) , William Bernera Macleod Harry Spicer and John Alexander Lanford Campbell (dated Nov 14th 1902) Herbert Henry Pearse and Charles James Edward Cock (dated May 15th, 1903) John William Craig (dated May 13th 1904) , and Edwyn Robert Grazebrook (dated Nov 10th, 1904)

ROYAL ARMY MEDICAL CORPS

Lieutenant Colonel J G Harwood is appointed to the Southern District on the retirement of Lieutenant Colonel P J Dempsey Captain P J Bodington is posted to the Home District for duty on arrival home from Ceylon Captain H H Norman has left Woolwich Lieutenant S M Adye Curran is placed on temporary half pay on account of ill health

Lieutenant Colonel G D Hunter, D S O is seconded for service with the Egyptian Army (dated Feb 2nd 1905)

The undermentioned Captains to be Majors (dated Jan 30th 1905) —C T Samman H A Berryman C G Spencer C E P Fowler T H J C Goodwin D S O, A T C Keble D J Collins and J B Anderson Captain R T G Phillips from the Seconded List to be Captain (dated Feb 1st 1905) Lieutenant R G Anderson from *the Seconded List* to be Lieutenant (dated Jan 30th, 1905)

VOLUNTEER CORPS

Royal Garrison Artillery (Volunteers) 1st East Riding of Yorkshire Surgeon Lieutenant Colonel W Draper is granted the honorary rank of Surgeon Colonel (dated Feb 11th 1905)

Rifle 4th Volunteer Battalion the Devonshire Regiment Surgeon Major J R Thomas (Brigade-Surgeon *Lieutenant Colonel* Senior Medical Officer Devon Volunteer Infantry Brigade) to be Surgeon Lieutenant Colonel (dated [illegible] 1905) Surgeon Lieutenant Colonel J R Thomas ([illegible] Medical Officer [illegible] ted the honorary rank of Surgeon Colonel (dated Feb 11th 1905) 2nd Volunteer Battalion the East Surrey Regiment Surgeon Lieutenant Colonel W Gandy (Brigade Surgeon Lieutenant *Colonel* Senior Medical Officer East Surrey Volunteer Infantry Brigade) is granted the honorary rank of Surgeon *Colonel* (dated Feb 11th 1905) 1st Volunteer Battalion the Essex Regiment Surgeon Lieutenant J Aitken to be Surgeon Captain (dated Feb 11th 1905) 13th Middlesex (Queen s Westminster) Surgeon Captain W Rose resigns his commission (dated Feb 11th 1905)

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS)

The London Companies Lieutenant H S Collier resigns his commission (*dated Feb* 11th 1905)

DEATHS IN THE SERVICES

Surgeon Major General Thomas Walsh A M S (retired), on Feb 7th at his residence Mer Vue Booterstown county Dublin He entered the service as an assistant surgeon in 1858 became surgeon in March 1873 and surgeon major a month later brigade surgeon in 1884 surgeon colonel in 1889 and surgeon major general in 1894 He was employed with the Jowaki Afridi expedition of 1877 78 and in the Afghan war in 1879 80 As *senior medical officer in the* latter expedition he did some good work for which he was *mentioned* in despatches In the Egyptian war of 1882 he was sanitary officer to the 1st Division and was present at the engagement at Tel el Mahuta at *the action at* Kassassin, and at the battle of Tel el Kebir

THE WAR IN THE FAR EAST.

The sufferings of the troops at the front from the extreme cold have been indescribable but the weather has recently become much warmer. According to the latest accounts from Manchuria the thermometer during the day registered only three degrees of frost. There is considerable difficulty in ascertaining what is the exact truth about the supplies of the Russian forces in the field; the accounts are conflicting, but it may be safely concluded that the position of the large Russian army in Manchuria, dependent on the Trans-Siberian railway only, must be a precarious one. Nor is this the only subject on which the accounts are so conflicting as to be irreconcileable with one another. Those regarding the state of Port Arthur at the end of the siege, and especially as to the number of sick and wounded in hospital at that time as now given by General Stoessel, are quite at variance with the statements previously made by others. There have been no military movements of importance on the part of the belligerent forces during the week. The rumours of peace continue but whether they have any foundation beyond the fact that everybody would be glad to hear that an end had come at last to the terrible loss of life and suffering is more than anyone can say. Both sides have suffered heavily by the war but the losses on the part of the Russians in men, money, and *matériel*, and still more perhaps in prestige, have been simply enormous. It is a consideration of the whole history of the war and of her present situation that makes it so difficult for the Russian Government to approach the Japanese with any proffered terms of peace at the present time.

The Kwangschan correspondent of the *Novoe Vremya* quotes statistics of the Manchurian army sanitary bureau relating to infectious diseases, showing that the sanitary state of the army was remarkably satisfactory on Jan. 21st. There were only 156 cases of dysentery, 752 cases of "abdominal typhus," 32 of "eruptive typhus," 15 of "recurrent typhus," and 3 of typhus not classified, 198 of influenza, 1 of epidemic gastritis, 35 of intermittent fever, 44 of Siberian plague, 51 of erysipelas, 3 of scurvy, 4 of small-pox, 1 of measles, and, finally, 205 of diarrhœa. The whole army is supplied with warm clothing. The nourishment is without question good and even at the outposts hot food is served twice daily. The only bad point is the difficulty in furnishing the army with fuel. The chief representative of the special Red Cross Committee, A. J. Gutchkoff, telegraphs from the Far East that on making a round of the positions the medical men of the detachment dealing with infection have declared that in view of the excellent sanitary condition of the army an "anti-contagion" detachment is required only in Kharbin where there are 35,000 hospital beds. In the spring two flying detachments will probably proceed to the south.

A report from Kharbin of Jan. 5th states that there are few invalids in the hospitals of the Red Cross Society. There is no epidemic disease in the town. The hospital of the society is comfortably installed in the best communal building in Kharbin. The confidence and activity of the staff insure perfect order.

Correspondence.

"Audi alteram partem."

MEDICAL TEACHING IN THE METROPOLIS.

To the Editors of THE LANCET.

SIRS,—Your leading article on the above subject published in THE LANCET of Feb. 11th prompts me to call attention to the fact that one branch of medical teaching in our London medical schools stands in sad need of stimulation. All will agree that clinical surgery is well taught in the London schools, but the like cannot, I fear, be said of clinical medicine. In spite of the learning and skill of our London physicians few of them, alas, are experts in the art of imparting that knowledge and that skill, for, unhappily, the possession of knowledge and the ability to impart it are not one and the *same thing*, and of no branch of knowledge is this more true than of clinical medicine.

How are we to account for this dearth of good clinical teachers? It is mainly owing to the fact that in the election of physicians to teaching hospitals due regard is not had to their teaching capabilities. This is as mistaken in policy as it is wrong in principle. The ability to teach is a more necessary qualification in the member of the staff of a teaching hospital than a brilliant academic career. On him devolves, as member of the staff, a double duty—not only the exercising of his craft but the teaching others how to exercise that craft, and in proportion as he succeeds in these must his election be deemed to have been a wise one. To suppose that his teaching duties are merely accessory to his duty as physician is to form an altogether wrong conception of his position. He is under a grave obligation not only to do his best by his patients but also by his pupils—to arm them with the means by which they may do successful battle against disease—and thus extend the benefits he confers on humanity far beyond the narrow confines of his hospital.

Under the present system of election it is impossible to be certain of securing the best clinical teachers, inasmuch as little or no opportunity is afforded the young physician prior to his election of demonstrating his teaching capabilities, and once elected he remains on the staff till age, death, or inclination (seldom vouchsafed) removes him from the scene, mounting up the ladder of promotion on the very simple, but most pernicious, principle of seniority. No concern run on these lines—commercial, medical, or any other—can achieve its full measure of success. In each and all and always every facility should be given for the right men to come to the front. "Catch your capable men," as Huxley tersely puts it, should be a guiding principle in every department of human activity. The system of permanent election not only exposes the schools to the danger of being saddled with inefficients, but makes no provision against men "going off" prematurely, for it is a strange and unhappy fact that just as some women lose their beauty after the first flush of youth so some men who start with every apparent prospect of brilliant success somehow or other soon begin to lag behind and finally drop out of the ranks of serious competition: they cease to develop, enthusiasm and initiative wane, the plastic cerebral protoplasm hardens all too soon, and the brilliant forceful man of yesterday becomes the stolid, uninspired platitudinous individual of to-day. He has failed to realise the expectations formed of him and is no longer fit for the position he holds. We are all sorry for him, but our sympathy for him must be tempered by our sense of duty to others and not blind us to the fact that he is no longer the right man in the right place, and that by allowing him to continue in it we are doing a grievous wrong to others, to many others—I mean the students, and thus through them to a large section of the community.

How can we best meet these difficulties? Obviously by a system of provisional election. Assistant physicians should be elected for a certain term and on a distinct understanding that if at the end of that term they have failed to realise expectations they will not be re-elected. Their ability as teachers can be gauged with mathematical precision—i.e., by the following they get among the students. A careful daily record should be made of the number of students attending the out-patient and in-patient departments of every member of the hospital staff, and these records should be given prominent publicity every three months. This plan would not only enable an estimate of individual teaching capacity to be formed, but tend to promote a healthy rivalry in clinical teaching, stimulating every member of the staff to perfect himself as a teacher and compelling him to realise that clinical teaching is not only a great and noble but likewise a very difficult art, one in which efficiency can be attained only after long and painstaking cultivation.

You, Sirs, give expression in your article to the belief "that in the near future every hospital will be found able to supply numerous junior appointments for those who desire occupation and opportunity of demonstrating their powers of teaching." A consummation devoutly to be wished, and to the furtherance of which I would suggest the advisability of appointing to each of the larger hospitals two or more posts of sub-assistant physician, tenable, say, for one year, and affording the holders ample facility for demonstrating selected patients to students. I believe it would also be a good plan for the great schools to throw open their doors to clinical teachers from other hospitals than their own. There are not a few capable men in London connected with non-teaching hospitals. Could not some arrangement be come to by which their services might be utilised in the schools? A further plan of improving the teaching of clinical medicine in London would be to do away with systematic lectures on medicine and to give in their stead systematic demonstrations of selected patients. The kind of information it is sought to convey in lecture can be much better taught in tutorial class.

Finally, I would make it obligatory for every candidate for a post on the permanent medical staff of a teaching hospital to have spent one year in special study (as clinical clerk or otherwise) at each of the special departments for diseases of the eye, skin, and the nose and throat; two years at a special hospital for children's diseases, and another two years at a special hospital for diseases of the nervous system. At any cost the great hospitals must exclude the medical exclusivist. By such means as these I believe that much might be done to improve the teaching of clinical medicine in London and to raise it to a position worthy of the world's great metropolis.

I am, Sirs, yours faithfully,

Wimpole-street, W., Feb. 12th, 1905. HARRY CAMPBELL.

THE BUILDING BY-LAWS.

To the Editors of THE LANCET.

SIRS,—In the reference you have been good enough to make in your leading article on the above subject in your issue of Feb. 11th, p. 369, to my letter in the *Times* you suggest that the difficulty to which I drew attention as to the incongruity of the terms "urban" and "rural" in their application to sanitary districts and the need for the remedy I proposed of discontinuing this distinction of districts and applying it to the houses themselves are to some extent met by the greater latitude which the Local Government Board now allows to district councils in regard to the adoption of either urban or rural by-laws to portions only of their districts. But I think you will see upon consideration that the remedy is a very imperfect one because it entails the necessity of defining the boundaries of the portions of the district to which the urban or rural powers shall apply, always a serious difficulty, and one which would perpetually require revision in growing districts in order to meet altering requirements.

My proposal of dealing with a house as urban or rural, according to the width of its curtilage, gets over this difficulty altogether. At present all building by-laws, I believe, prescribe that a certain space shall be kept uncovered in front of, and behind, the premises to be erected. My proposal would involve a similar restriction on each side of the premises if they were to be erected under rural by-laws, and in that case would leave the builder a considerable amount of latitude as to the construction of his house, so long as he complied with certain indispensable requirements as to drainage, water-supply, disposal of dry refuse, dryness of foundations and walls, &c. But if he were unable to satisfy the minimum condition of circumjacent space and, of course, if he proposed to erect two or more dwellings in actual contact with one another, then he would come under the more rigid control of urban by-laws. The provision is one that would obviously work automatically. There would be no necessity for any Local Government Board inquiry, no definition of boundaries would be required. Whether the site of the proposed house were in a large city or in the midst of a wood the sole question would be, What is the size of your curtilage? And it is clear that it would have to be large enough to allow the whole of the refuse of the probable occupants of the house to be dealt with on their own premises, if necessary, and in such a way as not to create a nuisance to their neighbours.

It would not be necessary, as you seem to think, that a house erected under rural by-laws should remain always detached. But if its owner wished to build another in connexion with it or within the prescribed distance he would only be able to do so on condition that he brought his old house up to the urban standard in all conditions. If it were originally substantially built this would not probably involve serious outlay, but if it were of the bungalow type or jerry-built, though apparently substantial, he would probably find it cheaper to pull it down altogether. The only person who would have to provide against the contingency you cite of a road originally bordered by rural villas which becomes gradually converted into streets of continuous bricks and mortar would be the individual who might originally erect the suburban villas or those who might purchase them from him. Each would have to look ahead and consider how far his future interests [illegible] of building which [illegible] the houses to urban [illegible] sation should make such a change advantageous. My proposal, therefore, is not to do away with building by-laws but to differentiate them into two categories, as at present, which shall be automatically applicable to any house according to the amount of land by which it is to be surrounded.

I am, Sirs, yours faithfully,

Gloucester. FRANCIS T. BOND, M.D. Lond.

DUODENAL ULCER

To the Editors of THE LANCET.

SIRS,—There are one or two points in Mr. B. G. A. Moynihan's interesting paper on Duodenal Ulcer in THE LANCET of Feb. 11th, p. 340, on which one would be glad to have further information. He speaks in his present paper as well as in the one which you published in December, 1901, of the mimicry of appendicitis, which is referred to by various authors. What one would like to know is whether he has observed it himself in cases of perforation. Personally I have not except in one case which I did not see until some time after it occurred. I fancy this statement depends on the fact that before attention had been called to the frequency of duodenal perforation the necessity for early operation was overlooked; but now that such cases, largely owing to Mr. Moynihan's writings, are earlier recognised and more promptly treated the diagnosis has become easier and the mimicry of appendicitis is consequently rare.

When an attack of sudden and violent abdominal pain associated with collapse is accompanied, say, two or three hours later by lack of movement of the right rectus above the umbilicus, coupled with localised pain and tenderness referred to the same spot, a ruptured gastric or duodenal ulcer is certainly to be inferred, and if the rupture be in the stomach and not in the duodenum it will not be more than about one inch from the pylorus. At least that is my experience, and this symptom is due, I fancy, not so much to the "colon hillock" as to the attachment of the mesentery which largely influences the direction that the effused contents follow. No mention is made of flushing in order to rid the abdomen of the intestinal contents in this present paper. It would be interesting to know if Mr. Moynihan still advocates it. I have long since discarded it in all ruptured gastric and duodenal ulcers and I am sure my results have been better since.

I am, Sirs, yours faithfully,

Harley street, W., Feb 13th, 1905. W. BRUCE CLARKE.

PULMONARY TUBERCULOSIS AND ITS ASSOCIATIONS.

To the Editors of THE LANCET.

SIRS,—The interesting annotation upon tuberculosis in Nottinghamshire calls surprised attention to pulmonary tuberculosis being more fatal in rural than in urban districts. In THE LANCET of April 15th, 1899, p. 1005, and in the museum catalogue of the British Congress on Tuberculosis the greater fatality of phthisis in the country compared to towns is pointed out. It was a feature of the disease up to middle life and was to be observed as a general rule all over England 1881–90. I desire to draw attention to the value of even slight analysis in proclaiming the lines of incidence of this disease, so necessary a precursor of useful prophylaxis. The city of Nottingham report for the same year (1903) affords a good example.

Tuberculosis Mortality per 1000 living at Ages over 15 years.

Men, occupied	2·408	Women, occupied...	0·881
" unoccupied	1·377	" unoccupied	1·5

The public cannot be expected to read a multitude of figures, but if they get a high value from an analysis such as urban and rural it is evidently much higher when carried on to the distinctions in age and sex as above. Every medical officer will take the social, economic, or hygienic classification he finds best. My excuse for troubling your columns is the great want of classifications to guide us in the direction most promising for the prevention of tuberculosis.

I am, Sirs, yours faithfully,
Feb. 13th, 1905. HUGH R. BEEVOR.

FORMOLYPTOL IN DIPHTHERIA.

To the Editors of THE LANCET.

SIRS,—About two months ago a note was published in THE LANCET on the successful use of mulyptol locally for diphtheria and a week or so after that I was called to see a child, aged 11 years, whom I found complaining of her throat, which her mother said had been sore for 12 hours. She had a temperature of 104·4° F. and both tonsils and the back of the fauces were covered with a thick ashy-grey membrane. I had already sent a child from the family above (it was a tenement house) into the South Devon Hospital for tracheotomy with what proved laryngeal diphtheria and I was told that another child had died in the house from "acute bronchitis." I endeavoured to get some mulyptol but could only get formolyptol, which I used as a spray and also a gargle, besides administering two-minim doses internally. The temperature subsided in 24 hours, the throat cleared up rapidly, and the child was out of all danger in less than two days. Dr. W. L. Pethybridge, pathologist to the hospital, kindly made a culture from a swab and found the diphtheria bacillus. I was most agreeably surprised at the efficacious and rapid way in which the formolyptol acted and hope this note may be useful to those who may have to treat a similar condition.

I am, Sirs, yours faithfully,
C. E. RUSSEL RENDLE,
Feb. 11th, 1905. Assistant Surgeon, South Devon Hospital.

COFFEE AND SEWAGE.

To the Editors of THE LANCET.

SIRS,—Your editorial remarks on the recent decision of Mr. Chapman in the case of the coffee salvaged from the s.s. *Caravellas* are evidently made upon the basis of a very imperfect report of the evidence and are, therefore, I venture to think, a little unfair. I feel sure that I can appeal to your well-known justice to all parties for a hearing so that the facts may be better understood than they have been.

At the hearing of the case I produced evidence and specimens to show: 1. That coffee during roasting attains a temperature of about 180° C., or 356° F., which is maintained for a long time. 2. That before reaching this it remains for a considerable time at or near 100°-103° C. (212°-218° F.), during which time much vapour of water is given off. 3. That after a period of rest or even slight fall of temperature this again advances; various oils and acid products, together with water from the breakdown of the berry by heat, are given off and the berry swells and softens. Its loss in weight is from 15 to 20 per cent. on the dry coffee. 4. The sanitary officials admitted that organisms, pathogenic or not, would not survive this heat coupled with the vapours present. 5. Carefully made cultivations were made from the coffee received from the roasters in the roasted state and no growth of any kind ensued. The roasted berries were quite sterile. It was suggested that toxins produced by the organisms might be present but no evidence of their existence was before the court and I need not enlarge on the improbability of their presence in the roasted coffee.

I also venture to deprecate the use of the term "sewage soaked." I am informed that the ship was sunk between Coalhouse Point and Cliffe, some two miles below Gravesend. The water is no doubt contaminated but it is not fair to call it "sewage." If every bag of sugar, chest of currants, bag of wheat, &c., that got well wetted by such water were condemned there would be enough for the sanitary officers to do. But such things, it is well known, are not stopped, though sugar at least, which is used as often as not without cooking, is far more dangerous than green coffee. It was the fact that it had heated and showed signs of mould that caused the seizure. The sewage suggestion appeared to be an afterthought.

Pray understand that my remarks apply only to the particular lot of 60 tons with which I dealt. I saw no specimens of that condemned elsewhere and express no opinion on their state. It is obvious that green coffee wetted with perfectly good water would ferment and rot in time.

I am, Sirs, yours faithfully,
Feb. 11th, 1905. R. J. FRISWELL.

*** Mr. Friswell is, of course, entitled to his opinion but we may remind him that pollution is not necessarily of a bacteriological kind. The water of the river at the points mentioned is in his own words "no doubt contaminated," whether it be fair or not to call it sewage, and the coffee had been admittedly soaked in this water. No one, we imagine, would relish the idea of drinking water polluted with sewage effluent even if sterile.—ED. L.

CURRENT THEORIES OF THE HEREDITARY PROCESS.

To the Editors of THE LANCET.

SIRS,—In the annotation on the above subject in THE LANCET of Feb. 4th, p. 307, the following statement occurs:—

> Both these writers [Boveri and Delage] have shown that denucleated eggs produced by mechanical extrusion of nuclei can be fertilised in the sea urchin and that they give rise to normal blastulæ, gastrulæ, and larvæ. Hence the "determinants" of heredity are present in the cell body of the egg.

Surely this is a false conclusion, since no notice is taken of the nucleus of the spermatozoon. The fact that if fertilisation is effected by alien spermatozoa the resulting larvæ show purely paternal characters is a very strong argument in favour of Weismann's view that the nucleus is the vehicle of hereditary transmission. There is no evidence in these experiments that the cytoplasm of the ovum plays any part at all in the transmission of hereditary characters.

I am, Sirs, yours faithfully,
CHARLES POWELL WHITE.
St. Thomas's Hospital, Feb. 7th, 1905.

*** From the experiments referred to two entirely opposite conclusions are drawn—viz., that attributed to Professor W. F. R. Weldon, F.R.S., in our issue of Feb. 4th, and that to which Mr. Powell White alludes above. These interpretations are still the subject of discussion. Boveri himself admits that the "merogonie" experiments are equivocal because bastard larvæ, arising by the union of an entire egg with the spermatozoon of a distinct species, may also present the pure paternal form. At the same time, referring to the criticism raised by Pfeffer and others that the spermatozoon is an entire cell and not merely a nucleus, he points out that this argument is not admissible in appraising the part played by the egg protoplasm in fertilisation. In bastard larvæ which have obtained nuclear substance only from the spermatozoon in the fertilisation of egg fragments without nucleus ("merogonie") the paternal type appears exclusively (*vide* Boveri: "Ergebnisse ueber die Konstitution des Zellkerns," Jena, 1904, pp. 104, 105).—ED. L.

COUGH DUE TO INTESTINAL WORM.

To the Editors of THE LANCET.

SIRS,—The extraordinary case of reflex lumbrical irritation contributed to THE LANCET of Jan. 28th by Mr. Prosper St. Leger Liston reminds me of a somewhat similar pathological picture painted by the father of one of my patients in the first half of the last century. There is one striking difference however; for the main figure in the sketch, by Dr. R. J. Graves of Dublin, to which I allude, was a Tænia instead of an Ascaris lumbricoides, otherwise the title of Mr. Liston's case would have served for that of Dr. Graves. The latter physician was not as fortunate as the former; he did *not* make out *his* case but suffered the humiliation of being "scored off" by an unqualified lady doctor.

Dr. Graves's case was one of "severe cough and loss of weight due to tapeworm in the intestine." The details are much too instructive to be lost. A young woman attacked with symptoms of violent and alarming "bronchitis" was attended by a friend of Dr. Graves. When seen by the latter he found that the fits of coughing went on for hours with extraordinary intensity. The cough was dry, noisy, hollow, and incessant, repeated every five or six seconds during sleep at night as well as during the day. The violence was such that it threatened to "tear her chest in pieces." Her friends wondered how any frame could withstand so constant and terrible an agitation. Yet there was no fever, the chest exhibited nothing but the ordinary râles of what was in those days called "dry bronchitis," and the loss of flesh was by no means commensurate with the apparent gravity of the condition. This unfortunate girl was bled, leeched, blistered, and antimonialised without the slightest relief. She then had antispasmodics galore but with no effect. Next every species of narcotic was administered without the very faintest benefit. Then, fortunately, her physicians discontinued their visits and the case was taken up by an old retainer in the family. This old woman suggested a full dose of turpentine with castor oil for the relief of colic. '*In two or three hours a large mass of tapeworm was passed and every symptom disappeared.* Robert J. Graves was the soul of sincerity. How few men would have had the courage to narrate such a failure as occurring in their own practice. What a lesson in frankness and humility! In treating any cough how needful it is to remember that we can cough from irritation of any portion of the body supplied by the great vago-sympathetic; and what part of the body is not supplied by [illegible] been treated without ar[illegible]s? At p. 32 of my small work on Eczema I have described a persistent dermatitis of the navel in a child which resisted months of treatment and was then suddenly cured by santonin given to expel a round worm.

I am, Sirs, yours faithfully,
EDWARD BLAKE, M.D. Aberd., &c.
Seymour-street, W., Jan. 23th, 1905.

MOSQUITOES AND MALARIAL FEVER.

To the Editors of THE LANCET.

SIRS,—Not seeing the subject mentioned in THE LANCET I forward to you an extract from the *Times* of Feb. 8th which is not without general interest. It is from "our own correspondent," Colombo, and is as follows:—"Sir H. A. Blake, Governor of Ceylon, announced at a meeting of the Asiatic Society that Sinhalese books of the sixth century described 67 varieties of mosquitoes and 424 kinds of malarial fever caused by mosquitoes."

Putting aside the question of numbers the association of these insects in causation in days long gone past is a matter which seems worthy of notice in present medical literature and the record of it may lead some of those who may have the opportunity to dip more into the subject as detailed in these old books.—I am, Sirs, yours faithfully,

FRANCIS H. WELCH, F.R.C.S. Eng.
Lee, S.E., Feb. 13th, 1905.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Ancoats Hospital.

A CASE of death from blood poisoning occurred at the Ancoats Hospital on Jan. 18th and at the inquest some strictures were passed on the system in vogue for treating slight cases of accident. A young married mill-hand on Dec. 23rd scratched her hand in the mill. Next day she had pain and was taken to the hospital where she was attended to by a nurse and told to come next morning. However, she eventually died with all the symptoms of general blood poisoning on Jan. 18th. The resident house physician, Dr. F. G. Hack, said it was the custom for the nurses to treat trivial cases of accident without consulting the medical officer. The two medical men present could not deal with all the cases. They had 100 beds upstairs to look after. A verdict of "Accidental death" was returned. The jury did not attach blame to anyone but expressed the opinion that every accident should be seen by a qualified medical man. Dr. Hack promised to convey the recommendation to the governing body. In this case the pain in the arm and other symptoms might have led a medical man to take a more serious view of the matter than that taken by the nurse and the confidence of the public generally would no doubt be lowered if it came to be understood that accidents apparently slight but susceptible of fatal developments would probably be seen by a nurse only.

Degrees in Dentistry.

At a meeting of the court of the University of Manchester held on Jan. 18th Professor W. Stirling, in accordance with the recommendation of the board of faculty, moved the adoption of proposed ordinances for degrees and diplomas in dentistry. The Manchester Dental School was founded in 1885 and there are now about 40 students. These students pass the same matriculation as others and before they obtain a licence to practise have to study for four years. Special attention has to be given to dental anatomy and physiology, human and comparative. They go through the same attendance on surgery and pathology as required for the medical students and must have a year's attendance at a general hospital for clinical surgery. The student has to learn the mechanical part of his art at a dental hospital. It was proposed to institute degrees in dentistry of Bachelor of Dental Surgery and Master of Dental Surgery. In this Manchester is not alone, Trinity College, Dublin, and the University of Birmingham already giving dental degrees while Liverpool proposes to do so. The motion, which was seconded by Dr. J. Dreschfeld, was carried and it was resolved that the adoption of the ordinances should be communicated to the Universities of Liverpool and Leeds and to the General Medical Council.

Manchester Royal Infirmary.

The annual meeting of the trustees of the Manchester Royal Infirmary was held on Feb. 10th. Mr. Cobbett, the chairman of the board of management, gave some interesting information as to the progress being made towards the erection of the new infirmary at Stanley-grove. The ground was cleared, sewerage and drainage work had been executed, so that now the surface was ready for the commencement of the laying of the foundations. There is still some anxiety among a section of the supporters of the infirmary as to the central receiving house. It was decided some time since that there should be no beds but the fear seems to be that so much may be expended at Stanley-grove that there may be no funds available for the receiving house even without beds. The chairman was able, however, to remove that impression. Two gentlemen resigned the membership of the board because they could not share in the financial responsibility for the scheme which they consider too costly. One of them, moreover, gave as an additional reason a supposed change in the character of the institution, that "it will become much more a teaching hospital instead of the primary one for the treatment of the sick poor." (The construction here seems to present some difficulty.) "Placed there the professional influence will increase and the lay share in the management must decrease," a state of things to which he objects. It seems a curious idea, and one that could only occur to a layman, that there is any antagonism between the treatment of a patient where it is carried out under the quick, intelligent eyes of students of medicine and that given where there are none to observe and none to criticise—the only difference at all likely to occur being, perhaps, that in the former case it will be more thorough and more carefully carried out than in the latter. If this change is objected to the strong man would retain his post in order that he could oppose the change and not retire on the mere rumour that such a change may be impending. Manchester is a great medical centre and the teaching and education of the next generation of practitioners is surely as important a work in relation to the welfare of the people as any that can occupy the best energies of the wisest and most benevolent among us. There is plenty of room for the coöperation of lay and professional helpers. For many years past they have worked cordially together, to the great advantage of the community, and there is no reason to fear that their relations will be less useful and agreeable in the future.

The Hospital for Skin Diseases.

The new hospital in Quay-street, adjoining the old one, is approaching completion and it is expected that the whole scheme may be completed next year. An appeal for funds has brought in nearly £31,000 but £5000 more are required. Of the 57,159 attendances during the year 22,665 were made by "light" patients. Dr. R. B. Wild said the results of the special "light" treatment were highly satisfactory. The x rays, the Finsen, and the Finsen-Reyn lamps had been chiefly used. Radium had not fulfilled the high expectations of a year ago but this was thought to be "largely due to the fact that the amount of radium available was sufficient to treat only such small areas of disease that they could be treated more effectively by other methods."

Early Marriages in Burnley.

Burnley is, as you are aware, one of the Lancashire towns notorious for its high infantile death-rate. In 1903 it was at the rate of 269 per 1000. One of the ministers of the town has very usefully occupied one Sunday in the month with a series of addresses on "Burnley Black Spots" and he recently spoke on the infantile death-rate and its causes. Speaking generally, he attributed it to "drink, bad housing, early marriages, and the factory system, under which large numbers of married women in the very early morning take out their children to be nursed by women who had also their neighbours' children to look after and whose one idea was to make the babies sleep." The one point specially brought out is the unusual prevalence of early marriage as compared with some of the other Lancashire towns. Oldham has 20 persons married under 18 years of age, while Burnley has 38, and 72 under 19 years of age as against 111 at Burnley. Bolton and Blackburn have 31 and 26 respectively married under 18 years of age. The figures apply in the main to the factory or mill workers and when we consider the poor, and in many cases the miserably poor, physique of this class in the manufacturing towns, as illustrated among other things by the high percentage of rejections of would-be recruits and remember that so many of them, boys and girls, marry before attaining to the full height of their puny development, it is not to be wondered at that their children are feeble and degenerate and little able to withstand the adverse influences surrounding them from the moment they draw their first breath. Nor is it to be wondered at that this widespread enfeeblement of a large proportion of the population should cause anxiety and foreboding for the future.

The Midwives Act.

The Manchester corporation, in view of the fact that the Midwives Act will come into operation on April 1st, has taken steps for the carrying out of the obligations to be imposed on it. In August last it appointed a special committee—the midwives supervising committee—which was to receive the delegated powers of the council as the local supervising authority. It consists of 12 members of the council and four co-opted members, Dr. Arnold W. W. Lea, Dr. Ernest Annacker, Mr. F. C. Scotson, and Dr. Margaret S. Bell. The first duty of the committee was to appoint a qualified medical practitioner to act under the supervision of the medical officer of health as the "executive officer" under the Act. There were 40 applicants for the post, which carries a salary of £250, and they included six lady doctors. The committee recommended the appointment of Dr. Margaret Merry Smith. She will be required to devote the whole of her time to the work, to visit midwives "both systematically and irregularly," and to see that their homes are in a sanitary condition, to examine their cases or bags of instruments, to ascertain that their case-books are properly kept, and that they understand the use of antiseptics, and also that they are "suitably provided in washable dresses." She will also be required to visit the cases attended by the midwives to satisfy herself that the requisite procedures are carried out, that there is strict cleanliness in all things, and that "suitable provision is made for the dieting both of mother and child." In cases of great poverty is the corporation going to feed the mother and child or will that be left to the guardians? She will also take charge of the notifications of deaths and stillbirths and report to the local authority any case of negligence, malpractice, or misconduct. The local authority may, after investigation, report to the Central Board. The local authority may, if it should seem necessary, suspend a midwife to prevent the spread of infection. The lady appointed will have to lead a "strenuous life."

Feb. 14th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

The Court Dinner of the University of Leeds.

UNDER the chairmanship of the Pro-Chancellor, Mr. A. G. Lupton, the first Court dinner of the University was held on Feb. 6th. The guests numbered about 110 and included the Lord Mayor of Leeds, the Vice Chancellor, Sir Francis Powell, Mr. Rowland Barran, M.P., and many representatives of local authorities and of educational bodies. It was well attended by the professorial staff and by other members of the teaching body. The toast of "The University" was proposed by Mr. Alfred Moseley, C.M.G., who was the guest of the evening. He gave his experiences in Germany and in the United States and his speech was a strong claim for due recognition being given by all who have the welfare of the empire at heart to the necessity of a sound scientific, technical, and business training of university standard being accessible to all who were likely to be able to profit by it. In his reply the Pro-Chancellor stated that the assets of the University were worth £300,000 and that there were upwards of 800 day students and 300 evening students. He acknowledged the generosity of the Clothworkers Company and expressed the hope that the imagination of wealthy men might be fired and that the University might benefit by their contributions. The Mayor of Bradford in an eloquent speech appealed to the authorities of the University to develop the highest ideals of a university in arts, science, law, and medicine, and Sir Francis Powell spoke in favour of the old classical studies.

The Finance of the General Infirmary.

Under the will of the late Mr. Christopher Charles Weatherill of Leeds this institution will receive a very welcome and handsome addition to its funds. Mr. Weatherill, who died in 1902, directed that his household furniture, plate, books, &c., should be given to his sister and directed his trustees to pay her an annuity of £300 for life. His real estate and the residue of his personal estate was given to his trustees upon trust to accumulate the whole of the income of the estate at compound interest until the death of his sister when the principal and accumulations were to be handed to the treasurer of the Leeds General Infirmary. That lady died on Feb. 10th and when the death and legacy duties are paid the sum at the disposal of the infirmary will be something between £116,000 and £117,000. The conditions stipulated for by the testator are as follows—viz., that a ward be founded and sufficiently equipped and endowed in the infirmary for accident cases, to be called the "Weatherill Accident Ward"; that a white marble monument of the testator with a suitable inscription be erected in the ward, and that the treasurer of the infirmary cause a copy of the will to be placed once every year in a conspicuous position so that everyone entering the infirmary may see it. Subject to these conditions the surplus is to be applied to the general surgical purposes of the infirmary. The financial condition of the infirmary has for some years been matter of increasing anxiety to the board of management. Three years ago the treasurer had to announce that the annual expenditure exceeded the income by some thousands of pounds, and it was felt that unless an increase of income could be secured the work of the greatest of the Leeds charities would have to be curtailed. As the result of a very special effort initiated and energetically carried on by the treasurer, Mr. Charles Lupton, the annual expenses have been met and the work has not had to be curtailed. The expenditure for 1903 was £32,700, as against £30,500 for 1902, while for 1904 the expenditure cannot fall short of £34,000. This expenditure is bound to increase if the high standard of work of the infirmary is to be maintained. The maintenance of the new Arthington Hospital at Cookridge, which is really a part of the infirmary and under the management of the board, will involve an additional expenditure of £2000 per annum. For some years it has been felt by the staff that the institution of a properly equipped clinical laboratory is essential, and the board are giving this, as it always does the suggestions of the staff, its careful consideration.

The Leeds Association for the Prevention and Cure of Tuberculosis.

This association has issued its fifth annual report. For some time after the institution of the association the work was experimentally carried on near Otley, in Wharfedale, some ten miles from Leeds. The next step was the fitting up of Gateforth Hall as a sanatorium. Gateforth Hall is the property of the Leeds corporation, is situated near Selby, and is let at a reasonable rent to the association. The accommodation here has now been raised and 30 patients can be treated. There are extensive grounds and gardens on the estate and in many respects the place is well adapted for the purposes of a sanatorium. The number of patients treated during 1904 was 101 and the average number of days spent by each patient in the sanatorium was 101½. The results of treatment have been distinctly encouraging. At the central offices of the association in Leeds applicants for admission are examined by the honorary officers. The number of applicants has been uniformly much in excess of the accommodation at Gateforth and naturally the cases most suitable for sanatorium treatment have been selected. In this way the necessity of instituting a home or hospital for the more acute class of cases or for cases in which it was doubtful whether sanatorium treatment would be successful became apparent, and this year the society is able to announce that it has secured Armley House and has fitted it up as a hospital which will accommodate 27 patients of this class and which is admirably adapted for the purpose.

Holidays for Poor Children.

Following the example of other centres Leeds has started a poor childrens' holiday camp. The first annual report dealt with the work at Hest Bank, Morecambe. Though the work was not begun till July 130 boys and 130 girls had been kept for various times in the camp. The health of the children had been good. The cost per child of from eight to 14 years of age had been 5*s.* 3*d.* per week—3*s.* 11*d.* for food and 1*s.* 4*d.* for railway fare. The diet had been generous and in many cases the children had gained six pounds in weight. For the next five years the camp is to be held at Silverdale, the rent of the site having been generously promised by Mr. and Mrs. Arthur Briggs, who during Mr. Briggs's mayoralty did so much for the initiation of the scheme. One of the buildings of the Bradford exhibition has been purchased and erected at a total cost of £374 and it is hoped that the forthcoming season may be started with a few pounds in hand.

Feb. 14th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish Medical Association and the Local Government Board.

THE opening stage of the appeal by the Irish Medical Association against the action of the Local Government Board in abolishing a dispensary district in the county of Louth was reported in THE LANCET of Feb. 4th, p. 328. The Lord Chancellor has since delivered the judgment of the Court of Appeal, dismissing with costs the appeal of the Irish Medical Association and upholding the action of the Local Government Board.

Royal College of Surgeons in Ireland.

It is publicly announced that owing to the illness of His Excellency the Lord Lieutenant the conferring of the Honorary Fellowship of the Royal College of Surgeons in Ireland on the Provost of Trinity College and the College dinner for which invitations were issued for Feb. 11th have been postponed until further notice.

Dublin Sanitary Association.

At a meeting of the Dublin Sanitary Association held on Feb. 9th a letter from the secretary of the public health committee of the corporation was read stating that the by-laws to regulate street trading by children in Dublin, under the provisions of the Employment of Children Act, 1903, as approved by His Excellency the Lord Lieutenant, are being printed and that badges are being prepared to be worn by the children licensed to trade in the streets of the city.

British Medical Association.

The annual meeting of the Leinster (formerly Dublin) branch of the British Medical Association will be held on Saturday, Feb. 25th, at 4.30 P.M., in the hall of the Royal College of Physicians, Kildare-street, when Sir Thomas Myles, president-elect, will deliver the address. The annual dinner of the branch will take place in the College hall at 7.30 P.M. on the same day.

Honour for Sir Francis Cruise.

Sir Francis R. Cruise, M.D. Dub., D.L., Honorary Physician-in-Ordinary to His Majesty in Ireland, has received a brief from the Pope appointing him a Knight of the Order of St. Gregory the Great, together with the star or decoration of that order.

Dispensary Medical Officers' Salaries.

A special committee of the Coleraine guardians having conferred with the medical officers of the union as to the scale of salaries recommends the following plan to be adopted. That the minimum salary of each dispensary medical officer in the union, as well as that of the workhouse medical officer, be £100 a year, increasing by £10 every five years to a maximum of £150. A statement of the medical officer points out that a penny in the £1 in all Ireland amounts to £62,000 and that the salaries of all the dispensary medical officers amount to £88,000, half of which is recouped by the Government. An average ratepayer of £24 valuation pays a little over 1*s.* to the dispensary medical officers, so a halfpenny in the £1 added would give all that the medical officers ask. The matter is to be considered at a future special meeting of the board.

The Public Bodies Order.

The Local Government Board has issued an Order for the guidance of public bodies in Ireland which is being strongly and adversely criticised on the grounds that it increases clerical work and expense of maintenance without effecting any improvements which might compensate for these disadvantages. For instance, in reference to asylums this Order prescribes new forms relating to the audit of asylum accounts which will necessitate more officials and will interfere with the smooth and economical working of such institutions. The duty of the Local Government Board is clearly to see that local bodies transact their business honestly and that they fulfil the law but it is absurd to make vexatious regulations which serve no good object but increase the expense of local bodies. At the ordinary meeting of the Belfast asylum committee on Feb. 13th a motion was unanimously carried protesting against the adoption of such an Order on the ground among others that it contains provisions which exceed the statutory powers of the Local Government Board. Other local bodies in Ireland are taking similar action.

A Health Lecture for the People.

A lecture fully illustrated by limelight views was delivered in the Exhibition Hall, Belfast, on Feb. 14th, by Dr. Henry O'Neill, editor of the *Belfast Health Journal*, on the Health of Belfast. A collection was made in aid of the Belfast Royal Victoria Hospital.

Feb. 14th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Brewer's Yeast in the Treatment of Typhoid Fever.

AT a meeting of the Medico-Chirurgical Society held on Jan. 23rd M. Hirtzmann gave details of three severe cases of typhoid fever occurring in adults. The symptoms included dryness of the tongue, diarrhœa, and other conditions usually found in typhoid fever; the temperature rose to, and remained at, 40° C. (104° F.) for some time. In addition to small amounts of sulphate of quinine he gave to all three patients 60 grammes (two ounces) of brewer's yeast daily in three doses. This treatment was commenced about the seventh day of the illness. After the taking of the yeast the temperature fell to 38° C., not subsequently rising above 39°; the gastro-intestinal symptoms improved, the tongue was no longer dry and coated, the diarrhœa disappeared, and the pyrexial stage terminated about the twenty-first day. M. Hirtzmann believed that the yeast acted as an antiseptic. He employed either Karcher's or Grueber's fresh yeast, the latter being preferable as it was almost liquid. In those cases the typhoid fever was unquestionably water-borne, for the well supplying the house of one of the patients had been evidently contaminated by fæcal matter from a house which stood at a higher level and in which there had been some time previously a case of typhoid fever.

Respiratory Exercises and Re-education in the Treatment of Convalescents.

At a recent meeting of the Société Médicale des Hôpitaux M. Siredey and M. Rosenthal contributed a paper on Respiratory Exercises and Re-education in the Treatment of Convalescents. They said that respiratory insufficiency was one of the causes of the general debility which showed itself after an acute illness. It was easily recognised by the following symptoms which the patient presented—namely, nasal insufficiency, shown by inability to breathe 20 times through both nostrils; thoracic insufficiency, shown by absence or impairment of the movements of the thorax; and diaphragmatic insufficiency, shown by immobility or recession of the abdomen during inspiration, a condition met with in pseudo-pleurisy of the bases of the lungs. Respiratory re-education under medical supervision was, in their opinion, the specific treatment for respiratory insufficiency. In the case of convalescents it constantly produced a progressive threefold effect—namely, expansion of the thorax, diuresis, and increase of weight. It promoted in a marked degree the recuperation of the vital functions which followed acute illnesses and the general health of the patients improved rapidly. It ought to be combined with other forms of treatment and the action of the latter was enhanced by it. Although of great power it did not require for its application any special institution or any special apparatus. The system could be practised anywhere, either in a hospital or in the poorest dwelling. It needed nothing more on the part of the patient than the absence of any mechanical obstacle to the passage of air through the rhinopharyngeal tract, and nothing more on the part of the medical man than a willing mind and a qualification which was indispensable though too much neglected—namely, a knowledge of the fundamental laws of human physiology.

Poisonous Cream Cakes.

M. Metchnikoff, the deputy director of the Pasteur Institute, has just been taking part in an interesting inquiry. For some months past he has been receiving almost daily samples of cream cakes from the same batch as those which had given rise to symptoms of poisoning in those persons who had eaten them. M. Girard of the Municipal Laboratory had also investigated the cakes. The Society of Confectioners and Bakers was aware of these researches and its members, when they knew that results had been obtained, convened a meeting at which Dr. Metchnikoff gave an interesting discourse. The cause of all the mischief, he said, was the white of the egg which contained microbes. It is not clear why the white of certain eggs contains microbes but the fact is certain that some hens do lay eggs the whites of which contain microbes. Even freshly laid eggs when cultivated in a cultivator give cultures. This being so the method in which the cream is prepared for the cakes is eminently calculated to develop the microbes. The white of egg slightly warmed is sprinkled with a "cream" which itself is at a temperature of 80° C., one far too low to have any destructive effect on the germs. This "cream" being made of gelatin, sugar, and milk offers an ideal culture medium when the mixture is warmed. This explains why white of egg, even when it does contain germs, gives rise to no symptom of poisoning when it is consumed in the ordinary way without the admixture of "cream." The following method is suggested to avoid future risks. Before sprinkling the white of egg with the "cream" it should be coagulated in boiling sugar which will certainly destroy the germs.

Feb. 14th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Prevention of Yellow Fever in Cuba.

THE American Public Health Association met in Havana on Jan. 10th and the principal feature of the introductory proceedings was the address of the President, Dr. Carlos Finlay, chief of the Cuban Health Department. He highly eulogised the labours of American experts to whom, he said, was due the banishment of yellow fever from Cuba. The American Commission, under the leadership of the late Major Reed, had decisively established the true etiology of yellow fever. Dr. Finlay also praised the work of Major Gorgas, chief health officer under General Wood, who, adopting the findings of the commission, succeeded within seven months in ridding Havana of the inveterate enemy. Regarding the two cases of yellow fever which occurred in Santiago Province, Dr. Finlay said it was presumed that they were transmitted by mosquitoes from a quarantined ship. There can be no doubt that the American medical men did a great work in ridding Cuba of yellow fever and are entitled to all the praise bestowed upon them by Dr. Finlay. It would, however, seem from recent reports that since the Cubans themselves have taken over the government of the island sanitary affairs therein have decidedly retrograded. It is therefore needful that the American Government, for the sake of the inhabitants of Cuba, as well as in the interests of the American people at large, should strongly advise, and if necessary bring pressure to bear on, the Cuban authorities in order that the sanitary conditions of Cuba should not be allowed to lapse into their former unsatisfactory state through neglect.

Alleged Swindle by Physicians.

Two physicians were arrested in New York recently charged with engineering a radium cure swindle. The case against them was brought by the New York County Medical Society through its attorney, Mr. Champe S. Andrews. The complainant, a carpenter, stated that the physicians had obtained from him $10,000 (£2000), the amount of his savings of years. The carpenter had been informed by the medical examiners of an insurance company that he had a slight tendency to Bright's disease and went to the defendants for treatment. He was told by them that he was suffering from Bright's disease in its worst form and that his only chance of recovery lay in his being treated by means of radium. He was further told that owing to the great cost of radium the treatment would be very expensive. Acting upon his fears the defendants managed to extort from the plaintiff the sum above mentioned. The New York County Medical Society's agents heard of the matter and initiated an investigation, with the result that some of the so-called radium was obtained and subjected to a searching analysis when it was found that the composition contained no trace whatever of radium, but, as a matter of fact, consisted of gentian, iron, and a few simple drugs ordinarily used in a tonic preparation.

The Adulteration of Whisky

Dr. H. W. Wiley, chief of the United States Bureau of Chemistry, has recently stated that he believes at least 85 per cent. of the whisky sold over the bars in the United States is not "straight" whisky. He states that it is a compound, made of neutral spirit, or alcohol, artificially coloured, often flavoured with artificial essences and sometimes mixed with more or less "straight" whisky to give flavour. The remarks of Dr. Wiley on the adulteration of food and whisky have given rise to much heart-searching and the liquor dealers have been endeavouring to minimise as far as possible the effect of his statements. There can be no doubt, however, that adulteration is conducted on a wholesale scale in the United States and it is not unlikely that the Federal and States Governments may take cognisance of the matter and endeavour to check the evil by means of legislation.

Tuberculosis and Alcohol.

A controversy has been going on in the lay press of New York with regard to the effect of alcohol upon consumptives. Dr. Wiley has recently "stirred a hornet's nest" by making public his opinion that alcohol is beneficial in consumption as well as in certain other diseases. Dr. Knopf, the well-known New York authority on tuberculosis, has stoutly combated these views and declares that in any stage or form of pulmonary tuberculosis large quantities of alcohol are contra-indicated. These views are in direct opposition to those held by Dr. Arthur C. Latham who, writing on the subject in the *Practitioner* for January, declares that when solid food cannot be taken by consumptives alcohol is our sheet anchor and in another part of the same article says that "nothing but good results from the administration of large quantities of alcohol when fever is present so long as the pulse is becoming slower, the appetite better, the skin and tongue moister, and the patient quieter." Opinions diverge greatly as to the position of alcohol as a nutritive agent. In America probably the medical profession is almost equally divided on the question.

Feb. 6th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

A Case of "Sati" in Behar.

THE desire for the barbaric custom of "Sati" seems to still linger in the Hindu mind. A recent case in Behar was attended by an enormous and sympathising crowd and the village watchman refused to lay information with the police. A Brahmin died and the body was laid on the pyre. The widow, having bathed in the small river close by and adorned herself as for her marriage, took her seat on the [illegible] to have stood up, then turned towards the setting sun and immediately fell back, apparently overcome by the rapidly increasing flames. During this time the crowd were shouting their incantations, there were beating of drums and clanging of cymbals, and probably little or nothing was heard of any cries from the terrible pyre. Fortunately the son and his accomplices have had severe punishment administered to them and this horrible offence is not likely to be repeated.

Lady Ampthill Nurses' Institute.

This nursing institute was started in Madras last July but the staff of nurses has only recently been completed. Two of the nurses have come out from England, the others having been trained in India. Good work has already been done and the want of a trained nurse so long felt in Madras has to a great extent been remedied. This want is greatly experienced in nearly all parts of India except in the cities of Calcutta and Bombay and the establishment of other institutes and nursing associations is under consideration.

The Increasing Plague Mortality.

The mortality from plague throughout India is rapidly increasing. Last week there were 25,719 deaths, as compared with 24,385 for the previous seven days and 22,645 recorded for the last week of the past year. The United Provinces returned 11,777 deaths, the Punjab 5569, Bengal 3318, the Bombay districts 2886, the Central Provinces 444, Hyderabad State 399, Rajputana 352, Madras Province 341, Bombay city 192, and Calcutta 33. Since these figures were published plague has broken out in a fishing village on the outskirts of Madras city. The village has been burnt and the patients and "contacts" have been segregated. Dead rats discovered have been found to be swarming with plague bacilli. The Mauritius emigration depôt adjoining with about 500 emigrants has been declared plague-infected and a special quarantine depôt has been established. Another village has been found infected but no further cases have occurred amongst those isolated. This looks as if Madras city, which has escaped so long, will at last be stricken with the disease. The recrudescence in Bombay City and Calcutta is developing and the former is also suffering from a severe outbreak of small-pox. During the past week the whole of Northern India has experienced severe cold and as the greatest mortality is now occurring in those parts we shall be able to see if the course of the disease is in any way modified.

Jan. 28th.

Medical News.

TRINITY COLLEGE, *DUBLIN*.—At examinations held in Hilary term the following candidates were successful:—

FINAL EXAMINATION.

Section A.—Gustav W. Thompson, William Hutchinson, Richard A. Connell, Malcolm K. Acheson, Archibald L. Robinson, Theodore C. Somerville, Charles G. Sherlock, Henry D. Woodroffe, Wilfred L. Hogan, Langford V. Hunt, Herbert J. Wright, and Francis O'B. Kennedy.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Karl Kaiserling, *privat-docent* of Pathological Anatomy, and Dr. Heinrich Wolpert, *privat-docent* of Hygiene, have been granted the title of Professor.—*Munich:* Dr. Robert Gaupp has been recognised as *privat-docent* of Psychiatry.—*Naples:* Dr. Ugo Benenati and Dr. Giovanni Castronuovo have been recognised as *privat-docenten* of Internal Pathology.—*Prague* [illegible] Eduard Pietrzikowski, *privat* [illegible] dolf Fischl and Dr. Raudnitz, [illegible] have all been granted the [illegible] Dr. Wilhelm Schlesinger has been recognised as *privat-docent* of Internal Medicine.

THE LONDON, ABERDEEN, BANFF, AND KINCARDINE ASSOCIATION.—The annual dinner of this association was held on Feb. 10th at the Criterion Restaurant, London. Sir Dyce Duckworth in proposing the principal toast, that of "Scotland," had some rather critical remarks to make upon young Scotland. Allowing that Scotchmen were famous all the world over for *perfervidum ingenium*, he thought it a question whether the *ingenium* was so perfervid as in former times. The facilities of communication had become so numerous, luxury had grown to such an extent, and there was so much Carnegie-spoon-feeding north of the Tweed that doubts had arisen as to whether the earnestness and assiduity of the rising generation in Scotland were as intense as formerly. Only a few days ago an old undergraduate of the University of Edinburgh told him how he had found in the union of the university students playing whist in one room and billiards being played in another at 3 o'clock in the afternoon in the middle of the winter session. As an old student of the university he of course remembered billiards and whist being played there and he had no objection to whist and billiards in their proper place, but he doubted the advisability of students playing cards and billiards at 3 o'clock in the afternoon and he hoped that such trivialities would not be permitted to interfere with the work of Scotch students of the present day. He urged students to assume the earnestness and to cultivate the industry which their forefathers possessed. Sir Patrick Manson responded to the toast with a humorous speech. Surgeon-Colonel J. Richardson, in replying to the toast of "The Imperial Forces," proposed by Mr. J. W. Barclay, said that the navy was now so formidable that the mere mention of it got on the nerves of some of our neighbours; in regard to the army it was being forged and when finished it would be a powerful thunderbolt. Amongst those present were Mr. J. Cantlie, Dr. A. M. R. Sinclair, Dr. G. B. Currie, Dr. J. Mitchell Bruce, Dr T. I. Rowell, and Mr. G. Tocher.

RESTRICTIONS ON THE SALE OF PATENT MEDICINES IN VENEZUELA.—The British Foreign Office has received a copy of a decree published in the Venezuelan official gazette of Dec. 15th, 1904, on the subject of the sale of patent medicines. It declares that the sale of patent or secret medicines which are not authorised by the Medical Council, even though approved by foreign faculties, is now prohibited in Venezuela. The decree accordingly provides for the establishment of a commisssion to undertake the examination and classification of such medicines. Manufacturers of foreign patent medicines must submit the products which they wish to import into Venezuela to this commission within four months from the date of publication of the decree. The application must be in the customary legal form and must state the name of the article, the principal ingredient, and the dose to be taken, and should be accompanied by two samples of the article with the same information on the label. Each application—one for each product submitted—will be subject to a fee of 20 bolivars (15*s.* 10*d.*) and the power of attorney must bear a 5-bolivar stamp. Four months from the date of the publication of the decree unauthorised patent medicines will be classified by the Customs in the fifth class of the tariff for a period of two months, during which time they may still be submitted to the commission; this term expired, they will be included in the list of articles prohibited to be imported. Secret or patent medicines subsequently compounded, however, will be examined and classified by the commission in accordance with the regulations.

SALE OF A MEDICAL PRACTICE.—At the Devon Assizes on Feb. 6th and 7th Mr. Ellis Pearson of Bideford sought to recover from Dr. A. Lane damages for fraud in connexion with the sale of the goodwill of a practice at Bideford. The defendant denied fraud and counterclaimed for fees which, he alleged, the plaintiff had received on his behalf. The plaintiff, who employed no solicitor or accountant in connexion with the purchase, admitted that he had received certain of the fees and gave credit for them. Evidence showed that Mr. Pearson purchased from Dr. Lane for £1000 a practice stated to be worth £800 per annum. The practice, however, according to Mr. Pearson, was only worth about £185 a year. After hearing a considerable amount of evidence Mr. Justice Lawrence in summing up said that the only question for the jury to decide was whether there was a substantial practice carried on by the defendant or whether the practice was built up simply and solely for making a good appearance on a rotten foundation for the purpose of selling it. The jury found that the practice was built up for sale and assessed the damages at £200. It was stated that the plaintiff had paid £57 into court, a sum realised by the collection of outstanding debts, and judgment was given for Mr. Pearson for £143.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—A quarterly meeting of the Royal College of Physicians of Edinburgh was held on Feb. 7th, Dr. J. Playfair (the President) being in the chair. Dr. Alexander Goodall was introduced and took his seat as a Fellow of the College. Mr. David Duncan Main, M.R.C.P. Edin., L.R.C.S. Edin., Shanghai, China, was admitted by ballot to the Fellowship of the College. Mr. Patrick Hehir, L.R.C.P. Edin., F.R.C.S. Edin., Manipur, Assam, was admitted by ballot to the Membership of the College after examination. The registrar reported that since the last quarterly meeting 44 persons had obtained the Licence of the College by examination.

THE STUDENTS' UNION, ST. BARTHOLOMEW'S HOSPITAL.—The committee of the Students' Union of St. Bartholomew's Hospital has decided to hold annually one or more smoking concerts to promote the social intercourse amongst all St. Bartholomew's men. The proceeds will go to the funds of the union. The second smoking concert will be held on Monday, Feb. 27th, in the Grand Hall of the Criterion, at 8.15 P.M. Mr. Anthony Bowlby, F.R.C.S., C.M.G., will be in the chair. Tickets, price 1*s.* 6*d.* each, can be obtained from the secretaries at the hospital, Mr. W. G. Loughborough and Mr. H. J. Gauvain.

CENTRAL MIDWIVES BOARD.—The members of the Central Midwives Board met on Feb. 9th at 6, Suffolk-street, Pall Mall, W., Dr. F. H. Champneys being in the chair. The report of the standing committee concerning the applications for recognition as teachers of midwifery and the applications for approval of certain institutions as training schools for midwives was submitted to the Board. Mr. E. Parker Young expressed his opinion that applications for approval as training schools should not be postponed from meeting to meeting but that the Board should come to some conclusion in regard to each case. Before the report of the standing committee was formally received by the Board and adopted Sir William J. Sinclair delivered his judgment on the Board and its methods in the following terms:—"As a ground for declining to discuss in detail the applications before the Board I desire to state my opinion that the Board has recognised such unsatisfactory applicants as teachers of midwifery and has approved such unsuitable institutions as midwifery training schools that I do not see on what principle I can now object to any applicant for recognition as a teacher or to any institution as a training school. I can only look forward to the Board continuing its present policy so that an unanswerable case will soon be made out for reconstitution of the Board by an amendment of the Act." The Board decided that Poor-law institutions before being approved as training schools for midwives should be subjected to investigation and report and on the suggestion of Sir William Sinclair directed that when considering any application from a workhouse infirmary to be recognised as a training school for midwives a report should be asked for from the chief medical officer and the local supervising authority concerned should be requested to inspect and to report to the Central Midwives Board on the institution.

TWENTY-THIRD ANNIVERSARY DINNER OF THE WEST LONDON MEDICO-CHIRURGICAL SOCIETY. — The members and friends of the West London Medico-Chirurgical Society held the twenty-third anniversary dinner on Feb. 8th at the Wharncliffe Rooms, Hotel Great Central, the chair being occupied by the President of the society, Mr. C. M. Tuke. The President having duly proposed the toasts of "The King" and "The Queen and other Members of the Royal Family," called upon Mr. Alban H. G. Doran to propose the toast of "The Imperial Forces." Mr. Doran in a well-informed speech referred in detail to the changes in the navy which could only result in efficiency. This toast was replied to by the Director-General of the Medical Department of the Royal Navy who made a special reference to the new system to be followed in the naval manœuvres. He commented on the number of famous medical men who had served in the navy, mentioning the names of Professor Huxley and Sir Spencer Wells. Lieutenant-Colonel E. M. Wilson, R.A.M.C., speaking for the sister service, described how keen the men of the Army Medical Service were in the prosecution of their work. The Royal Army Medical Corps was picking out good men in medicine, surgery, and special branches of work and giving opportunities for study and practice. He observed that many of the officers of the Royal Army Medical Corps when they took their study leave came to the West London Hospital where they derived great benefit. The toast of "The Kindred Societies and Guests" was proposed by Dr. Seymour Taylor and responded to by Sir William S. Church and Mr. J. Langton. The toast of "The Society and its President" was proposed by Dr. G. H. Savage who complimented those present on the large number at the dinner, amounting to over 120. After the President had made a suitable reply conversation became general and the company separated at a late hour. Great praise was accorded to Dr. A. Elliot, the senior secretary of the society, for his efforts which resulted in securing a record attendance at the dinner.

DINNER TO SIR ISAMBARD OWEN.—On Saturday last, Feb. 11th, a highly successful and pleasant dinner was given at the Imperial Restaurant, Regent-street, W., to Sir Isambard Owen, principal of the Durham College of Science, by a large number of his friends, colleagues, and late pupils at St. George's Hospital. Before his appointment as principal at Durham Sir Isambard Owen was for 23 years upon the medical staff of St. George's Hospital, and during a large part of that time he filled, and filled with energy and devotion, the delicate post of dean of the school. During the dinner opportunity was taken to present the guest of the evening with a silver tea service as a wedding gift, Sir Isambard Owen's impending marriage having been announced.

UNIVERSITY OF CAMBRIDGE.—The Special Board for Medicine has added to the list of recognised provincial hospitals at which study for the degrees of M.B. and B.C. may be pursued the United Hospitals Clinical School of Liverpool.—The third examination (Part II.) for medical and surgical degrees will begin on May 2nd. The names of candidates should be sent to the registrar by April 17th.—The graces for the establishment of the Huddersfield Lectureship in special pathology passed the Senate on Feb. 16th. The appointment will be made this term.—Sir M. Foster has been appointed an elector to the chair of Physiology and Professor W. F. R. Weldon an elector to the chair of Zoology and Comparative Anatomy.—Dr. D. MacAlister, president of the General Medical Council, having resigned the office of secretary to the Special Board for Medicine, which he has occupied for over 20 years, Dr. Laurence Humphry has been appointed secretary in his place.

PHYSICAL VOICE TRAINING. — A meeting in furtherance of the objects of the Physical Voice Training Society was held at the Medical Society's Rooms, Chandos-street, Cavendish-square, London, W., on Feb. 1st. The Bishop of Bristol presided. The following resolutions passed at the meeting of the society held at Oxford last August were read:—

> That the subject of voice training being of such vital importance for public speakers great attention should be paid to it in education, especially at the public schools and universities, in accordance with the memorial on voice training of the British Medical Association.

(The memorial referred to was issued from the offices of the association on Nov. 18th, 1893, and was the outcome of a suggestion of the section of laryngology at the annual meeting of the association held at Nottingham in the previous year.) The second resolution passed at Oxford was as follows:—

> That the Physical Voice Training Society founded by the originators of the "Memorial on Voice Training" issued by the British Medical Association on Nov. 18th, 1893, is deserving of further support from the medical profession in general and the laryngologists in particular.

The Chairman said that the object of their meeting was to consider what steps should be taken to give effect to those resolutions. He was strongly of the opinion that there was great need of careful attention to the best methods of voice-producing not only for the clergy but for all engaged in public speaking; he considered that the services in churches could be improved by a proper course of voice training being undergone by those who conduct them; further, that the usefulness in after life of many educated in the universities and colleges was in some measure lost through their not being effective on the platform. In conclusion, he put forward a motion for appointing a committee consisting of clergymen, medical men, and others engaged in educational work to consider and to report upon the means of giving practical effect to the Oxford resolutions.—Dr. W. Jobson Horne, in response to the chairman, also spoke in favour of the motion. He considered that the large number of conflicting methods of voice training was in itself sufficient reason for investigating the matter with a view of putting it on a practical footing; personally he did not advocate or support any one particular method, doubtless there was some good in each and all. The main point with which they were concerned was how they were to arrive at a satisfactory method and what machinery they were to use to give practical effect to it. It was now some years since the society was founded and the desirability of reconstituting it would doubtlessly receive the attention of the committee which they were about to appoint; he was quite prepared to accept the statement that as many voices had been ruined as had been made by voice training and that made the responsibility of such a society. Dr. V. H. Wyatt Wingrave also spoke in support of the motion which being put to the meeting was unanimously agreed to and a small provisional committee was appointed.

DONATIONS AND BEQUESTS.—Under the will of Mr. C. O. Smith of Wolverhampton £1000 are left to the Wolverhampton and District Hospital for Women.—By the death of Mrs. Mary A. Whitfield the sum of more than £100,000 reverts to the [illegible] will of the late Mr. C. C. [illegible] Mr. James Holmes Luckir [illegible] each have been left to the Asylum for Idiots at Earlswood, the National Society for Employing Epileptics, the British Home and Hospital for Incurables at Streatham, St. George's Hospital, King's College Hospital, the London Hospital, St. Mary's Hospital, the Middlesex Hospital, the Hospital for Consumption at Brompton, the Royal Hospital for Incurables at Putney-heath, and the National Hospital for the Paralysed and Epileptic; £1000 each to Charing Cross Hospital, Guy's Hospital, the Metropolitan Hospital, the London Free Hospital, the Seamen's Hospital Society, the Westminster Hospital, University College Hospital, the East London Hospital at Shadwell, the City of London Hospital for Diseases of the Chest, the Evelina Hospital for Sick Children, the Hospital for Sick Children at Great Ormond-street, the Victoria Hospital for Children, the Hospital for Women, Soho-square, the Samaritan Free Hospital, the Cancer Hospital at Brompton, the Female Lock Hospital, Harrow-road, the Royal London Ophthalmic Hospital, Moorfields, the Bexhill Convalescent Home, All Saints' Convalescent Home at Eastbourne, the Royal Sea Bathing Infirmary, and the Indigent Blind Asylum; and £500 each to the North London Hospital for Consumption at Hampstead, the Royal Hospital for Diseases of the Chest, City-road, the Royal National Hospital at Ventnor, and St. Andrew's Home at Folkestone.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The New Session.

IT is very difficult to say what will be the course of the new session which the KING opened on Tuesday. Members have no better information on the subject than the man in the street; all are agreed, however, that anything may happen at any moment. During the last ten years no such state of uncertainty has existed. In the days immediately before the fall of the Rosebery Government in 1895 matters were almost as unsettled and unsettling but the complexity of the situation was as nothing compared with the situation to-day. In a week's time we shall have more data to go upon in estimating the chances.

Legislation.

The forecast of legislation contained in the King's speech reveals no unexpected proposals. It is practically an official confirmation of the various rumours that have been circulating for weeks. None of the proposals mentioned would directly affect the medical profession. For anything of that sort we shall look to the pigeon-holes of the departments. In one of these pigeon-holes we know there is to be found the Lunacy Bill which was introduced by the Government shortly before the close of last session. In due course this measure will doubtless again come before Parliament. As for other legislative proposals concerning the Faculty nothing can be said until the ballot for private Members' Bills takes place.

Sale of Tobacco to Children.

DR. MACNAMARA will ask the Home Secretary on Monday whether his attention has been called to the recommendation of the Physical Deterioration (1904) Committee to the effect that a Bill should be brought before Parliament at an early date having for its object the prohibition of the sale of tobacco and cigarettes to children below a certain age, and whether he is now in a position to say that this recommendation will be acted upon in the present session.

Physical Deterioration.

In the beginning of the week several questions will be addressed to Ministers as to the recommendations of the Committee on Physical Deterioration. The object is to learn whether legislation will be proposed.

BOOKS, ETC., RECEIVED.

FISCHER, GUSTAV, Jena.
  Lehrbuch der Allgemeinen Pathologie und der Pathologischen Anatomie. Fur Aerzte und Studierende. Von Dr. Ernst Ziegler, Prof [illegible] e und der Allgemeinen [illegible] i.Br. Elfte neu bearbeitet [illegible] Pathologie. Price, paper, M.[illegible]; bound, M.[illegible]

GREEN, WILLIAM, AND SONS, Edinburgh and London.
  About Dreaming, Laughing, and Blushing. By Sir Arthur Mitchell, K.C.B. Price 5s. net.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.
  [illegible] not stated.

J. B. LIPPINCOTT COMPANY, Philadelphia and London.
  International Clinics. (A Quarterly). Edited by A. O. J. Kelly, A.M., M.D. Philadelphia, U.S.A., with Collaboration. Volume IV. Fourteenth Series. 1905. Price not stated.

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needs and painting its name on boards and so on. This is exemplified by the action of the Great Eastern Railway Company which used to paint on each side of every one of its coaches the letters G.E.R., followed by the number, but it may be observed that all the new six-a-side coaches have only the letters G.E., followed by the number."

THE PROGRESSIVE MEDICAL ALLIANCE.

DURING the trial on Feb. 10th at the Central Criminal Court of a man named Holmes for uttering a forged cheque some interesting facts came out about the Progressive Medical Alliance, a quack establishment run by a man calling himself Dr. Talbot Bridgwater, who gave evidence for the defence. Bridgwater said that he carried on business as the Progressive Medical Alliance at 57 and 59, Oxford-street. He was a consulting specialist and had an American diploma. He had been in Australia and had received testimonials from Sir Harry Parkes. In cross-examination he said that he remembered that at various times men employed to deliver his leaflets had been prosecuted and fined for circulating indecent literature. Probably as many as 50 men had been fined. He paid the fines himself as a rule. Last year he had employed a man named Shackell. He knew that Shackell had made a *faux pas*, something in connexion with forging a bill of exchange for £500. He knew Billy Wigram and a man named Robertson. It was exceedingly possible that these two together with a third man had been sentenced at Glasgow to five years' penal servitude for robbing a stockbroker's clerk. He did not provide Wigram with funds for his defence but a man named Haines who had been in his (Bridgwater's) employ, did, he believed, go to Glasgow with money for the defence, which money had been subscribed by some betting men. He came across all sorts of people as patients. Dr. McDonach who was advertised in connexion with his business was Eliza McDonach and one of the women doctors first qualified in London. He did not know where she was now but she was the same as Madame Frickart, having married a man of that name. In the end the jury disagreed but Bridgwater's admissions certainly throw light on the Progressive Medical Alliance. The name of Macdonagh-Frickhart, Eliza Foster, registered as Lic., Lic. Midwif. 1879, K.Q. Coll. Phys. Irel.; M.D. Univ. Zurich, was erased from the Medical Register, May 23rd, 1894, by order of the General Medical Council. Minutes, vol. xxx., 138; xxxi., 59.

THE CASE OF DR. A. D. GRIFFITHS.

To the Editors of THE LANCET.

SIRS,—May I be allowed to announce the following further contributions to the above fund?—Amount previously acknowledged, £37 4s.; Mr. T. Carwardine, £1 1s.; Dr. S. Hamilton, 10s.

I am, Sirs, yours faithfully,
ALEXR. P. FIDDIAN, Treasurer.

23, The Walk, Cardiff, Feb. 14th, 1905.

WANTED—A HOME.

A MEDICAL man residing near London is anxious to discover a home for a man, aged 48 years, who has epileptic fits at long intervals. Between the seizures he is tractable, inoffensive, and fully intelligent. He has a pension for life ot £20 per annum and would willingly accept employment to help to defray the cost of keeping him. His relatives are educated people who cannot now afford to keep him. The inquirer will be glad if any of our readers who can help him will address Mr. Frank Collins, Sproxton, Wanstead.

WHAT THE LANCET HAS NOT SAID.

WE receive material for a weekly article which could justifiably be published under the above title, for no week goes by without our attention being drawn to the wiles of some enterprising advertiser who is asserting that his wares have received a special commendation from us which the facts do not warrant. Our attention has now been called to the fact that a company calling itself the American Tobacco Company of Canada. Limited, is advertising its "Sweet Caporal" cigarettes as "the purest form in which tobacco can be smoked (London LANCET)." We have never said anything of the kind concerning these cigarettes nor have we singled out any cigarette as being composed of the purest tobacco. Some two years ago we made an investigation into the tobaccos employed by a certain number of cigarette manufacturers with the result that we were able to clear Virginian cigarettes from certain accusations of gross adulteration, and we presume that some of the words in our article are held by the American Tobacco Company of Canada to justify its advertisement. Of course, they do nothing of the sort.

SCIENCE ON THE STAGE.

CHEMICAL and physical phenomena have an undoubted attraction for the public and our variety entertainment managers would appear to be vieing with each other just now to exhibit the latest chemical or physical sensation. The magic kettle created considerable interest but it was merely a popular exposition of some of the properties of liquid air. As a completely diametrical set-off to this the public are to be regaled with a demonstration at the London Pavilion of a method for the production of intense heat without the aid of the usual appliances, a blow-pipe even, or the oxyhydrogen flame, or the blast furnace. The method is well known to chemists and engineers and depends upon the intense heat set up by the combustion of a given element at the expense of oxide of iron mixed with it. The combustion is intense and molten iron remains. By this means it is stated that liners or warships may carry an equipment represented in a small heap of powder which will enable them to repair a broken shaft or a propeller. The most striking experiment at the London Pavilion is, perhaps, that in which it is shown that the molten iron produced will fall through cold water and then pierce through an iron plate serving as a bottom to the vessel containing the water. A mixture known as thermit was described in THE LANCET of Feb. 20th, 1904, p. 548, which will give the results mentioned. The combustion of the aluminium at the expense of the ferric oxide is actuated in the case of thermit by means of a mixture of peroxide of barium and metallic aluminium. The heat produced is very intense, the temperature being estimated to be 3000° C. Holes are melted in boiler-plates with the greatest ease, the heat of the oxyhydrogen flame is not equal to thermit, though the heat of the electric arc may be. A mere heap of powder, however, is simplicity itself compared with these appliances

THE WEIR-MITCHELL TREATMENT AND LING'S EXERCISES.

To the Editors of THE LANCET.

SIRS,—Will any of your readers kindly inform me where I can obtain full particulars of treatment of cases of neurasthenia by Weir-Mitchell rest treatment, also by Ling's resistance exercises?

I am, Sirs, yours faithfully,
Feb. 13th, 1905. M.D. BRUX.

*** An account of the Weir-Mitchell rest treatment by the late Dr. Playfair is given in an article on Hysteria in Tuke's "Dictionary of Psychological Medicine."—ED. L.

ARE ENGLISH PERIODICALS CORRUPT?

A GENIAL paper, the *Chicago House Beautiful*, appears to be telling its audience that "The Lancet will praise your table waters ...... possibly all the world understands these statements are worth not more than the 6*d*. a line that they cost." It does not signify to us what stupid lies a paper like the *Chicago House Beautiful* may print concerning us but it is interesting to find how rooted is the belief of the American editor in British corruption. It has not struck the editor of the *Chicago House Beautiful* that, considerations of morality apart, for THE LANCET to receive money in return for making analyses would be a disastrous proceeding, inasmuch as the venality could not remain concealed and the value of the analyses, and indeed of every opinion expressed by the journal, would at once cease to exist. In America, where editorial opinion is in many cases not worth a cent., and where many journals are to all intents owned by their advertisers, the strength of an independent position is so little realised that it becomes unimaginable.

◆

M.B., C.M.—If the dentist in question is on the Dental Register his proceedings are correct but we agree with our correspondent in thinking that many dentists take undue risks in the matter of the administration of anæsthetics. Many general practitioners expressly refuse dental cases.

J. H.—The necessity varies with the size of the room and the facilities for ventilation.

Mr. A. Gavin.—Will our correspondent who addressed a question to us recently from Symington kindly send us his address?

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (22nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), Samaritan National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-[illegible] Gt. Northern Central (2.30 P.M.), Westminster (2 P[illegible] London Throat (9.30 A.M.), Cancer (2[illegible] (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (23rd).—[illegible] (1.30 P.M.), St. Thomas's (3.30 P.M.), Univer[illegible]ng Cross (3 P.M.), St George's (1 P.M.), [illegible]ge (2 P.M.), Middlesex (1.30 P.M.), St. Ma[illegible] (2 P.M.), North-West [illegible] 2.30 P.M.), London (2 P.M.), C[illegible] Metropolitan (2.3[illegible] (2 P.M.), Samaritan (9.30 A.M. and 2.30 [illegible] (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St.

[illegible]

Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (20th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—9 P.M. Dr. G. H. Savage: Toxic Mental Disorder

TUESDAY [illegible] OF LONDON (20, Hanover-square, [illegible] A. Loraud (Budapest):

[illegible] gangrene of Lung.

WEDNESDAY [illegible] London Institution, [illegible] r. A. H. Tubby.

FRIDAY [illegible] (20, Hanover-square, [illegible] lowed by Discussion.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (20th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC

[illegible] utherland: Clinique. [illegible] Diseases of Joints.

[illegible] pital, Hammersmith- [illegible] plications of Middle-

[illegible] EPILEPTIC (Queen- [illegible] Gowers: The Nature

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture:—Dr. G. N. Meachen: Seborrhœa and Seborrhœic Dermatitis.

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.).—

W [illegible]

[illegible] LEGE AND POLYCLINIC [illegible] utchinson: Clinique. [illegible] Headache: its Causes,

[illegible] pital, Hammersmith- [illegible] Cases. [illegible] er: Demonstration of

[illegible] AND DISEASES OF THE [illegible] Lecture: Dr. T. N. [illegible] Pulmonary Cavities (Post-Graduate Course.)

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M. Mr. Malcolm: Some Points in Pelvic Diagnosis.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Lecture.—Dr. Garrod Hæmaturia and Albuminuria in Children.

NORTH-EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Dr. G. N. Meachen: Demonstration of Skin Cases.

FRIDAY (24th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. L. Lack: Clinique. (Throat.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. C. Williams: The Finsen and Ultra-Violet Light Treatment.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. A. Turner: Selected Cases.

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.).—9 P.M. Prof. M. Ward: Fungi

EDITORIAL NOTICES.

IT is most important [illegible] to the Editorial business of [illegible] ldressed *exclusively* "TO THE [illegible] to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1904, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1904 are now ready. Bound in cloth, gilt lettered, price 18*s.* carriage extra.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 16th, 1905.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain fall.	Solar Radia in Vacuo.	Maximum Temp Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 a.m.
Feb. 10	30 35	W.	...	66	52	44	43	45	Fine
" 11	30 35	N.W.	...	79	46	39	33	39	Fine
" 12	30 53	N.W.	...	50	42	37	35	37	Cloudy
" 13	30 43	N.W.	...	56	52	34	41	42	Cloudy
" 14	30 46	N.	0 06	64	53	42	48	49	Overcast
" 15	30 52	W.	...	71	51	46	44	47	Cloudy
" 16	30 30	W.	0 03	72	53	47	43	49	Cloudy

During the week marked copies of the following newspapers have been received:—*Devon and Exeter Gazette, Surrey Comet, Reading Mercury, Daily News, Liverpool Post and Mercury, Barnsley Chronicle, Standard, Aberdeen Weekly Free Press, Plymouth Merc*[illegible] *Liverpool Courie*[illegible] *Daily Chronicle,* [illegible] *Mercy, National* [illegible] *Chronicle, &c.*

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Letters, each with enclosure, are also acknowledged from—

A.—Messrs. C. Ash and Co., Lond.; A. L.; Accrington Corporation, Borough Accountant of; A. C. D.

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The Erasmus Wilson Lectures

ON

PERITONITIS, A BACTERIOLOGICAL STUDY.

Delivered before the Royal College of Surgeons of England on Feb. 20th, 22nd, and 24th, 1905,

By LEONARD S. DUDGEON, M.R.C.P. Lond.,
M.R.C.S. Eng.,
SUPERINTENDENT OF THE CLINICAL LABORATORY AND DEMONSTRATOR OF CLINICAL PATHOLOGY AT ST. THOMAS'S HOSPITAL; GILLSON SCHOLAR IN PATHOLOGY OF THE SOCIETY OF APOTHECARIES; ERASMUS WILSON LECTURER, ROYAL COLLEGE OF SURGEONS OF ENGLAND;

AND

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B.C. Cantab., F.R.C.S. Eng.,
RESIDENT ASSISTANT SURGEON AT ST. THOMAS'S HOSPITAL; ERASMUS WILSON LECTURER, ROYAL COLLEGE OF SURGEONS OF ENGLAND.

LECTURE I.

Delivered on Feb. 20th.

Mr. President and Gentlemen,—Our first duty is to thank you for the honour which you have done us in allowing us to bring forward in these lectures the results of our research into the bacteriology of peritonitis. It is impossible, in the time at our disposal, to give more than an outline of the work which we have done and the conclusions at which we have arrived. We have attempted to place the bacteriology of acute peritonitis upon a sound basis, and to deduce from the knowledge thus gained some facts which may serve to guide the surgeon in the treatment of the various diseases which are grouped under the general names of septic or suppurative peritonitis. We hope that the time will come when it will be possible to treat these diseases with some regard to their bacteriology and we hope that our results may be of some assistance in bringing about that desirable end. We have made systematic examinations of the peritoneum in 270 cases operated upon at St. Thomas's Hospital during a period extending over about 16 months. We offer our best thanks to the staff of St. Thomas's Hospital for the interest which they have taken in the work and for the readiness and unfailing courtesy with which they have placed at our disposal the material obtained from their cases.

Technique.

In the large majority of cases the films and cultures were taken by one of us; almost all the remainder were taken under the immediate supervision of one of us whilst operating. This goes far to insure uniformity of method and observation in our series. One of our objects being to inquire into the bacteriological condition of the peritoneum at a distance from the primary lesion the first culture tube was inoculated with the platinum loop which was introduced into the abdominal cavity directly the peritoneum was opened. In the majority of cases there was at least sufficient fluid, whatever the nature of the disease, to furnish a loopful easily. When possible a cover-slip preparation was made of this fluid also. The second culture tube was inoculated either from the perito[illegible] the loop over the surface of the g[illegible] bourhood of the lesion. The fil[illegible] same region either with the exuda[illegible] of exudate, by drawing a sterile [illegible] surface of the intestine.

We may here point out that we believe the uniformity of our results to have been assisted largely by the operative methods employed by the surgeons of St. Thomas's Hospital. No chemicals are used for the instruments or any other part of the operation and consequently we avoided the errors which might have arisen had minute amounts of antiseptic solutions been introduced along with the exudates into our culture tubes. Our attention was drawn to this point in connexion with some cultures taken in the gynæcological theatre where such solutions are employed to some extent and where the growth of the organisms was undoubtedly retarded in that manner. When Dr. W. W. H. Tate, at our suggestion, very kindly discarded the chemical solutions until our cultures had been taken our results at once fell into harmony with those obtained in the other operating theatres. As a control experiment we took cultures in precisely the same manner from 12 consecutive cases of abdominal operations undertaken for exploratory purposes, in which neither obstruction nor inflammatory disease was suspected. The culture media invariably remained sterile. In the majority of the cases rubber gloves were used by both operators and assistants. Even then every precaution was taken in making the cultures to avoid any region which had been touched with the fingers.

Intraperitoneal Hæmorrhage.

There are at the present time those who, whilst admitting the bacterial origin of most diseases, are yet willing to accept the theory that peritonitis may, in certain conditions, be due to causes other than, and independent of, microbic infection. It is held that sterile fluids are capable, when introduced in sufficient quantities into the peritoneal cavity, of setting up a non-bacterial form of peritonitis and to this variety the term "chemical peritonitis" is applied. One result of our investigations upon the peritoneal exudate in cases of hæmorrhage has been not only to cast very considerable doubt upon the existence of chemical peritonitis but to guide us in the interpretation of other forms of peritonitis also.

So far as we are aware the bacteriology of intraperitoneal hæmorrhage has not hitherto been seriously investigated. The only mention of such a case which we have been able to find is by Malvoz, who, in 1891, in a case of ruptured tubal pregnancy, withdrew some fluid with a sterile aspirator before the abdomen was opened. The blood yielded a pure culture of the colon bacillus, but as there is nothing to show that the bowel was not traversed we cannot attach much importance to this observation.

We have investigated 20 cases of intraperitoneal hæmorrhage, 17 being due to extra-uterine pregnancy, two to rupture of the spleen, and one to rupture of the liver. In the cases of ruptured tubal pregnancy culture tubes were inoculated with the fluid which appeared directly the peritoneum was opened and others from the blood clot, whether old or recent, in the pelvis. Cover-slip preparations were made from the darker blood in the pelvis and these were stained by Gram's method. In three cases Gram-positive cocci were found in the films taken in this manner. By cultures the staphylococcus albus was isolated three times and the micrococcus albus once from the peritoneal cavity. *From the blood clot, however, a white staphylococcus was obtained from every case without exception.* In all the traumatic cases cultures from the blood were sterile and in two the staphylococcus albus was obtained in pure culture from the blood clot. Only one case of the whole 20 instances of intraperitoneal hæmorrhage was completely sterile and that was operated upon within two hours of the accident.

It is well known to gynæcologists of experience, and it is owing to the kindness of Dr. C. J. Cullingworth that we have become acquainted with the fact, that a pelvic hæmatocele, if left alone, may after a time become infected so as to give off, when opened, a musty or other unpleasant smell. Moreover, in days gone by pelvic hæmatocele was not an infrequent cause of pelvic abscess. This liability to infection, Dr. Cullingworth points out, is a strong argument in favour of operating upon all cases of pelvic hæmatocele. That a long-standing case is liable to infection, then, is well known, but that every case, even a few hours after the extravasation, becomes infected with micro-organisms has not hitherto, so far as we are aware, been ascertained. Again, cases of traumatic hæmorrhage which do not prove immediately fatal may, if the blood is in large amount, give rise to diffuse peritonitis and the following three cases reported by Mr. Herbert W. Page are good examples of such a sequel. He, however, did not attribute the peritonitis in his cases to bacterial infection. The first was a case of rupture of the spleen in a boy, aged 14 years. The abdomen was opened 24 hours after the accident when a large quantity of dark blood was found in the peritoneal cavity but there was no evidence of peritonitis. The intestines were distended and roughened. Death took place four days later and at the necropsy recent lymph was present in the abdomen. The second was a case of ruptured liver in a boy, ten years of age. 12 hours after the accident there were signs of peritonitis present and 12 hours later again, as the peritonitis was more marked, the abdomen was opened. The liver was found to be ruptured and there was a quantity of dark blood in the peritoneal cavity. The intestines were reddened and distended. At the necropsy the intestines were found to be inflamed and adherent. The third case was one of ruptured liver in a man, aged 22 years. The abdomen was opened 24 hours after the accident when a large quantity of dark blood was found in the peritoneal cavity. Death took place shortly after the operation. At the necropsy there was found diffuse peritonitis, the intestinal coils being glued together. Although no bacteriological examination was made, Mr. Page considered that the peritonitis which was present in all these cases was due to the fibrin ferment absorbed from the large hæmorrhages and quoted the opinion of Professor Orth that a considerable quantity of pure blood was sufficient to set up general peritonitis without any micro-organisms being present owing to the action of the fibrin ferment.

Tavel and Lanz, in their well-known work published in 1893, stated that in their opinion those cases of peritonitis which are found to be sterile are really examples of chemical peritonitis and are due to the products of bacteria rather than to the bacteria themselves. Harvey Cushing in his masterly monograph on acute diffuse gonorrhœal peritonitis has reached much nearer the truth than any other observer. He writes as follows: "Whether chemical peritonitis, so called, has any actual existence remains a question of doubt," and later, "it is possible that some forms of the chemical cases described by the surgeons may be, after all, of bacterial origin." Tavel and Lanz related several cases which they considered to be examples of chemical peritonitis, which are of such interest in view of our results that we briefly refer to them here.

One was a case of intestinal obstruction due to a band of four days' duration. The intestines were reddish brown and fibrin was present on the surface. There was blood-stained serum in the peritoneal cavity. A pure culture of a *white staphylococcus* was obtained both from the fibrin and the serous exudate. Another was a case of acute intestinal obstruction due to a volvulus in a man, aged 60 years. The intestines were enormously distended and there was a fibrinous peritoneal exudation from which a pure culture of a *white staphylococcus* was obtained. The third case was an example of suppurative cholecystitis with partial gangrene of the wall of the gall-bladder. A *white staphylococcus* was obtained from the interior of the gall-bladder in pure culture, although bacilli and chains of cocci were seen in film preparations of the pus. *A pure culture of a similar coccus was obtained from the inflamed peritoneum.* Two other cases are also reported in their paper but in both instances cultures from the inflamed peritoneum remained sterile. Although Tavel and Lanz found a coccus in three of their five cases they preferred to consider that the organism was present as a contamination and that these were really instances of chemical peritonitis. Gruber and Durham have pointed out that the failure to find microbes in peritoneal fluid is not sufficient evidence to stamp a case as chemical peritonitis, inasmuch as they may be present upon the peritoneal surface and not in the exudate. This we have found to be true in a large number of cases and attention will be directed to it again when we deal with the peritonitis associated with intestinal obstruction. As we shall show presently, we have found the white staphylococcus not only in intraperitoneal hæmorrhage and intestinal obstruction but also in many other varieties of peritonitis. We, therefore, consider that we have sufficient evidence to justify the opinion that chemical peritonitis does not exist but that the cases to which the name has been given are really instances of an infection of the peritoneum with the staphylococcus albus. We intend to discuss every important fact in connexion with this coccus after we have considered other varieties of peritonitis. We shall be able to show that this organism is important not only in intraperitoneal hæmorrhage but is the most important organism in the bacteriology of peritonitis.

The changes which ensue as the result of blood extravasation into the peritoneal cavity appear to be similar whatever the source of the hæmorrhage, provided that there is no communication either with the exterior or with the bowel. In the traumatic cases the time interval between the onset and the operation was from two to five hours; in the cases of extra-uterine pregnancy it varied from 24 hours to three months. As we have seen, the only example in which we failed to find a white staphylococcus was a case of ruptured spleen operated upon only two hours after the accident.

We have examples of every variety of blood extravasation, from the recent widespread hæmorrhage down to the old completely encysted hæmatocele. The appearances on opening the peritoneum vary in degree but not in kind. When the intestines are bathed in blood even after a very short time the peritoneum appears reddened and in the most infected portions the intestines are more or less distended. In the cases where the hæmorrhage has been arrested or is only proceeding slowly these changes are limited to the intestines immediately in contact with the extravasated blood. That peritonitis is present here is evidenced by the very fact of the walling off of the hæmatocele by intestinal agglutination. In every case of hæmatocele, even the oldest, there was an appreciable quantity of clear or slightly blood-stained exudate in the peritoneal cavity immediately overlying the hæmatocele, and this fluid in two instances, one of one month's duration and one of three months, was found to contain the staphylococcus albus, the same organism being also present in the hæmatocele itself. Of the 20 cases four proved fatal, two being examples of ruptured tubal pregnancy, and two of hæmorrhage from ruptured solid viscera. The fatal cases were all very collapsed when operated upon and died in a few hours. One traumatic case recovered after splenectomy and peritoneal lavage, and 15 of the rest after removal of the Fallopian tube and lavage. The abdomen was closed in every case but one, and that was drained per vaginam. 13 healed by first intention, but one of these became the seat of a late suppuration. In three instances suppuration of the abdominal wound occurred, and from the pus of one of these a pure culture of the staphylococcus albus was obtained.

In cases of ruptured tubal pregnancy a febrile condition is usually present both before and after operation, which is quite independent of local suppuration or of pulmonary or other complications. The fever lasts for a varying period after operation and in most cases its range is not excessive, but in nearly every instance it is remarkably higher and more constant than after any other operation which runs an aseptic course. Slight as are the pathogenic properties of the staphylococcus albus we are of opinion that the febrile disturbances so frequently found after effusion of blood into the peritoneal cavity are due to the presence of this organism and not to any hypothetical toxic substance produced by the coagulation of the blood.

INFLAMMATION AND PERFORATION OF THE HOLLOW VISCERA.

Under this heading we include the gall-bladder, the stomach, the duodenum, and the intestines with the exception of the appendix vermiformis, which will be considered separately.

Cholecystitis and perforation of the gall-bladder.—With regard to the gall-bladder, it is difficult to form an opinion as to the bacteriology of peritonitis arising from this cause owing to the scantiness of the material at our disposal. Recently J. T. Hewitson has published his results of the examination of bile taken from cases of cholelithiasis at the time of operation. He investigated 19 such cases, of which only three proved to be sterile. In the remaining instances the colon bacillus was found eight times, the streptococcus pyogenes four times, other cocci nine times, and other bacilli four times. He also tested the action of sterile bile upon a variety of pathogenic organisms and concluded that it possesses no antiseptic property whatever. Naunyn, Gilbert, Girode, Dupré, and others have found normal bile to be sterile. One of us recently found ten cubic centimetres of bile taken from the gall-bladder at an operation to be sterile under both aerobic and anaerobic conditions. Fraënkel reported a case of perforation of a diseased gall-bladder where the staphylococcus albus and the streptococcus pyogenes were found in the peritoneal exudate.

Only two instances of cholecystitis are included in our series. The first case occurred in a man, aged 68 years. This patient had had a history of gall-stones for many years. He had been very ill for 17 days before admission, with abdominal pain and fever. When admitted the temperature was 101° F. A small localised collection of necrotic material was found outside the gall-bladder, communicating with the interior by a perforation over a stone. There was a quantity of sticky, purulent, bile-stained fluid around the stones in the gall-bladder. The peritoneal cavity at a distance was found to be sterile. A pure culture of a streptococcus was obtained from the necrotic material around the gall-bladder and also from the interior of the viscus. The organism resembled the streptococcus pyogenes in most of its cultural characters, but although several tubes of litmus milk were used it failed in every instance either to acidify the litmus or to thicken the milk. When

the coccus was injected into the vein of a rabbit's ear no local erysipelas resulted and although the animal was ill for several days it finally recovered. The same organism was non-pathogenic to guinea-pigs. This coccus may have been
an attenuated pyogen
We are not justified, I
coccus of Rosenbach.

The second case concerned a woman, aged 35 years, suffering from empyema of the gall-bladder. The peritoneal cavity was sterile. The thick, white, odourless pus in

recovered.

Perforated gastric ulcer.—A well-known physician once said that "where facts are barren theories are numerous." It would be difficult to find a more suitable illustration of this truth than that afforded by perforating ulcer of the stomach. It is, however, only with reference to the peritonitis produced by this accident that we are at present concerned. Very little work has been done upon the bacteriology of gastric perforations. Hewitson, from experiments made with gastric contents taken during operations, concluded that in half the cases the contents of healthy stomachs are sterile and that in the other half either the

was present in every one of our cases.

Lately, owing to the work of A. Ghon, the pneumococcus has been credited with an important share in the causation of gastric perforation. This observer reports four cases which, however, are not as fully described as one would wish when we consider the important bearing which this communication must have on future work. It is significant that only one of these cases of perforation of the stomach was due to a simple ulcer. Jensen is stated to have isolated the pneumococcus from the peritoneal exudate in three cases of perforated gastric ulcer. Brünner collected 22 cases of perforated gastric ulcer which had been examined bacteriologically and found that four were due to the pneumococcus. Other observers have claimed, but with insufficient evidence, that streptococci and staphylococci are the cause of the active changes which take place in the stomach wall.

It will thus be readily seen that the bacteriological investigations of this very important disease and of its most important complication have been found to be of little value. It is therefore with a feeling of some reserve that we bring forward our results. This investigation has led, however, to most constant results. We have isolated a strepto-diplococcus from the edge of the ulcer in every case; from the peritoneal exudate in four instances out of a total of seven. We have also obtaine
the pleural sac and from the
following on perforated gastric
diplococcus has been isolated and also from a perigastric abscess. A full account of this research will now be given and although it is not our wish to suggest that this organism which has been found in every case, without exception, is the cause of the disease, yet we do claim that these results are of considerable importance and will serve as a basis for future work.

, aged 32 years. About a couple of
s pus escaped from a perigastric

CASE 2.—The patient was a female, aged 21 years. Acute symptoms had lasted 24 hours. A large quantity of viscid, clear, but slightly
greenish fluid was present
polynuclear cells were fou
cocci were also seen but
stain by Gram's method.
was found in the periton
staphylococcus albus from
evidence of peritonitis at
made an excellent recovery.

CASE 3.—The patient was a male, aged 32 years. Perforation had occurred six hours before operation. A fair quantity of milky fluid escaped from the peritoneal cavity at the operation. There was only a very slight degree of peritonitis. The man made an excellent re-
s in the peritoneal exudate
found. A pure culture of
from the fluid in the peri

CASE 6.—The patient was a male, aged 27 years. A considerable
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edge of the ulcer.

CASE 7.—The patient was a female, aged 25 years. A considerable

eneral cavity was found to be
the staphylococcus albus were
and from the surface of the
days but eventually died from

CASE 8.—The patient was a male, aged 57 years. Perforation occurred 28 hours before operation. There was a large amount of

We are now in a position to discuss this organism which
rated gastric ulcer. The
s *morphology,* staining

both in the films of the
ut more especially broth,
also in chains of eight or
infrequently 20, 30, and 40
We have described the coccus
was much more frequently found
than as single coccus. We did
not observe a capsule on any occasion. The organism was non-motile.

Staining reactions.—This coccus in the large majority of cases, whether direct from the patient's tissues or from artificial culture media, failed to retain Gram's stain. In one or two instances it was found to stain slightly by Gram's method but a true positive reaction was not seen. The coccus stained well with the aniline dyes.

Cultural characters.—These were as follows:—

Agar.—In every case the organism grew well on the surface of agar. The colonies were always small, of about the size of an active streptococcus colony. They appeared to be of about the size of a pin's head, even after several days' growth, and opaque, delicate, quite isolated, with no tendency to form a continuous streak, faintly granular, and with a regular margin.

Broth.—The growth in this medium was of the same character in every case—viz., sandy deposit—but quite clear above. When the broth-tube was shaken a distinct but finely granular deposit was visible.

Litmus milk.—This medium was acidified in either 48 or 72 hours. No thickening or clotting occurred in most cases even at the end of a month's incubation. In two instances, however, the milk thickened at the end of 48 hours and a distinct clot formed in eight days in the former example.

Jelly.—In three instances the surface of growth was noticed on the jelly media. In each case there was a very fine pin-head growth forming isolated points with no tendency to coalesce. The medium was not liquefied even at the end of one month's incubation at 22° C. The colonies were almost transparent.

Neutral red jelly.—The colour of this medium was unaffected.

Potato.—No growth was obtained.

Glucose broth (anaerobic).—In those cases in which anaerobic methods were used the growth appeared to be similar to the aerobic growth.

Pathogenicity.—A 24-hours' broth culture was used for inoculating guinea-pigs and mice, either or even both subcutaneously and intraperitoneally. We failed to kill any of these animals with this organism. In many cases the animals were extremely ill but death never occurred, and we did not observe any pathological lesion at the necropsies on animals inoculated with the culture of this coccus.

Agglutination tests.—In no instance was the agglutination test found to be of any value.

We have given the chief points which have been investigated so far as regards this organism. Has it any relation to the streptococcus pyogenes, pneumococcus, or other pathogenic organism? It is quite evident that this coccus has very low pathogenic properties in the human being, in the large majority of cases. It is found, as we have shown, in the peritoneal cavity in cases of perforated gastric ulcer and yet the patients do not die from peritonitis. It is true that it was found in the pus from a case of subphrenic abscess in conjunction with the staphylococcus albus but the peritoneum seems to be able to deal with the organism better than the tissues—by no means a new idea as regards micro-organisms and the peritoneum. One would imagine that this coccus is sufficiently pathogenic in the human tissues to produce the well-known ulcer of the stomach, as we have found it in every case at the edge of the ulcer. There is not sufficient evidence from our investigation to warrant this view, although one would not expect a streptococcus or any other organism to be present in every case if it had nothing to do with the disease. In sections of the stomach wall around the site of perforation of an ulcer large masses of cocci can be seen and also diplococci, but no true streptococci. Several observers have drawn attention to the presence of cocci in the gastric wall in cases of ulceration, but it by no means follows that these organisms are therefore the cause of the condition.

The nature of this strepto-diplococcus.—It will be evident from these points to which we have drawn attention in the life-history of this coccus that its cultural properties are not constant in every case. This, however, is common to most micro-organisms, but on the whole the morphology, the cultural characters, the staining properties, and the pathogenicity are fairly regular. It is now generally recognised that various cocci which have been described by different authors as the streptococcus pyogenes are really nothing more than streptococci and not the true coccus of Rosenbach. The same may be said of the pneumococcus and also of many other micro-organisms. The streptococcus which we have described, however, differs in so many respects from the streptococcus pyogenes that it would be impossible for anyone to consider the two micro-organisms as one. In the first place, it was Gram-negative. The constant tendency to form a diplococcus arrangement is quite unlike the streptococcus pyogenes. The organism resembled the streptococcus pyogenes in the fact that it did not alter the colour of neutral red jelly. The individual colonies on agar are perhaps larger than in the case of Rosenbach's coccus. The pathogenic properties of streptococci certainly vary considerably. A streptococcus which has produced severe changes in the tissues of men may be found to have very little effect when inoculated into a susceptible animal. We failed to find any evidence of erysipelas at the site of inoculation in our animals. As already stated, this strepto-diplococcus failed to kill, although in almost every case the inoculated animal was ill for some hours after the inoculation. There is one point which is quite certain, that if this coccus were the streptococcus pyogenes the perforation of gastric ulcer would be followed by almost certain death. There is not the slightest reason to discuss the relationship of this organism to the pneumococcus as they differ perhaps even more than in the case of the streptococcus. We are, therefore, inclined to allow this strepto-diplococcus to remain unclassified.

In six cases the peritoneal cavity was flushed out after suture of the ulcer and in one practically no washing was done. This last case had been perforated 24 hours, the small aperture was closed with lymph at the time of operation, and the signs of peritonitis were slight. No drainage was employed and the wound healed by primary union. Recovery took place in five instances (though one patient died a month later from portal pyæmia), the wound in the two cases where drainage was not employed having healed without suppuration. Two patients died, one on the tenth day from pneumonia but without any peritoneal symptoms and the other from diffuse peritonitis soon after the operation. This last was the only case in which the colon bacillus was found and at the necropsy there was present a condition of universal peritonitis which exhibited the peculiar sticky exudation seen in the peritoneal cavity of guinea-pigs killed with this organism.

As in the case of acute perforations, so it is with localised abscesses dependent upon gastric ulcer. In one instance there was a local perigastric abscess adherent to the anterior abdominal wall in a man, aged 32 years, who, after a long history of gastric symptoms, had been rather acutely ill for a fortnight before operation. The thick odourless pus showed the same strepto-diplococcus to be present. In another example a left-sided subphrenic abscess was opened 25 days after operation for an acute perforation. The pus was odourless, thick, and cream coloured, and had to be reached through the diaphragm. Both the pleural sac, which was inflamed and moist, and the abscess gave a pure culture of the strepto-diplococcus, which both in the peritoneal exudate and in the edge of the ulcer had been found at the first operation.

In the cases of gastric ulcer the operation was undertaken at times varying from six to 32 hours after perforation. In all there was a large amount of fluid in the peritoneal cavity, which was thin, turbid, and sour-smelling. In two examples it was distinctly greenish; in one, where the perforation was minute and closed by lymph, the fluid was quite clear and sticky. The intestines were, as a rule, reddened but very little distended; what signs of peritonitis were present were usually only at all obvious in the immediate neighbourhood of the perforation, where flakes of lymph were commonly seen. The only instance in which the peritonitis was observed to be at all extensive and in which intestinal distension was marked was the instance in which the colon bacillus was found and which succumbed to peritonitis. This is further proof of the great importance of the colon bacillus in peritonitis. It is also of interest that although this bacillus was isolated in this instance the strepto-diplococcus also was present. We should expect, if certain popular theories were correct, that the bacillus would have outgrown the coccus.

Perforated duodenal ulcer.—In these cases we find a bacterial condition rather different from that obtaining in the gastric cases. In the four examples in our series the perforation was situated in the first part of the duodenum and the appearances afforded by the peritoneum and the exudate were similar to those seen in the gastric cases. In no instance, however, was the strepto-diplococcus isolated from the exudate, which was sterile in three cases and contained the colon bacillus in the remaining one. The gut surface once showed the staphylococcus albus; on two occasions the staphylococcus albus was isolated from the edge of the ulcer, and once the colon bacillus together with the strepto-diplococcus. The time that had elapsed between onset and operation was in two instances four hours; in one, nine hours, and in the fourth, 19 hours. In every case the ulcer was sutured and the abdomen was washed out. Two recovered, one with and one without drainage, and in both instances the wounds healed kindly. Of the two fatal cases one succumbed to pneumonia on the third day but with a healthy peritoneum; the other died from diffuse peritonitis and this was the one example in which the colon bacillus was present in the peritoneal exudate; the perforation had occurred 19 hours before operation. In this instance a large quantity of turbid, sour-smelling fluid and some gas were present in the peritoneal cavity. Large numbers of polynuclear cells and Gram-negative bacilli were present in the exudate. The colon bacillus was found in pure culture in the exudate and the same organism together with the strepto-diplococcus in the edge of the ulcer. The coccus was not fully worked out in this case.

Perforation of the jejunum.—We mention separately one remarkable instance of perforation of a peptic ulcer of the jejunum which occurred 22 months after gastro-enterostomy for simple gastric ulcer. The patient was a male, 30 years of age, and the acute symptoms had been present for four hours before the operation. A large quantity of clear, odourless fluid was free in the peritoneal cavity and there was a small perforation in the jejunum close to the anastomotic opening, around which the peritoneum was reddened and covered with flakes of fibrin. Elsewhere there was scarcely any sign of peritonitis. The exudate showed large numbers of degenerated cells and a few polynuclear cells but no organisms. From three situations—namely, the exudate, the edge of the ulcer, and the surface of the jejunum—the staphylococcus albus was obtained in pure culture. The ulcer was invaginated, the abdomen was flushed out, and the pelvis was drained. The patient recovered, the wounds having healed well.

Perforation of the ileum.—In this class there are four examples, one being due to a bullet wound, one to a chronic ulcer of undetermined nature, and two to typhoid ulcers. The gunshot wound of the ileum occurred in a healthy boy, aged 18 years, who was operated upon 20 hours after the accident. There was a little bloody exudate amongst the slightly reddened but not distended coils of small intestine. Two minute perforations and three bruises were found in the [illegible] ileo-cæcal valve, the wound [illegible] through the right rectus at [illegible] ore operation the only signs [illegible] slight tenderness round the [illegible] pulse-rate, which reached [illegible] face of the intestine at a distance was found to be sterile; the blood-stained fluid around the perforations showed only blood in films and gave a pure growth of the staphylococcus albus. The perforations were closed, the intestines in the neighbourhood were washed over with sterile saline solution, and the abdomen was closed without drainage. The wound healed by primary union. We regard this case as forming a link between those of intraperitoneal hæmorrhage without intestinal lesion on the one hand, and perforations due to disease, on the other. In the former there is no intestinal perforation, in the latter the contents of the perforated intestine are in a state of exalted virulence, whilst in this instance the intestine was in an absolutely healthy condition when the perforation took place.

The difference in prognosis in perforation of the intestine according to whether the bowel is or is not diseased at the time of perforation is obvious when we look at the mortality of the two conditions. In diseased conditions, perforated appendix or typhoid ulcer for instance, the mortality is not less than 70 per cent., but in gunshot wounds in civil practice, of which we have collected 15 cases from various sources, the mortality was only 20 per cent. It is only fair to say, however, that these cases are usually operated upon earlier but this fact would scarcely make the difference between 20 and 70 per cent.

PERITONITIS IN TYPHOID FEVER.

The rôle of the bacillus typhosus in peritonitis is a very doubtful one. Curschmann believes that cases of peritonitis without perforation sometimes occur during attacks of enteric fever and are characterised by mild onset, irritative symptoms in the right iliac fossa, and perityphlitic exudation, and that the course of such cases is relatively favourable. He quotes a case recorded by Murphy in which there was peritonitis without perforation and five cases reported by Gardner in which a fatal peritonitis occurred without perforation. The Munich necropsies show that peritonitis without perforation occurs in 2·2 per cent. of the fatal cases. Cushing, also believing that a localised peritonitis may occur without perforation, considers such a condition to constitute a pre-perforative stage. But of the bacteriology of non-perforative peritonitis in typhoid fever we know nothing.

Much of our knowledge of typhoid fever at the present day is derived from the work which has been done at the school of Baltimore. Cushing published his excellent monograph on Intestinal Perforation in Typhoid Fever in the Johns Hopkins Reports in 1898. We wish to refer to the chief points in this paper before giving the details of our own work. His cases are as follows:—

CASE 1.—The peritoneal [illegible]
symptoms of perforation [illegible]
sero purulent fluid escap[illegible]
preparations of the fluid [illegible]
but no organism [illegible]
was sutured. [illegible]
Cultures taken [illegible]

CASE 2.—Intestinal perforation occurred in the fifth week of [illegible]

We shall have to refer more fully to these valuable observations of Cushing when we come to discuss the peritonitis of streptococcic origin. The typhoid bacillus has been obtained from the peritoneal exudate in perforative typhoid fever both by Flexner and Hays; from an example of diffuse peritonitis due [illegible] by Körte; and Klein is [illegible] bacillus from the periton[illegible] peritonitis. These cases appear to be the few recorded, if not the only, examples of peritonitis from which the typhoid bacillus has been isolated. We must remember that a bacteriological examination of the peritoneal cavity in perforative typhoid fever has only been made in a few of the great scientific medical schools in America and on the continent, if we can judge by the literature. So much Keen states in his book on "The Surgery of Typhoid Fever" that he only knew of a single instance in which a bacteriological examination was made of the contents of the peritoneum in typhoid perforation. I[illegible] cases of typhoid perforation were recorded at [illegible] of London but a bacteriolog[illegible] [illegible]neal exudate was omitted in every case.

Hays reported two such cases, finding the bacillus typhosus in one and the streptococcus pyogenes in the other. Both patients died. Manahan investigated two cases at the time of operation. In one, ten hours after perforation, the films were sterile and the cultures showed only the colon bacillus. The serum reaction was positive and the patient recovered. In the second case the staphylococcus albus and the colon bacillus [illegible] The patient died. Varvach [illegible] showed [illegible]

We are able to [illegible] which we have made a complet[illegible] of the peritoneal exudate, as [illegible] We have included the clause "[illegible] so" because surgeons usually perform a comparatively limited operation for this complication of typhoid fever and therefore it is generally impossible to make cultures of the peritoneal exudate at a distance.

[illegible] eight years. About two ounces [illegible] ritoneum and also a [illegible] was found about four [illegible] The intestines were [illegible] numbers of poly- [illegible] uniformly [illegible] nuclear and mononuclear cells we[illegible] tions of the peritoneal exudate [illegible] negative bacilli. The turbid fluid [illegible] cavity at the time of operation [illegible] sent immediate[illegible] inoculated w[illegible]

[illegible] ination reaction. This bacillus [illegible]

[illegible] of 30 years. There were about [illegible] portion of the abdomen and also much free gas. Two minute perforations were found close to the ileocæcal valve. Both perforations were invaginated by sutures and the lower half of the peritoneal cavity was washed out with normal saline solution. The patient died 48 hours later. Cover-slip preparations were made of the peritoneal exudate at the time of the operation. Large masses of polynuclear neutrophiles were seen in the films, many of which were phagocytic. Gram-positive cocci and Gram-negative bacilli were also seen. Aerobic and anaerobic cultures were made from the fluid in the peritoneal cavity. *Three strains* of the bacillus coli were isolated from this exudate but two of these strains which were fully examined were found to differ not only in their cultural characteristics but als [illegible] The importance of these [illegible] not be overestimated and [illegible] subject in a subsequent lect [illegible] which grew on the agar plates [illegible] but failed to give any reaction. A staphylococcus which stained by Gram's method was present in the film preparations of the peritoneal exudate and in the original cultures both aerobic and anaerobic but we did not obtain any colonies of the coccus on any of the plates.

Lastly, although Flexner and Vincent have found streptococci frequently in the peritoneal cavity of cases dead from perforation of the intestine in typhoid fever we have not observed this coccus in either of our cases examined at the time of operation.

Turning now to the clinical aspect of these two cases we find that perforation occurred in the third and sixth week of illness and that the operation was undertaken respectively 48 and ten hours after perforation. Both were treated by suture, limited lavage, and drainage, and both patients died. The bacillus typhosus was found in neither case; in one the colon bacillus only was found and in the other the colon bacillus and the staphylococcus aureus. In both the post-mortem examination showed intense universal peritonitis to be present. In these cases, owing to the limited exposure at the operation, we were unable to ascertain the bacteriological condition of the peritoneum in a remote region. Ashurst collected from the literature records of 326 cases of intestinal perforation during enteric fever which were submitted to operation. The mortality was 74 per cent. Now, this death-rate is lower by about 6 per cent. than that of perforative appendicitis, which when we consider that in the one case the patient is debilitated by two or more weeks of an exhausting illness, whilst in the other he is usually attacked when in perfect health, is sufficient to excite our curiosity. It is even most striking when we consider that operations undertaken for perforation occurring during a relapse show a lower rate of mortality than those which occur in an initial attack. It may be that one contributing factor is that the patient is already under skilled observation, so that a diagnosis can be made and operation proceeded with earlier. We venture to think that there are other explanations also. In the first place the gradual thinning and distension of the intestine will have allowed time, in the cases of typhoid fever, for the natural protective mechanism of the peritoneum to have been called into play; in the cases of perforated appendix, on the other hand, the lethal organisms are suddenly, as it were, launched upon an unprepared peritoneum. Again, the patient is usually so ill, in the cases of typhoid fever, when operated upon that the surgeon not only operates with the utmost rapidity, a factor of no little importance in all acute abdominal operations, but dares not douche and scour the peritoneum with the same heroism as he sometimes applies to the appendix cases.

Perforation of a malignant growth of the colon.—The following instance of perforation of a carcinoma of the colon illustrates well the rôle played by the staphylococcus albus in peritonitis and is in complete harmony with the appendicitis cases. A woman, aged 60 years, had had an abdominal tumour accompanied by chronic constipation for nine months. For five days the tumour had been more painful. When admitted the temperature was 102° F. and on the previous day she had had a rigor. The abdomen was rather distended but obstruction was not absolute. The abdomen was opened in the mid-line, when omentum of normal appearance presented. This proved to be sterile. Proceeding towards the tumour the intestines in its neighbourhood were found to be reddened but not distended; cultures from the gut surface gave a pure growth of the staphylococcus albus. Close to the tumour there was some clear fluid which also gave a pure culture of the staphylococcus albus. Film preparations of this fluid contained large numbers of healthy polynuclear cells but no micro-organisms. The peritoneal cavity was then packed off with strips of gauze and a foul abscess was opened. Film preparations of the pus showed numerous degenerated cells as well as Gram-positive cocci and Gram-negative bacilli. From the cultures were isolated the colon bacillus and the staphylococcus albus. We did not obtain a growth of anaerobic organisms although every precaution was used. The patient died on the fourth day and at the necropsy a condition of intense diffuse peritonitis was found. There is little doubt that the colon bacillus had invaded the general peritoneal cavity owing to the opening of the abscess and given rise to the fatal peritonitis. We have here, however, a clear example of the protective influence afforded by the staphylococcus albus and its attendant phagocytic cells, which, owing to the slow progress of the disease, had been able to exert a restraining power on the colon bacillus and prevented this organism from terminating the patient's life earlier.

THE STAPHYLOCOCCUS ALBUS IN PERITONITIS.

We have considered it advisable to refer to the coccus which we have isolated from the peritoneal cavity in ruptured tubal gestation, appendicitis, and in all other varieties of peritonitis, as the white coccus or the staphylococcus albus. The organism which was described by Rosenbach as the staphylococcus pyogenes albus sometimes produces abscesses when injected subcutaneously into guinea-pigs and rabbits and may produce septicæmia and pyæmia when inoculated intravenously into these animals. The white coccus which we isolated from our cases of peritonitis differed from Rosenbach's coccus as regards its pathogenicity and therefore it is perhaps advisable to omit the term pyogenic when referring to the coccus present in our cases. Professor W. Welch preferred to name the organism which he isolated from aseptic wounds, stitch abscesses, and also from the peritoneal cavity in a case of peritonitis, the staphylococcus epidermidis albus. He considered that it was probably an attenuated variety of the staphylococcus pyogenes albus. We can do no better than follow in the footsteps of so eminent an authority as Professor Welch and omit the term pyogenes.

TABLE I.—*Showing the Number and Variety of Cases from which the White Coccus was recovered from the Peritoneal Cavity in Peritonitis.*

Table.	Nature of case.	Number of cases in which the white staphylococcus was isolated.	Number of cases in each table.	Number of cases in which a staphylococcus was present but not identified.
1	Ruptured tubal gestation.	17	17	0
2	Intraperitoneal hæmorrhage from other causes.	2	3	0
3	Salpingitis.	1	8	1
4	Ovarian cystitis.	2	3	0
5	Strangulated hernia.	12	47	1
6	Intestinal obstruction.	24	53	
7	Inflammation and perforation of the hollow viscera.	10	21	1
8*a*	Acute appendicitis with diffuse non-perforative peritonitis.	4	11	0
8*b*	Acute appendicitis with diffuse perforative peritonitis.	3	17	1
8*c*	Appendicitis with local abscess formation.	15	40	10
8*d*	Appendicitis complications.	5	9	0
8*e*	Interval cases of appendicitis.	10	16	1
9	Post-operative peritonitis.	2	7	0
10	Septicæmic peritonitis.	1	6	0
11	Exploratory cœliotomy.	0	12	0
	Total	108	270	17

Morphology.—This organism was found to be identical morphologically with the various types of staphylococci. It stained well by Gram's method and with the various aniline dyes. The individual cocci were smaller when the organism was grown anaerobically and in these instances the cocci showed less tendency to retain Gram's stain.

Cultural characters.—The organism was found to be a facultative anaerobic. It did not decolourise Weil's medium and failed to produce gas in any medium containing glucose.

Broth.—Marked turbidity of the medium occurred and a corkscrew-like deposit on shaking the culture-tube was obtained in every case within a period of 24 hours.

Agar.—A pure white streak along the line of the needle with irregular margins due to isolated colonies was obtained on every occasion. In some instances the growth on agar was dry but in the large majority of cases it was moist.

Jelly.—A growth was seen in every instance within 24 hours which gradually increased. Liquefaction of the medium generally occurred about the second to the fifth day. In two examples we failed to obtain any liquefaction.

Neutral red jelly.—The cultural characters were similar to those which have been already mentioned in the case of ordinary jelly. The colour of the medium was changed to yellowish-brown in 13 examples, a change which usually took place within eight days, at 22° C. The colour remained unchanged in 11 instances.

Litmus milk.—This was acidified in every instance, usually within 46 hours. It was generally thickened within 48 hours and clotted in from three to four days. In three instances clotting did not take place until after the tenth day. In many instances, especially if the clotting was slight, the casein was gradually redigested.

Potato.—The growth on potato could seldom be described as luxuriant. Numerous white dots on the surface of the medium which after two or three days' growth gradually formed a continuous streak were of common occurrence. In a few instances only a very slight growth occurred.

Neutral red broth.—This medium was employed in but a few instances, so that it is impossible to form any definite opinion as to its value. In most instances in which it was employed we noticed that the neutral red colour was changed for a bright pink colouration.

Indol reaction.—This reaction was not present in those instances in which the test was employed. This, of course, refers to both young cultures in peptone water and also cultures of from six to ten days old.

Surface colonies on jelly plates.—Small but distinct ours' growth at 22° C. At colonies when examined small raised white points shown to have a distinct and regular margin, while each colony was definitely granular.

Pathogenicity.—Young broth cultures of the white coccus obtained from various cases of peritonitis were injected into the peritoneal cavity of animals. We usually noticed that the animals were ill for several hours but usually were perfectly well within 24 hours. In some instances inoculation of the coccus into the peritoneal cavity of guinea-pigs did not produce any obvious effect. We have shown, however, that the inoculation of this organism into the peritonial cavity of guinea-pigs produces a large quantity of clear effusion into the peritoneal sac within an hour of inoculation. Large numbers of phagocytes also take an active part in freeing the peritoneum from this coccus. These observations show that it is impossible to judge an inoculation experiment without a very exact necropsy. In some instances this organism was injected into the peritoneal cavity of guinea-pigs prior to an injection of the colon bacillus, with the most remarkable results which are fully dealt with elsewhere. Subcutaneous injection of the coccus into various animals seldom produced more than an inflammatory swelling of about 48 hours' duration. Occasionally the swelling subsided much more rapidly without any obvious ill effect. In no instance, however, did suppuration occur. An induration around the site of inoculation in those cases in which the white coccus had been injected subcutaneously was frequently noticed. We very much regret that we failed to inject the white staphylococcus into the blood stream of rabbits, as this is often found to be a ready means of forming an opinion of the pathogenic properties of this coccus.

Agglutination reactions: technique.—In every case a 24-hours' agar culture was employed. An emulsion was made with 0·85 per cent. normal saline solution; sometimes this emulsion but when ased to 0·1 per cent., as the case of the plague control experiment was, of course, carried on during the whole period of each observation.

It is usually considered at the present day that complete loss of motility and diffuse and "tight" agglutination within a period of 30 minutes with a dilution of 1 in 150 are diagnostic of typhoid fever. So far as we are aware the agglutination reactions of the staphylococcus albus are unknown, whilst only a small amount of work has been published regarding agglutination experiments with the staphylococcus aureus. Otto concludes that of the many varieties of staphylococci there is only one which is really pathogenic to man. This variety, he says, may easily be distinguished by its strictly specific agglutination reaction with the serum of an animal immunised against this pathogenic variety. It is, however, generally recognised that pathogenicity and agglutination bear no constant relation to one another and, therefore, for this, amongst other reasons, we cannot place any reliance upon these observations of Otto.

It is impossible at present to lay down any fixed rule as to what constitutes a positive or a negative staphylococcic reaction and we have, therefore, been obliged, for the purposes of this work, to fix an arbitrary standard. We have tested the agglutination reaction of the staphylococcus albus, isolated from various cases of peritonitis, with the patient's own serum and in certain instances with the serum of other patients, in 46 cases. In 26 instances there was no reaction with a dilution of 1 in 10. In seven instances well-marked clumping of the cocci occurred with dilutions of 1 in 10, 1 in 20, and 1 in 50 within a period of one hour, and in one instance with a di marked clumping a slight reaction w period of 60 minutes. In four cases good reactions occurred with dilutions of 1 in 10 and 1 in 20 within a period of one hour but no reaction was obtained with a dilution of 1 in 50. In two cases there was only a slight reaction with dilutions of 1 in 10 and 1 in 20 in 60 minutes. In two examples some reaction was obtained with a dilution of 1 in 10 but not with any further dilution. None of these cocci when tested with the serum of a normal person gave any reaction whatever. If we now turn to the length of time that the patients had been ill before the operation and divide it into periods a very striking result is obtained. In six cases the illness had lasted for less than six days and none of these gave any reaction. In the 12 cases which gave a reaction with a dilution of 1 in 50 the length of history lay between six days and 16 weeks. In the four which gave a good reaction with 1 in 20 but none with 1 in 50 dilution the illness had lasted for from one to three months.

It is scarcely fair to compare two organisms differing so widely in their degree of pathogenicity as the staphylococcus albus and the bacillus typhosus, but we may say that in one respect they resemble one another in the agglutination reactions A well-marked typhoid serum reaction rarely occurs before the tenth day of illness and we see very much the same to be the case with the staphylococcus albus; no reaction was obtained in a case of less than six days' history.

Browne and Crompton, working in the clinical laboratory of St Thomas's Hospital, have obtained the following interesting results as to the length of time in which the typhoid agglutination reaction persists after an attack of typhoid fever. With a dilution of 1 in 50 they found that there were only two instances in which the reaction was positive seven months or more after the attack of typhoid fever. In 50 per cent. the reaction was positive from one to six months after the attack, while a large number of the negative cases reacted to dilutions of 1 in 10 and 1 in 20. They considered a reaction to be positive when complete loss of motility and diffuse "tight" agglutination occurred within a period of 30 minutes. We do not know how long it may persist in the case of the staphylococcus albus, but the evidence which we have leads us to the conclusion that the agglutinative properties may last some months, as in the case of patients who returned for appendicectomy several weeks after the healing of an abscess, and in whom the staphylococcus was still found to be present in the peritoneal cavity. The case in which the best reaction was obtained was one of great interest. An appendix abscess had been opened 11 weeks previously and had healed. The patient had been taken ill again three days before admission and was found to be suffering from diffuse peritonitis. The staphylococcus albus, which was isolated from beyond the region which contained the colon bacillus, was rapidly and "tightly" agglutinated by the patient's serum. Recovery took place.

chest or abdomen, was diminished on anæsthetising a patient. I have often verified this and have been disappointed at the partial or complete disappearance of superficial dulness in cases of appendicitis and empyema when the patient has been anæsthetised for operation. It is easy to understand how this may be caused in such a condition as an abscess or mass of lymph around an inflamed appendix. The tightly contracted muscles, nature's involuntary protection against external injury, even such slight injury as percussion, squeeze the unaffected coils of intestine away from the space between the abdominal walls and the painful lump, but when they are relaxed the intestines slip in again and the previously dull area becomes resonant. Consequently upon this the outline of the lump becomes much more easily determinable, but as was pointed out by Dr. W. Moxon the risks of manipulation are increased. He told of a case of appendicular abscess which came unscathed through the ordinary investigations of a hospital ward but was ruptured by manipulation with what was considered to be due care when the patient was under the influence of an anæsthetic. It is not so easy to explain the mechanics of this phenomenon in the chest, and, indeed, it is by no means so frequently observed. It must depend upon a more free movement of the chest wall when the act of breathing becomes less painful or less suggestive of the possibility of pain, a movement which causes greater expansion of the lung. This will increase the resonance of the already resonant part and may, as in the case of the appendix abscess, drive the lung between the dull mass (say the liver or spleen covered by the diaphragm) and the chest wall which were previously in contact.

The practical importance of these facts is great. They show that a dulness which disappears under an anæsthetic must not be neglected, but it must be suspected that adhesions do not extend so far as they might before the administration of the anæsthetic be supposed to do. Thus, if the case be one of appendicitis the cautious surgeon will not open the abdomen immediately over the swelling but will separate the peritoneum from the fascia transversalis for some distance backward and thus hope to open the abscess without interfering with the part of the peritoneum where there are no adhesions. In the case of a suspected empyema in which the dulness disappears under the anæsthetic he will probably find that it is one of pyopneumothorax and that it is the change of position of the patient which has brought the gas which previously occupied the upper part of the cavity into the field of operation and he must not forget that a small amount of gas may be responsible for an extensive area of resonance.

I will now make another digression. In some cases of ascites percussion gives a more extensive area of dulness when the finger is pressed lightly on the abdomen than when it is pressed more firmly. This means that a thin layer of fluid intervenes between the hollow viscera and the abdominal wall. Firm pressure with the finger forces the fluid away and the percussion is then made upon the subjacent coils of intestine. No one who has ever tapped an ascitic abdomen doubts that this is generally the case, although in a general way it may be stated that the intestines are floated up by the fluid. If the amount of fluid is large there comes a time when this floating process is no longer possible because the intestines are anchored to the spine by the mesentery. A somewhat similar phenomenon may occasionally be noticed where the liver is large and some coils of intestine have passed on to its anterior surface. The percussion note over such a liver is resonant unless the finger be firmly pressed down upon it, when the intestines are displaced and the note becomes dull. This suggests the presence of free gas in the peritoneal cavity and if there be free gas in the peritoneal cavity and a large liver of course the same phenomenon would be observed. The disappearance of the liver dulness in cases of abdominal distension from intestinal obstruction depends upon a different cause —namely, the tilting upwards of the liver so that its anterior border comes to look forward and presents too narrow a surface to yield a dull note on percussion. For this reason we have come to recognise that the disappearance of the liver dulness is an untrustworthy sign of gas in the peritoneal cavity. If it be due to rotation upwards of the liver there will still be a dull area laterally. If it depends upon gas in the peritoneal cavity this region will probably be resonant. But there is no certainty about this, as masses of lymph and collections of fluid may well give rise to dulness anywhere.

I used often to be puzzled by the different results obtained by different percussors but the different degree of pressure bestowed by a finger on which percussion is made no doubt accounts for it in part. It was also a matter of surprise that some observers could hear murmurs which were inaudible to others until I found out for myself what Dr. Ringer had previously described—namely, that pressure with the stethoscope modifies the pitch of many, if not all, murmurs and makes some entirely disappear. My own observations were first made upon those strange musical murmurs that are sometimes heard over empyemas at a long distance from the heart. Many of them are made much more high-pitched by pressure and some entirely disappear. Dr. Ringer's observations were made on ordinary heart murmurs. A heavy-headed man with a wooden stethoscope may hear nothing of a murmur which is quite startling to a light-handed man with a binaural stethoscope. One of the most striking cases of the sort was that of a right-sided empyema; the musical murmur was heard at the upper level of the dulness in front at about the level of the fourth rib and curiously enough it persisted for a long time after the cavity had closed. Another very remarkable one occupied an extensive triangular space with the apex at the spine over an enormously vascular sarcoma of the liver. The causation of these queer murmurs is, I believe, unexplained and it is equally unexplained why pressure with the stethoscope should affect them in this strange way. They are somehow produced in the thoracic wall but I have never been able to find any pathological condition to account for them, though I have sometimes had the opportunity of passing my finger through the incision I had made on to the inner surface of the chest wall at a spot where such a murmur had been heard and sometimes have proved by a post-mortem examination that no naked-eye changes were observable.

Let us now turn to the examination of a normal person. The first thing that strikes one in examining a healthy young man or boy standing up is that there is usually remarkably little resonance in the abdomen It is often impossible to percuss out the lower border of the liver with anything like certainty, the lower part of the abdomen is nearly always more or less dull, and the same may be said of the left flank. There is nearly always tympanitic resonance over the cæcum and often some over the stomach, the latter extending up over the left costal margin into the axilla, reaching as high as the sixth rib in the nipple line, but that part of the abdominal wall which corresponds to the anterior wall of the stomach is very often dull and sometimes the only resonance in front is a transverse band corresponding to the transverse colon. If the patient be placed on his face and examined from below the area of dulness is still larger, it may, indeed, be quite dull, or there may be only a faint approach to resonance at the cæcum and transverse colon. If he be placed on his back the dulness is diminished, the lower border of the liver can nearly always be determined, the anterior surface of the stomach becomes resonant, while the resonance in the left axilla is replaced by dulness, and more or less resonance is obtainable over the small intestines. These phenomena evidently depend upon the facts that in a healthy young person with a good digestion there is not much gas in the small intestines and only a moderate amount in the stomach and large intestine. Of this one has ocular demonstration in operating on properly prepared patients for, say, appendicectomy or gastro-enterostomy. The fluid or semi-solid contents gravitate downwards and hence the dulness caused by the lower part of the stomach becomes continuous with that of the liver in the erect posture and even the cæcum and transverse colon may yield a dull note when the patient is placed upon his face. Of course, these observations do not apply to overfed dyspeptic people above middle age who pass for healthy and even in those I am describing the conditions vary enormously from time to time. The moral is that it is useless to attempt to percuss out the solid viscera while the patient is standing upright.

It was long ago observed that in cases of intestinal obstruction with much distension it is impossible to say whether or not there is free fluid in the peritoneal cavity because the flanks may be dull when the patient is lying on the back but resonant in the uppermost flank when he is placed upon his side. This has been explained either by supposing that if it be a large intestine obstruction the colon is distended partly by gas and partly by fluid contents and the fluid gravitates to the lowest part, or in cases of small intestine obstruction that coils of small intestine loaded with fluid contents sag over and replace those which are distended with gas.

It is at first rather surprising to find that the upper limit of the dull area corresponding to the liver and the heart in front is almost exactly the same in the erect position and in dorsal decumbency; in other words, the liver does not fall away much from the front when the patient stands up. When he lies on the face and the dulness is percussed from below it *is found to be only a very little higher*, the change being not nearly so great as when the dulness in the back is percussed in the erect and in the knee-elbow position. This, however, becomes more easy to understand when we remember that the anterior part of the diaphragm is directed much more horizontally from its origin than the posterior which is practically perpendicular for a considerable distance, as is shown in vertical sagittal sections of the trunk; in other words, the pleural sinus hardly exists in front, whereas behind there is a considerable space only occupied by the lung during deep inspiration in the erect posture but which is easily opened up for the admission of the lung by the falling away of the liver when the patient lies on his face or assumes the knee-elbow position. When he lies on his back and is percussed from below both flanks are usually quite dull, whereas, as has been said, when he is placed in the knee-elbow position or lying on his face both flanks are usually more or less resonant and it will not be forgotten there is often very little liver dulness and sometimes none at all.

Some normal individuals experience discomfort when lying on the left side because they feel the heart beating against a part of the chest with which it is not in contact in the erect posture or in dorsal or right decumbency. That the heart does sag over to the left in left decumbency may be ascertained in thin persons by the displacement of the maximum apex beat, and I have satisfied myself that the dulness also extends further to the left; but it is not easy to estimate the exact amount in the particular individuals I examined. The dulness caused by the spleen and the left kidney in the left side of the back are greatest in dorsal decumbency and least in ventral decumbency or the knee-elbow position. From what has been said it will be seen that dulness which shifts with changes in position is the normal condition at both bases behind and is no proof of the existence of fluid in the pleura.

I do not know that there are any more practical deductions to be drawn from these observations than those which have been already referred to. I therefore now pass on to some more pathological conditions. I have already dealt with hydrothorax and empyema by stating that in the former the dulness shifts at all events much less than was formerly supposed if it shifts at all and in the latter it practically never shifts when the collection occupies the general pleural cavity and certainly never shifts at all when the empyema is localised. It is quite otherwise in cases of hydropneumothorax and pyopneumothorax. Here the fluid moves about quite freely like water in a half-filled bottle and the dulness shifts in consequence of the movement when the position of the body is changed. The only practical point [illegible] these con- [illegible] position [illegible] fluid and not to push it in too far lest it should pass through the fluid into the gas beyond. If proper precautions have been taken as to the position of the patient and still no fluid comes into the bottle the needle should be slowly withdrawn and should not be removed suddenly. This process of gradual withdrawal must be continued until the end of the operation if the last few drops of fluid are to be removed. It may be added that there is more hope of removal of all the fluid if air be present than if it be a case of simple pleurisy with effusion or empyema.

Everyone knows that the dulness in a case of ascites does not by any means always assume the horse-shoe shape which is described as typical. I have not had the opportunity since I began to prepare this lecture of examining many cases but I present to you diagrams of a few. In each case I have shown the modifications which occurred when the patients were placed in dorsal or lateral decumbency, but I did not venture to place any of these unwieldy people on my high couch. It will be seen that none of them corresponded to the normal type and that the most common deviation from it was that there was resonance in the right inguinal region. This resonance [illegible] cæcum, not I suppose b[illegible] part of the intestine, [illegible] ted to favour its submergence beneath the fluid; it must, I think, depend upon the fact that this part of the bowel is generally the most distended with gas. The line of the transverse colon comes out in all and the stomach may cause a prolongation of the central resonance into the left hypochondrium.

*It is not my purpose, even if I had made sufficient observa*tion to enable me to do so, to say what is the most usual shape for the dulness of a simple ascites to assume but I desire to point out that a departure from the so-called typical horse-shoe shape does not prove that the fluid is loculated or necessarily suggest the presence of peritoneal adhesions. The real test is whether the dulness shifts on changing the position of the body or not; in the case of general ascites this takes place with great rapidity, in that of localised collections of fluid not at all or very slowly. It is, of course, presupposed that the existence of fluid has been proved, say, by the presence of the sense of fluctuation. If called upon to tap an ascitic abdomen in which the dulness is irregular and does not shift it is unwise to employ the simple trocar or an aspirator because there is nothing to indicate the thickness of the layer of fluid which causes the dull note. The right plan is to make a small incision through the abdominal wall, as may be painlessly done with the help of local anæsthesia, and to close the opening with a stitch when the fluid has escaped.

Another condition in which the dulness is not so marked a feature as the resonance but in which it shifts with great rapidity is that in which a perforation of a gastric or intestinal ulcer has led to the accumulation of gas and fluid in the peritoneal cavity. Nowadays, these cases are usually diagnosed early and submitted to an operation, or if not the patient dies before the characteristic signs have developed. But sometimes they become subacute and a huge cavity is formed containing pus and gas, of which the posterior wall is formed by the abdominal viscera all matted together by lymph and the anterior wall by the abdominal and thoracic parietes. This condition, which has been called subdiaphragmatic pneumothorax, may give rise to difficulties in diagnosis because the accumulation of gas may press the diaphragm upwards so high that the physical signs in the chest are typically those of pneumothorax—absence of breath sound, bell note, &c. I have seen the tympanitic note extend as high as the second rib in front. A mistake should not, however, be possible because the tympanitic note and bell sound are continuous and the same over the whole extent of the cavity and the liver dulness has absolutely disappeared. But an investigation of the effect of turning the patient on the side should not be omitted. It may always be done without risk and it will be found that a part of the tympanitic area instantly becomes dull, the amount depending upon the quantity of pus that has accumulated. I have observed in one case lately, a ruptured typhoid ulcer, that vocal fremitus was to be felt very distinctly all over the abdomen and even over the iliac bones. The patient was a thin man with a deep voice. I do not know whether this is a characteristic sign but it will be interesting to see if it is met with in other cases.

This leads up to the subject of localised peritoneal abscesses containing gas which *so commonly result from* appendicitis and which unfortunately often lead to postponement of the operation. The presence of gas makes it impossible to feel a lump and if a swelling has been present before any considerable amount of gas has accumulated its disappearance may be welcomed as the sign of an improvement which does not exist. I remember many years ago, before we were so well acquainted with this disease, a stout old lady in whom we watched the appearance and disappearance of the lump and hoped, in spite of the persistence of fever, that the mischief was subsiding, whereas really the abscess was tracking up under the diaphragm which it ultimately perforated and this, curiously enough, was followed by acute tuberculosis of the right lung. I do not wish to encourage you to sit the patient up and to examine his back in such circumstances, because there are certain, though perhaps slight, risks in doing so, but it is most probable that in the sitting posture the right lumbar region will become markedly tympanitic while the right iliac fossa will become dull, though in the recumbent position the iliac fossa may be resonant and the flank dull.

A PECULIAR FORM OF CHRONIC HYPERPLASIA OF THE MUCOUS MEMBRANES OF THE UPPER RESPIRATORY TRACT.

BY SIR FELIX SEMON, C.V.O., M.D. BERLIN, F.R.C.P. LOND.,
PHYSICIAN-EXTRAORDINARY TO HIS MAJESTY THE KING.

VERY many years ago I observed a curious case of chronic hyperplasia of the mucous membranes of the pharynx and larynx of which unfortunately, in spite of much searching, I have not been able to find my notes. But the impression left by it upon my mind was such that I can even now, I think, faithfully remember its salient features. It was the case of a lady, about 30 years of age, the wife of a medical practitioner. She consulted me on account of general discomfort in her throat and of considerable difficulty in swallowing, which had, when I saw her, already lasted for many months, whilst her general health had not suffered. The aspect of her pharynx and larynx was such as I had never seen before. The whole of the soft palate, including the arches and the uvula, the posterior wall of the pharynx, the epiglottis, the aryteno-epiglottic folds, and the arytenoid cartilages were uniformly thickened and presented a peculiar yellowish, shiny, somewhat gelatinous-looking appearance, which reminded one of nothing so much as of the aspect of a lardaceous kidney. The infiltration was markedly smooth, the mobility of the arytenoid cartilages was unimpaired but that of the soft palate seemed to be rather slack, a circumstance easily enough accounted for by the general and considerable infiltration. I first of all thought that I had to do with a case of tuberculous pseudo-œdematous infiltration, but there were no other signs of tuberculosis anywhere and the condition showed no tendency towards a destructive metamorphosis. I kept the patient under periodical observation for nearly two years, during which no method of treatment was of any avail. I was therefore not a little surprised when about two years afterwards she again called on me to show me that there had been a return to perfectly normal conditions. There was as little obvious cause for restoration to health as there had been for the orginal affection.

The second case occurred in a woman, aged about 40 years, whom I only saw once. In that case the conditions were similar to those observed in the first but much less developed.

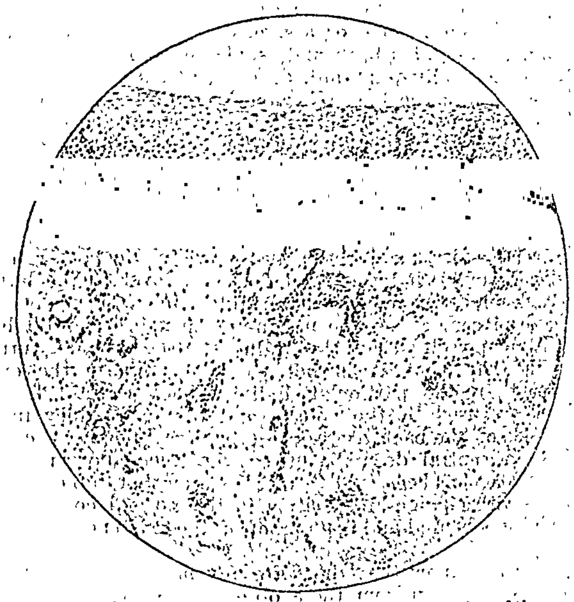
My third case was shown on Nov. 7th, 1902, to the Laryngological Society of London and has been described in its Transactions as follows :—

> The patient was first seen on July 12th of the present year with a history of long-standing throat trouble and occasional difficulty in swallowing. She had been seen by various medical men, all of whom,
> a affection as rather
> s e of it.
> of the uvula was
> he uvula and the adjacent parts of the soft
> nfiltrated and at the same time quite smooth
> the most characteristic point consisted in the
> r of the af
> appearance
> lardaceous degeneration. In the la
>
> transparent than its fellow, it had a s
> arytenoid.
>
> There was no evidence of kidney trouble but on examination of the legs there was slight pitting on pressure, particularly over the external malleoli.
>
> Her voice was normal. There was no pain and no difficulty in breathing. The organs of the chest were normal.
>
> The urine was examined later and found perfectly normal. On July 14th, 1902, the local condition of both pharynx and larynx was much better than three days previously. The patient was given an arsenic and iron mixture.
>
> On July 29th, 1902, the swelling both of the uvula and of the right arytenoid cartilage was much more marked than on the occasion of her last visit and the colour was much more that characteristic lardaceous yellow which had
> examination. The condition
>
> On Nov. 6th, 1902, the pa
> better since last seen and ha
>
> than they were in July.

n these three cases and observed that I was not aware that the condition had ever been described. The case excited a good deal of interest as none of those present had ever seen anything similar. It was suggested that a piece of the uvula should be removed for microscopic examination, and the patient having consented to this, I amputated a part of the uvula and submitted it to Mr. S. G. Shattock, pathological curator of the Royal College of Surgeons of England, who has kindly favoured me with a full description of the histological characteristics of the infiltration. Before giving this in his own words I may state that the patient shortly after the little operation left London and that I have not since heard from her. The following is Mr. Shattock's description :—

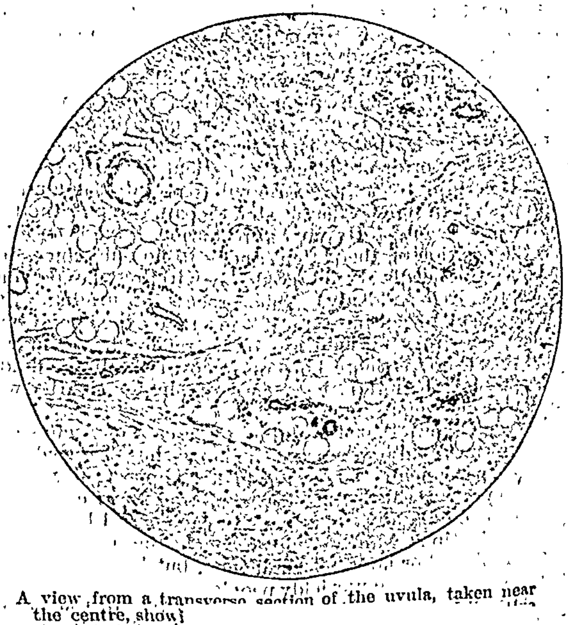
> The uvula is generally enlarged, its cross section having a diameter of 9 m.m. and its length being correspondingly increased. The investing epithelium is everywhere intact and normal; between its elements a few polymorphonuclear leucocytes have wandered from the subjacent tissue. The increase in size is due to a diffuse formation of finely fibrillar connective tissue, in the central part of which there occur small groups of fat cells. The proper corpuscles of the new connective tissue have the usual characters and are moderate in number. The uniformity of the microscopic picture is only broken

FIG. 1.



A view, including the surface, from a transverse section of the uvula described in the text, showing the intact epithelium and a certain degree of small-celled infiltration around the vessels and beneath the epithelium. The tissue is of a close, finely fibrillar connective kind. Zeiss obj. A., Oc. 4 (slightly reduced).

FIG. 2.



A view from a transverse section of the uvula, taken near the centre, show
tissue, but closer
occur in it. [Zeiss obj. A.; Oc. 4 (slightly reduced).

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vessels.

At the time when I demonstrated these cases I considered, as already stated, my observations as unique. Shortly afterwards, however, I found that 18 months previously Dr. A. Brown Kelly of Glasgow had given a very excellent description of a similar case in THE LANCET of April 6th, 1901, p. 995, under the title "Sclerotic Hyperplasia of the Pharynx and Naso-pharynx." *In his case the* patient was a man, aged 34 years, who for about eight years had been subject to slight attacks of sore-throat. Three years before Dr. Brown Kelly saw him he began to feel something in the pharynx which he wished to expel. These sensations had gradually increased. Latterly severe choking fits had been excited and nasal respiration had been *partially obstructed for a year. On examination his* pharynx presented a very striking appearance. The uvula was very large and hung like a curtain concealing the posterior pharyngeal wall. Its length was over one and
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ed a
peculiar aspect. A narrow tract of abnormal tissue ran to the middle of the posterior wall. On each side of this, extending outwards to the lateral wall and incorporating with it a part of the right and the whole of the left faucial pillar, was a broad prominent band which was thickened in its outer part. These bands passed upwards into the naso-pharynx and downwards to the upper end of the œsophagus. Their consistency was that of muscle and they could be pushed *en masse* towards the middle line. Their colour was a uniform grey and their surface was perfectly smooth. The appearance of the naso-pharynx revealed marked changes. The lumen of the cavity was reduced so as barely to admit the forefinger. Only a small part of the septum and middle turbinates could be seen, the coronal arches and Eustachian orifices were concealed. aso-
pharynx, like those in th and
firm. The bands on the were
seen to pass downwards the
sides of the epiglottis t nds.
Within the next two years no change was noted in the conditions described with one exception. The patient in October, 1900, complained of sore-throat. When Dr. Brown Kelly saw him on the sixth day of the attack the pain, which was confined to the left side, had begun to subside. There was then great swelling of the left band, especially about the level of the epiglottis. Its surface was smooth and pale. Three weeks *later the œdema had diminished* considerably so that a view of the larynx was obtainable. It was then found that the movements of the left arytenoid during phonation produced a clicking sound owing to its coming into contact with the overlapping tissues. Five months after the acute attack the left band continued thicker than the right and the clicking sound was still heard.

Dr. Brown Kelly, shortly after the patient came under his observation, removed the uvula by means of the galvano-caustic snare, since which time the choking attacks ceased and the patient considered himself practically cured. A piece of the removed uvula was preserved in absolute alcohol and a very full account of its minute structures is given in the paper by Dr. A. R. Ferguson, senior assistant to the professor of pathology of the University of Glasgow. (It ought to be mentioned that the macroscopic and microscopic conditions observed are very fully illustrated in Dr. Brown Kelly's paper.) The report of the pathologist, for the details of which those interested must be referred to the original, is thus summed up in his own words:—

In the concluding part of his paper Dr. Brown Kelly exhaustively discusses the question of the nature of the affection from a clinical point of view and excludes rhino-scleroma, tertiary syphilis, and hereditary syphilis. Whilst he is unable to define the disease of which the condition observed by him is a manifestation, he points out that an analogous condition probably exists in subglottic hypertrophic laryngitis and admits that in the hyperplastic variety of hereditary syphilis the histological appearances closely resemble those of the affection described by him under the name of "sclerotic hyperplasia of the pharynx and naso-pharynx."

An apparently similar case was shown under the name of "Chronic Œdema of the Larynx (?) Amyloid" to the Laryngological Society of London on Feb. 6th, 1903, by Dr. J. Dundas Grant, in which the larynx was the seat of a pale, somewhat solid, œdema of the epiglottis, and both aryepiglottic folds, especially the left, and the palate and pillars of the fauces, especially the left one, were somewhat thickened. Inasmuch, however, as Dr. Dundas Grant on Feb. 5th, 1904, showed the patient again, who meanwhile had greatly improved under antispecific treatment, he himself admitted that the case had probably been one of
no evidence either direct or
the subsequent discussion,

sented some clinical resemblances to the cases so far described, probably does not belong to the category under discussion as sections of the enlarged epiglottis which was removed showed numerous roundish nodules deep under the mucous membrane which strongly resembled, but were not characteristic of, tubercle.

Another case as to which it is extremely doubtful whether it is of the same nature as those described by Dr. Brown Kelly and myself was shown by Dr. A. Logan Turner to the Laryngological Society of London on Jan. 15th, 1904. He described it as an "œdematous infiltration of the uvula, left half of the soft palate, and left lateral wall of the pharynx, *infiltration of epiglottis* and both arytenoid regions." In that case the onset of the disease was apparently quite sudden. Serious respiratory symptoms developed within three days and on the evening of the third day tracheotomy became necessary. The original diagnosis was acute septic infection of the pharynx and larynx. At that time the uvula and soft palate were œdematous and the epiglottis was markedly swollen *and rigid*, reddish, and curved back. Both arytenoid regions
be obtained of the interior,
the tracheal tube could be
he local appearances were
d at the time of the acute
attack with the absence, however, of the acute inflammatory signs. Again, two months later, after administration of antisyphilitic treatment the local condition was very much the same as previously seen but in addition the left lateral wall of the pharynx had become swollen and presented an appearance similar to that of the soft palate. A small piece of tissue was removed from the infiltration on the
microscopic sections of this
tuberculosis or malignancy.
were œdematous, the blood-
vessels (arterial and venous) were much engorged, and there

were areas of small-cell infiltration. The appearance suggested somewhat the existence of lymphatic obstruction." In conclusion, Dr. Logan Turner stated that it was impossible to say definitely whether the present condition dated from the acute illness or whether that was merely superimposed upon a chronic infiltration such as at present existed.

In the discussion Dr. P. McBride, who had seen the patient in consultation, observed that it seemed to him that the case must be either specific or some form of infiltration associated with obstruction of the lymphatics the nature of which he was unable to recognise. I observed that I could not agree that this case was very similar to my own and that, as a matter of fact, unless Dr. Logan Turner had mentioned the connexion, the thought of my own cases would have hardly occurred to me. The uvula certainly had a somewhat infiltrated aspect and was yellowish in colour and a similar condition, although in a minor degree, was to be seen on the epiglottis but there were not nearly so much infiltration and peculiar yellowish colour as in my own case. What differentiated this case more particularly from my own was that the infiltration was not nearly so universal. If the explanation of the case lay in its being due to some particular obstruction of the lymphatics, the infiltration should be more general. I was not prepared to give an opinion as to the nature of this case.

Dr. Dundas Grant said that he had under his care a case somewhat resembling this but very chronic in its course. He had shown it to Dr. Hajek, who thought it extremely rare and had only seen one or two cases. In his opinion it was a kind of lymphadenoma which was due in reality to infiltration of small cells. The society was now getting a considerable collection of these cases of what might roughly be called "chronic œdema." In one case which he had shown to the society an improvement was taking place under mercurial inunctions and it was probably tertiary syphilis. Other cases which had been reported turned out to be tuberculous. It would be interesting if the after-history of these cases could be brought before them.

In reply Dr. Logan Turner said that he would certainly keep the patient under observation and if any definite diagnosis was arrived at he would let the society know. The microscopic sections revealed practically nothing. The connective-tissue spaces were somewhat loose and œdematous, the blood-vessels were a little thickened here and there, and round about them there was a certain amount of small cell infiltration, but there was nothing very definite as regards the question of tuberculosis. Looking at the laryngeal condition the pale œdematous infiltration of the arytenoids was certainly suggestive.

Remarks.—The above list comprises seven cases, which have been shown before, or mentioned at, the London Laryngological Society in the course of the last three sessions as forming a group of their own and constituting a hitherto apparently undescribed form of chronic hyperplasia of the mucous membranes of the naso-pharynx, pharynx, and larynx. From this group, however, I think that the cases of Dr. Dundas Grant, Dr. Lambert Lack, and Dr. Logan Turner must be eliminated, as in all probability, although there was some similarity in the clinical appearances, the cause of the peculiar swelling in these cases was tuberculosis, syphilis, or acute septic infection. Four cases only would therefore remain, Dr. Brown Kelly's and my own three, and as one of the latter was only seen once by me, it is of practically no value for the decision of the nature of these cases. The more important, however, are the three remaining ones: Dr. Brown Kelly's case, my first case, and my third case. The microscopic appearances in Dr. Brown Kelly's case and my own third case are practically identical. It is, indeed, remarkable how much the findings and conclusions of Mr. Shattock's report tally with those of Dr. Ferguson, considering the fact that Mr. Shattock's report was written in ignorance of Dr. Brown Kelly's case and that he only became acquainted through me with Dr. Ferguson's report after he had delivered to me his own description of the microscopic appearances seen in my own case and the conclusions he had derived therefrom. Full and excellent, however, as both these reports are, they unfortunately throw no more light upon the etiology of these curious cases than long-continued clinical observation. All that can be said is that we have to do with a chronic hyperplasia of the tissues involved and not associated, so far as can be judged so far, with the presence of any specific micro-organism. Tuberculosis, syphilis, and rhino-scleroma seem to be quite out of the question in them all.

On the difficult question raised by Dr. Brown Kelly—viz., whether the affection observed by him and me is analogous in nature to subglottic hypertrophic laryngitis—I wish to speak with all possible caution. I will not venture to say more than that the same reason, which induces me to think that the name given by him to the new affection—viz., "sclerotic" hyperplasia—is not happily chosen, combats also against my believing in its identity or analogy with hypertrophic subglottic laryngitis. In all probability Dr. Brown Kelly was led to adopt the term "sclerotic" through the conclusion at which his microscopist arrived—viz., that the condition represented a "chronic hyperplasia of the interstitial tissues of the parts involved of apparently progressive character with no tendency towards degeneration." This characterisation, if correct in every detail, would indeed be analogous to the condition known as hypertrophic subglottic laryngitis, Stoerk's blennorrhœa, or scleroma of the larynx and would quite justify the use of the adjective "sclerotic," which in a medical mind is more or less associated with the conception of a progressive interstitial change incapable of spontaneous or remedial repair.

I hope that I shall not be considered captious if against this view, which assumes the pathology of the new affection to be one of progressive, mostly interstitial, hyperplasia, I urge the all-important fact that in my own first case a spontaneous complete disappearance of the infiltration took place after it had existed for several years and that in Dr. Brown Kelly's own case a change for the better had taken place when last he saw his patient. These facts appear to me so irreconcilable with the idea of the change being of a genuinely sclerotic character that I venture to propose, instead of the expression "sclerotic" hyperplasia, the non-committing name of chronic hyperplasia, which may do service until we have learnt to understand better the nature of the curious affection described in this paper.

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PNEUMONIA WITH INFECTIVE ENDOCARDITIS AND MENINGITIS.

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AND
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CASES of pneumonia with endocarditis and meningitis as complications or sequelæ have been often recorded, yet in few of these instances have the symptoms been so manifest as to permit an easy diagnosis during life. The literature of the condition is of comparatively recent date and until Osler, in 1885, by his Goulstonian lectures, proved the unsuspected frequency of ulcerative endocarditis and meningitis, one or both, following pneumonia, the subject had not received much attention. Indeed, Osler[1] states that the committee for collective investigation in its report of 1000 cases of pneumonia mentions infective endocarditis only once. Since then it has been studied by numerous observers and the importance of pneumonia as a causal factor is made evident by Kanthack's statistics in which 14·2 per cent. of all cases of infective endocarditis showed an antecedent pneumonia. The following instance of the double complication has been considered by us sufficiently notable to deserve publication.

A man, aged 40 years, was admitted into Barnhill Parochial Hospital on Feb. 25th, 1902, suffering from pneumonia of the right apex. The date was the fifth day of the disease. There was no delirium and the other organs appeared to be normal. The only conspicuous feature was the occurrence on the fifth and sixth days of sharp pleuritic pain which was controlled by hypodermic injections of morphine. The crisis took place on the ninth day and for three days thereafter the patient was apparently convalescent. On the thirteenth day, however, the temperature, which had not exceeded 99° F. for four days, rose to 102° and the patient became restless. On the succeeding four days the temperature rose and fell daily, the highest reading being 102° and the lowest 98 4° He slept little, perspired heavily, and complained of pain in the præcordial region On the eighteenth day the calves of the legs were painful and tender He cried out when they were pinched even slightly. On the following day he had a rigor and the temperature rose to 103 2° With the exception of the pain in the legs he was easier on the next two days, the morning temperatures being 100° and the evening ones 103 8° and 104 2° respectively At this time the first sound of the heart was noticed to be distinctly impure There was a soft systolic murmur heard only at the apex The cardiac dulness was normal He passed a restless night and on the twenty-second day was still restless, with persistent sickness and vomiting and slight delirium The temperature rose to 105° and he complained of severe headache Next day the headache was still distressing and he vomited frequently The pupils reacted to light and in accommodation and there was no optic neuritis On the following day he was very restless and delirious at intervals On the twenty fifth day he had two general convulsive seizures, the delirium was continuous, and he was extremely restless On the next day his condition was much the same, cough was troublesome, and the bowels were loose There was a considerable quantity of râles in the lungs and the respirations attained a frequency of 66 whilst the pulse was only 104 He died on the twenty seventh day of the illness There was no rash or strabismus at any time

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[1] Goulstonian Lectures. THE LANCET, March 7th (p. 415), 14th (p. 459), and 21st, 1885 (p. 505).

At the necropsy the upper lobe of the right lung was grey on section, somewhat soft, and showed only a moderate degree of resolution The pericardium contained two ounces of yellowish serum The heart was of ordinary size, rather pale in colour, and the walls were of normal thickness On the auricular surface of the mitral right cusp was found a circular clump of granulations nine millimetres in diameter and four millimetres high and part of its edge was over the line of contact Exactly opposite, on the other curtain, was a similar but smaller growth measuring seven millimetres in diameter and projecting three millimetres above the valve surface The vegetations came into apposition when the valve was closed The tissue round the vegetations was thickened and œdematous but there was no defect elsewhere The other valves were normal Examination of the brain revealed a diffuse purulent meningitis, the pus was thick and much more abundant on the cortical surface than at the base The other organs seemed healthy, with the exception of the spleen which was somewhat enlarged Sections of the valvular granulations cut in paraffin showed, besides masses of cocci many diplococci resembling Fraenkel's pneumococcus Unfortunately the brain was destroyed before smears of the pus could be taken

Some points in the case merit notice The brief period of apparent convalescence was marked enough to show that the pneumonia had waned and this was confirmed at the section by the fact that the lung had partially resolved Further, the patient was able to indicate his new discomfort in the cardiac region He perspired heavily, as recorded in the daily note "Sweating is a very frequent symptom (of malignant endocarditis) and is usually of special notice from the peculiarly drenching character which is second only to ague and usually far beyond the average mark of phthisis and pyæmia " [2] The cardiac sounds at this time were clear, no impurity being detected until the twenty first day of the illness No presystolic element was ever audible and the size of the valvular growths could not be considered sufficient to cause an appreciable degree of stenosis, whilst their position was such as to allow a moderate amount of regurgitation The pain and tenderness in the calves of the legs were taken to be the first signs of meningitis Leube[3] lays stress on the hyperæsthesia of the skin and muscles, especially of the legs and calves On the nineteenth day the patient had the only rigor which occurred during the illness From the evening of the twenty first day the third and last stage of the illness was established, dominated almost wholly by the meningeal symptoms During the last few days the cardiac murmur ceased to be audible The chart which was kept four hourly, showed the [illegible] with the præcordial pain as the first expression of [illegible] hœa was probably due to minute embolic infection of the intestines, though these appeared normal to naked eye inspection

Our combined record of pneumonia in Barnhill Hospital for 20 months reached the total of 235 and the above is the only case in which the double complication of infective endocarditis and meningitis was observed Pye Smith[4] records 435 cases of pneumonia, with seven of ulcerative endocarditis, five of meningitis, and three of both Osler[5] records the double complication five times in 103 necropsies The discrepancy between the figures of the two authors is possibly due in the first place to the fact that Osler's record is a pathological one exclusively and in the second place to the difficulty of recognising the complication during life When the heart or brain is involved in the acute stage of pneumonia the recognition of the new infection is a business of unusual perplexity and especially so if both be affected, for then owing to the commanding nature of the meningeal symptoms and the possible latency of the cardiac ones, the former may completely overshadow the latter

One case of meningitis alone occurred in our record, the patient was a girl, aged 16 years, and she died on the seventh day of the illness One case of infective endocarditis alone was observed, there was a double aortic murmur—the pneumonia in this case was also in the right apex—and the aortic valve was found perforated and covered with recent vegetations There was here a probability of former cardiac disease Glynn,[6] quoting Orth, states that infective endocarditis is never found save in old valvular disease, but in our detailed case there was not the slightest suggestion that the endocarditis had been grafted on a previous lesion Kanthack[7] found chronic disease of the valves in 64 per cent and Kelynack[8] recognised old cardiac lesions in 75 per cent but says "In only four instances were there satisfactory grounds for believing that the valves were normal prior to the establishment of the infective process

In conclusion we express our thanks to Dr William Core, superintendent of Stobhill Hospital, late medical superintendent of Barnhill Hospital, for his courtesy in permitting us to publish this case

A CASE OF ACUTE SEPTICÆMIA TREATED WITH ANTISTREPTOCOCCIC SERUM, RECOVERY[1]

BY G H CRESSEY, M R C S ENG , L R C P LOND

THE patient, aged 15 years, a visitor to Torquay, had always been a perfectly healthy girl Ten days before I saw her, while paddling in a stream, she cut the plantar surface of her right great toe, which bled freely but caused her no further trouble and she went to Torquay I was called to see her late in the evening of August 10th, 1904 and was told that after spending a restless night she had been feverish and delirious all day Her temperature was 103°F and her pulse was 110 Her tongue and her breath were foul but no mention was made of any injury till the following day when I was asked to look at her foot I then found a nasty looking blister over the ball of the right great toe, an erysipelatous blush over the tibia and tenderness in the ham and inguinal regions A free incision was made [illegible] escaped a large [illegible] en relieved, her [illegible] 100 She was given quinine and iron and put on a beef tea and milk diet On August 14th Dr W Stabb saw her with me and the quinine was increased and the iron was omitted On the 15th her temperature was 104° and her pulse was 120 There were considerable swelling over the dorsum of the foot increased blush and also swelling over the tibia Dr Stabb again saw her with me and under chloroform free incisions were made over the foot and the leg In the evening the temperature had declined to 101 4°, the pulse was 104 and the respirations were 24 During the day she had had five grains of quinine On the 16th the leg was placed in a 1 in 80 carbolic acid bath and as the temperature ranged from 102·8° to 105° she was given five grains of quinine and also two drachms of brandy every four hours. There was a slight cough but nothing pointing to lung trouble. The pulse was 114 and the respirations were 24. She had had a fair night and had taken her nourishment well. On the 17th she had been delirious during the night but there were no increase of redness and no tenderness in the ham or the groin. The temperature ranged from 101·8° to 103·3° and the pulse was 106. The leg was placed in a chloride of sodium bath, 1 in 12, and she had during the day four grains of salol every four hours. On the 18th she was delirions during the night and perspired freely towards morning. On account of the urine being dusky with a slight trace of albumin the salol was stopped but the brandy was increased to three drachms every four hours. At noon the temperature was 104·6° and 20 cubic centimetres of antistreptococcic serum, obtained from the Lister Institute, were given hypodermically at 4 P.M. At 5.30 P.M. the temperature had fallen to 101·1°. On the 19th, after a restless night, ten cubic centimetres of the serum were injected at 4 A.M., after which the patient slept. There was a troublesome cough and a well-marked systolic apical bruit had developed, but there were no morbid sounds over the lungs. She was given digitalis and carbonate of ammonium every four hours and another injection of the serum. The temperature ranged from 101·8° to 104·8°. The patient continued in much this state till the 24th when her temperature fell to 99·8° during the night but it rose to 105° in the afternoon, the patient having had a slight rigor at 9.30 A.M. The cough was troublesome but there were no abnormal lung sounds. She was given three grains of quinine and five minims of solution of strychnine three times daily. She continued in much the same state for the next eight days though the noon temperature never rose quite so high. The cough was troublesome but there were no expectoration and no morbid lung sounds and the respirations only once reached as high as 30. After the 31st no more serum was used. A swelling appeared over the outer side of the right knee. The temperature fell to normal on Sept. 3rd and was subnormal up to the 6th. On the 7th the swelling over the knee and another over the ankle were incised, letting out some inodorous pus. The patient afterwards had a disturbed night and her temperature rose from 101° to 105·8° in the evening, her pulse from 120 to 140, and her respirations from 22 to 48. She was given ten cubic centimetres of serum, after which there was a profound rigor lasting nearly an hour, followed by profuse sweats and the temperature gradually fell to 96·8° at 7 A.M. on the 9th but rose to 104° in the evening, the respirations being 33. On the 10th there were physical signs of pneumonia over the right base. On the 15th the temperature reached 105°, there was stabbing pain in the right side of the chest, and a pleuritic rub was heard. Three leeches were applied with great relief. On the 19th there were physical signs of effusion and on the 28th there was dulness up to the middle of the scapula and the apex beat was displaced to one and a half inches outside the nipple line. On Oct. 2nd, after aspirating a syringeful of thin watery-looking pus, Dr. Stabb resected about one and a half inches of the seventh rib, letting out about three pints of curdy, inoffensive pus and inserted a large drainage tube. The temperature at once fell and on the 14th the tube was finally removed and the patient rapidly convalesced, still, however, having the systolic apical bruit and a rapid pulse. Altogether 235 cubic centimetres of the antistreptococcic serum had been injected. The patient had several superficial abscesses, due apparently to the serum, but not as a rule at the site of the injections.

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[2] Ibid

[3] Osler's Text book of Medicine third edition p 955

[4] Allbutt's System of Medicine

[5] Loc. cit

[illegible]

vol v p [illegible]

[8] Quoted by Glynn *supra*

[1] A paper read before the Torquay Medical Society on Jan 18th 1905

I think that this most instructive case may be divided into three stages. 1. The stage of acute sepsis, during which there was lymphatic poisoning with swollen glands, high temperature, and rapid pulse. During this period the antistreptococcic serum was used pretty regularly until the skin became exquisitely tender. 2. The formation of superficial abscesses, nearly all of them being immediately beneath the skin. During this stage the great vital organs remained practically unaffected until a pleuro-pneumonia appeared in the right lung. 3. The formation of an empyema, the operation of paracentesis thoracis with marvellously rapid result, followed by convalescence in which there were no drawbacks.

Torquay.

MENTAL SYMPTOMS ASSOCIATED WITH HEART DISEASE.

BY H. KERR, M.A., M.D. GLASG.,
ASSISTANT MEDICAL OFFICER, BUCKS COUNTY ASYLUM.

THE presence of mental symptoms in cases of heart disease is not unusual; on the contrary, in all cases of grave heart disease one expects to find at some period or other the mental condition of the patient to vary from the normal standard, although only in a few would the symptoms justify the classing of the patient as insane. The frequency of heart disease in the insane may be estimated from the statistics of the reports of the Commissioners in Lunacy and in the report for 1902 the death-rate from this cause is found to be 10·07 per cent. of all causes of death. In a large proportion of these cases the heart affection had in all probability but little direct relation to the mental condition of the patient but in a certain number of cases mental symptoms are present which have a very definite relation to the cardiac condition and conform to a certain clinical type. It is this fact which has led alienists to give a place in their classifications to the insanity of heart disease as a distinct clinical variety, with subvarieties according to the different cardiac lesions.[1] The following case is of peculiar interest, not only on account of the mental symptoms which are characteristic of this type of insanity and which, judging by their sequence in the history of the case, may be fairly ascribed to the heart affection but also on account of the extreme degree of hypertrophy of the heart which was found to be present.

The patient, a man, aged 52 years, married, was admitted to the Bucks County Asylum on Feb. 6th, 1901, suffering from a first attack of insanity of three months' duration. He was a blacksmith and had been in failing health for about a year with symptoms of heart disease and failing action of the heart. There was no history of rheumatism and his general health had been uniformly good until his present illness. A month before admission to the asylum he had been received into the Hemel Hempstead Infirmary but had been sent home after nine days on account of his mental state. He had been depressed and low-spirited, with suicidal tendency, and according to the medical certificate "he told his son that he did not care anything about him or he should have him locked up or sent to the asylum, as he was afraid he should make away with himself." He had hereditary predisposition to insanity, his father's brother having been insane for many years and being at present an inmate in the Bucks County Asylum.

On admission the patient was worried and anxious in appearance and was very miserable and depressed, despairing about himself and his condition. He was suspicious of those around him and imagined they wished to injure him in various ways. He was somewhat slow and dull and disinclined to talk. Physically he was very stout, weighed 17 stones, was flabby in appearance, pallid, and looked ill; his respiration was slightly increased in frequency and dyspnœa was present, much increased on exertion, and he complained of a "sinking feeling in the stomach." Cardiac dulness was found to be much increased in every direction and marked pulsation was present over the cardiac area. A loud, blowing systolic murmur was present, heard all over the heart region but loudest over the aortic area. The pulse, 72 per minute, was regular in force and rhythm, and in character somewhat approaching the "water-hammer" type. He had slight cough and bronchial catarrh but no marked physical signs were present in the lungs. There was no anasarca and the urine was normal. He was kept in bed and under treatment with rest and cardiac tonics his general condition so far improved that in six weeks he was able to do light garden work without any ill-effects. His mental condition at the same time improved and he became cheerful and sociable, taking part in indoor games. He continued fairly well throughout the summer and the mental symptoms were not at any time prominent. In the latter part of the year the symptoms of heart disease again became very pronounced and he was quite incapacitated for work. In January, 1902, he became so ill that he had to stay in bed;

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[1] Tuke's Dictionary of Psychological Medicine, p. 177.

anasarca appeared and became general, albumin was present in the urine, and the respiration became embarrassed with marked orthopnœa present With the failure of his bodily health and the greater urgency of the cardiac symptoms he relapsed into his previous mental condition eventually towards the end becoming very dull and stupid and dirty in his habits No improvement in his condition resulted from treatment and he died on March 18th 1902

On post mortem examination the heart was found to be enormously hypertrophied weighing 31¾ ounces The hypertrophy was general the normal shape of the heart being fairly well preserved, the muscle was soft and friable The aortic valve was incompetent, the flaps showing atheromatous change and one of them having numerous large vegetations The mitral valve was dilated and atheromatous degeneration was present which condition was also present in the aorta The lungs were heavy and œdematous and several recent infarctions were found, infarcts were also present in the spleen and the kidneys

Cases have been recorded where the heart has reached a degree of enlargement greater than in the present case, [illegible] however, be comparatively [illegible] The sequence of events [illegible] to be that hypertrophy, probably induced by his occupation had existed and been increasing for years, that the supervention of atheroma and valvular disease caused a further large increase in the muscle of the heart, that this was followed by the degeneration of muscle and failing compensation which brought in its train all the symptoms of cardiac failure To these were added the mental symptoms which were a prominent feature of the case

Stone Aylesbury

PROPERITONEAL OR ABDOMINAL HYDROCELE

By J LEWTAS, M D Lond, M R C S Eng,
LIEUTENANT COLONEL, INDIAN MEDICAL SERVICE SURGEON TO THE MAYO HOSPITAL AND TO THE EYE INFIRMARY CALCUTTA

THE descriptions of abdominal hydrocele given in English text books of surgery are so meagre that they are apt to escape the recollection of their readers and hence any instance of it occurring to a surgeon causes a feeling of surprise if not of discovery Until I met with the case recorded below I was not aware that this variety of hydrocele had been recognised and it was perhaps with a sense of disappointment that I found my "discovery had already been discovered and described The notes of the case are as follows

The patient a man aged 38 years was admitted to the Mayo Hospital, Calcutta, on July 1st 1904, for what was diagnosed by both the resident surgeon and the house surgeon as a reducible inguinal hernia and he was got ready for a radical operation on July 3rd Before he was put under chloroform I verified the presence of what appeared to be an inguinal hernia on the right side which gave an impulse on coughing, which could be readily reduced, and which descended again immediately on withdrawing the hand The usual incision was made and on reaching the sac it seemed darker than usual and was obviously distended with fluid A small opening was made in it to give exit to the fluid which was clear and of a pale straw colour, but to my astonishment this continued to flow until the amount far exceeded the capacity of the sac and I began to think that there must be ascites as well as a hernia However, the flow ceased when two and a half pints had escaped, then on looking into the sac at the internal ring it was surprising to find neither intestine nor omentum and on passing a finger through the ring nothing could be felt but the yielding sides of a smooth walled cavity the limits of which could not be reached In order to find how far this cavity extended and in what direction I passed into it the metal handle of a retractor which entered for a distance of about ten inches in directions radiating upwards and inwards from the internal ring The left index finger pushed into the sac while pressure was made on the abdomen with the other hand could feel the under surface of the liver and of the umbilicus and the intestines could be felt through the thin wall of the sac This large cavity communicated at the internal ring with the sac outside which extended thence to about an inch beyond the external ring where it ended in a blind pouch This extra abdominal sac was separated from its connexions and cut off close to the internal ring A gauze drain was passed through the internal ring into the sac within the abdomen and the skin incision was then closed There was nothing noteworthy in the after history, the gauze drain was shortened on the third day and was removed on the ninth day The abdominal sac did not fill again The patient was kept in bed for three weeks and when discharged from hospital at the end of a month the abdominal sac so far as could be ascertained was obliterated

As regards diagnosis this would depend upon the dulness on percussion of the swelling in the groin, its re-descent without gurgling after reduction, the transparence of the external swelling and the presence of an area of dulness *extending inwards or upwards from the internal ring* This form of hydrocele is one of the varieties of a hydrocele *en bissac* or a bilocular hydrocele, one pouch of which occupies the position of the cord while the other expands into the iliac and hypogastric regions of the abdomen This condition is mentioned in Treves's System of Surgery and is described by the late Sir George Humphry in his article on Diseases of the Male Organs of Generation in Holmes's "System of Surgery Humphry gives notes of two cases both on the right side and both of which suppurated after insertion of the lint of those days, he also refers to two other cases reported by Professor Syme and Lord Lister respectively There is a still more detailed description of these peritoneo vaginal hydroceles in the article by P Reclus in Duplay's "Traité de Chirurgie, [1] and it may be noted that the only case there figured is also on the right side He describes three varieties of abdominal hydrocele—viz, (1) properitoneal, the most common (2) interstitial, between the muscles of the abdominal wall, and (3) subcutaneous in front of the aponeurosis of the external oblique The explanation there offered is that the processus vaginalis having been obliterated at the internal ring and some point beyond this the non obliterated portion between these points becomes distended with fluid, constituting a hydrocele of the cord the upper end of which expands into the abdomen pushing the peritoneum before it and thus a bilocular sac is established

In order to bring about adhesion of the walls of the abdominal sac it has been recommended (1) to inject it with tincture of iodine (2) to wash it out with a rather strong solution of corrosive sublimate, (3) to drain it through the lower sac, and (4) to draw the sac out through the internal ring and to remove it But in the case of a large abdominal sac it would be unsafe to inject tincture of iodine while its removal by drawing it out would incur obvious risks if the sac had formed adhesions to the peritoneum To some extent the line of treatment would depend upon the characters of the sac such as its size thickness and adhesions to the tissues outside it Drainage after some irritation of the interior of the sac as by manual examination of it together with pressure and prolonged rest in bed sufficed to effect a cure in this case as well as in the two reported by Sir George Humphry, though it must be repeated that both of his suppurated

Calcutta

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[1] Second edition vol vii pp 1037-41

THE HOME OF RECOVERY —A dinner in aid of the plan for this home in Surrey was given last week at the Prince's Restaurant, Piccadilly, London W The Duke of Portland occupied the chair and explained that the home would receive 21 patients that a motor ambulance would be used for their conveyance from London and that proper surgical treatment would be provided for those whose wounds or sores were still unhealed The sum of £30 000 was needed, not for building but for permanent endowment No debts would be sanctioned and no further begging would be encouraged The sum of £5000 was needed for building and equipment and nothing would be done till the whole of the money was provided Sir Frederick Treves replying to the toast spoke of the "terrific pressure on the hospitals of London "This home, he said, "is absolutely a necessity and it is a marvel to me that it has been so long delayed *There is no scheme* that I know of that appeals more to those of us who have to do with surgery in London Lord Lytton also spoke Donations to the amount of £1335 were announced at the end of the evening

TOTAL ENUCLEATION OF THE PROSTATE IN ADVANCED OLD AGE.

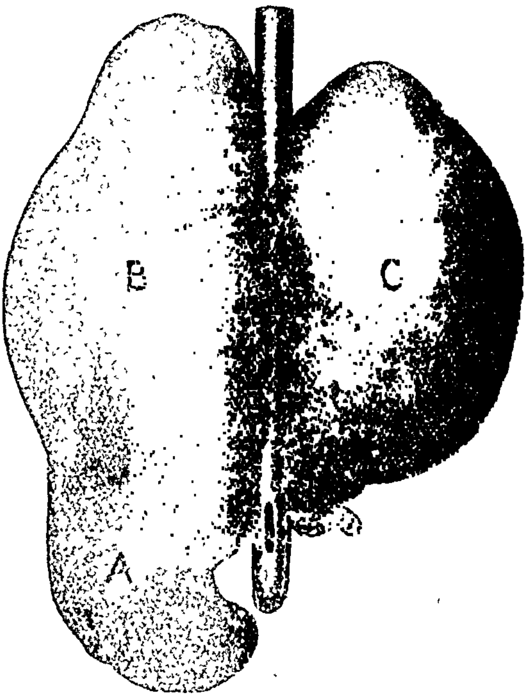
By P. J. FREYER, M.A., M.D., M.Ch. R.U.I.,
SURGEON TO KING EDWARD VII.'S HOSPITAL FOR OFFICERS AND TO ST. PETER'S HOSPITAL, LONDON.

[THE first part of this paper, which was an introductory address delivered before the Reading Pathological Society, was taken up with a description of the various steps in Mr. Freyer's operation of total enucleation of the prostate and the anatomical and pathological considerations tha render the operation feasible. These have already been published in THE LANCET. Mr. Freyer continued by directing attention to the application of the operation in the case of octogenarians.]

One of the most remarkable features of this operation is the success that has attended its employment in patients of very advanced ages. Amongst 134 patients on whom I have performed the operation to date there were seven octogenarians and one bordering on this period of life, aged 79 years. Seven of them are alive at the present time, most of them in excellent health, and all able to retain and to pass urine normally. The remaining patient, in whom the prostate was carcinomatous, after complete recovery from the operation died suddenly from heart disease. From these facts it would appear that age has little influence on the results of the operation, provided that the vital organs (and particularly the kidneys) are unaffected or fairly sound. Nevertheless, patients of this age cause much anxiety, and the operation should not be undertaken in such cases unless the most careful and tender nursing is available as well as the constant personal supervision of the surgeon. The details of these eight cases are as follows, the original numbers of the cases in the whole series being retained.

CASE 15.—The patient, aged 79 years, was seen in consultation with Mr. J. H. Scott of Camberley on June 10th, 1902. There had been prostatic symptoms for three years. The patient was completely dependent on the catheter for nine months. The catheterism was painful and accompanied by hæmorrhage at times, also orchitis. The sound was passed but no stone was found. The prostate was much enlarged per rectum, particularly on the left. It was bilobed, rather hard, but moveable over the bowel. On June 23rd, Mr. C. Carter Braine being the anæsthetist, Mr. Scott and Mr. H. Frankling assisting, I made a cystoscopic examination of the patient and saw a valvular outgrowth from the left lobe, of the size of a gooseberry, projecting into the bladder. Suprapubic cystotomy was forthwith performed. The prostate being rendered prominent in the bladder and fixed by a finger of the right hand in the rectum, with the nail of the forefinger of the left hand in the bladder I scraped through the mucous membrane over the valvular prominence and detached it from the tumour all round. With the point of the finger I then rapidly enucleated the left lobe in its capsule from the sheath and urethra and delivered it into the bladder. The right lobe was similarly enucleated and both were withdrawn from the bladder by forceps. The urethra was left uninjured, covering the catheter. There was some oozing of blood which was controlled by hot boric irrigations. A drainage tube was inserted and the abdominal wound was sutured. Mr. Braine timed the operation, which from the moment I took the scalpel to perform suprapubic cystotomy till the wound was sutured occupied ten minutes. The patient bore the operation well but was so sick from the anæsthetic that for three days he had to be fed entirely by the rectum. On June 29th the temperature rose to 103° F. and the right parotid gland suddenly swelled to a large size, and on July 2nd there was swelling of the right testicle. Both glands subsided without suppuration. What the cause of the swelling of the parotid was—whether due to chill, the result of rectal feeding, or occurring as it occasionally does after operations on the pelvic viscera and abdomen—I am unable to say. I feared at first that it might be due to septicæmia, but this was obviously not the case. Urine began to pass naturally on July 16th and the abdominal wound was completely closed on the 27th. I saw this patient recently, more than two years after the operation. He was in excellent health, had put on much flesh, and assured me that he passed and retained his urine better than at any period of his life previously to operation.

FIG. 1.

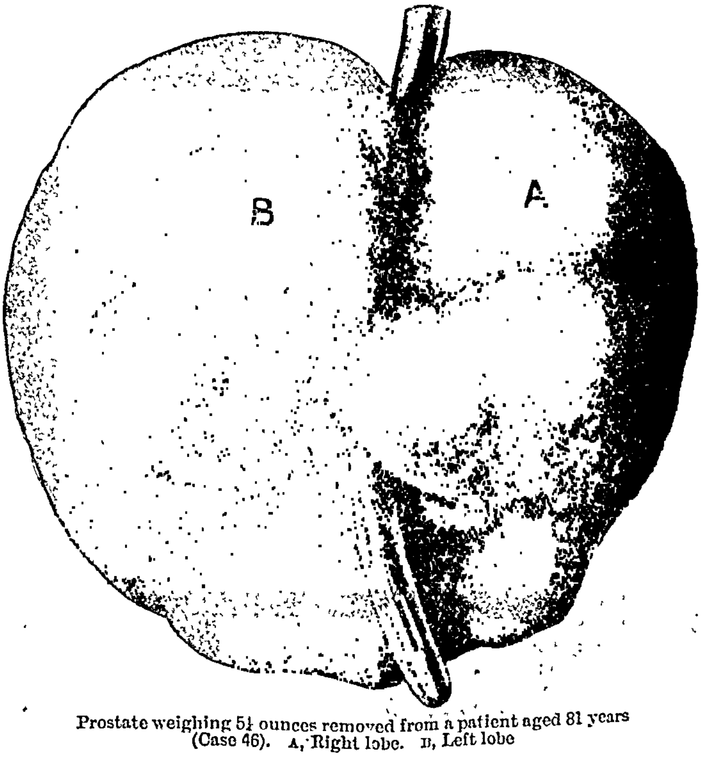


Prostate weighing 2 ounces removed from a patient aged 79 years (Case 15), actual size. C, Right lobe., B, Left lobe, continued into the bladder in the form of a so-called "middle" lobe, A. The catheter shows the position occupied by the urethra.

The prostate (Fig. 1) weighed two ounces, with each lobe enveloped in its true capsule. It is adenomatous but rather hard. It will be observed that the so-called "middle lobe" (A) is merely an outgrowth from the left lobe (B).

CASE 46.—The patient, aged 81 years, was seen in

FIG. 2.

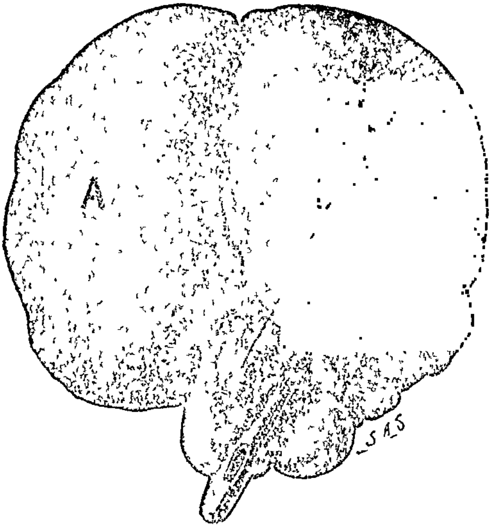


Prostate weighing 5½ ounces removed from a patient aged 81 years (Case 46). A, Right lobe. B, Left lobe consultation with Dr. H. J. Macevoy of Brondesbury on May 3rd, 1903. Prostatic symptoms had been present for ten years, gradually increasing in severity. There had been retention of urine for four years previously, relieved by catheter, which has been employed ever since. There were great frequency of micturition, intense pain at times, and hæmaturia He had been seen from time to time by various London surgeons. Double vasectomy was performed in 1900, but with no relief. His condition had been extremely miserable during the last six months. I drew off eight ounces of residual urine containing much pus and blood; there was difficulty in introducing the catheter. The prostate was enormously enlarged per rectum; it was soft, tense, and moveable. Cystoscopic examination on May 4th revealed an outgrowth of the left lobe of the prostate in the bladder of the size of a plum. The patient was in very feeble health and confined to bed. On May 13th, Mr. J. W. Thomson Walker and Dr. Macevoy assisting, and Colonel W. G. H. Henderson, I.M.S., being present, I removed the prostate entire in its capsule. Some trouble was experienced in the enucleation owing to the stoutness of the patient, the finger with difficulty reaching the aspect of the gland towards the triangular ligament. The time occupied from commencing the suprapubic wound till the prostate was delivered from the bladder was 13 minutes. There was very little bleeding and no shock. *The recovery was uneventful, the temperature remaining* normal throughout. Some urine passed naturally on June 2nd and wholly in this way on the 5th. The patient went home on the 8th, 26 days after the operation, retaining and passing his urine naturally He is now in excellent health, untroubled by any urinary *symptoms*

The prostate (Fig. 2), which weighs five and a quarter ounces, is an excellent specimen of almost [illegible] that organ.

[illegible] was seen with [illegible] 3 Prostatic symptoms had been present for 30 years and gradually increasing. The catheter had been passed in June, 1901, showing 13 ounces of residual urine. Cystitis supervened in August, with much pus in the urine and rigors. The catheter was passed five or six times daily in November, 1902. The sound was passed under an anæsthetic in July, 1903, by another surgeon but no stone was found. The patient had been entirely dependent on the catheter since then, with much pain and occasional bleeding. His general health was bad The prostate was greatly enlarged per rectum; it was broad, soft, nodular, and moveable. On Nov. 19th, Mr. Shaw and Colonel C. Little, I.M.S., being present, I removed the *prostate* entire in its capsule with several small calculi from the bladder There was considerable bleeding and the patient was feeble for some days after the operation By the 29th the suprapubic wound had closed so rapidly that it was necessary to reinsert a small tube to prevent spasm of the bladder. This was removed on Dec. 6th and on the same day the patient began to pass urine naturally The wound was closed on the 11th. On the 16th he went out for a walk I saw him two days ago. He is now, a year after operation, in excellent health and able to retain *and to pass his urine naturally.*

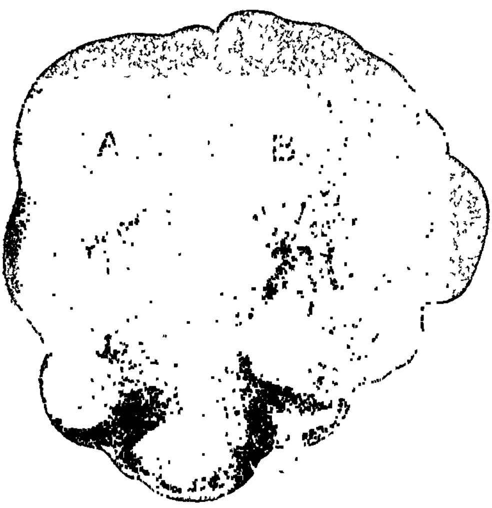
FIG. 4.



Prostate weighing 6¼ ounces removed from a patient aged 84 years (Case 70) A, Left lobe. B, Right lobe Each showing an outgrowth in the bladder

The prostate (Fig. 3) weighs four and a half ounces and is irregularly enlarged and bossy, the left lobe having been more prominent in the bladder than the right

FIG. 3.

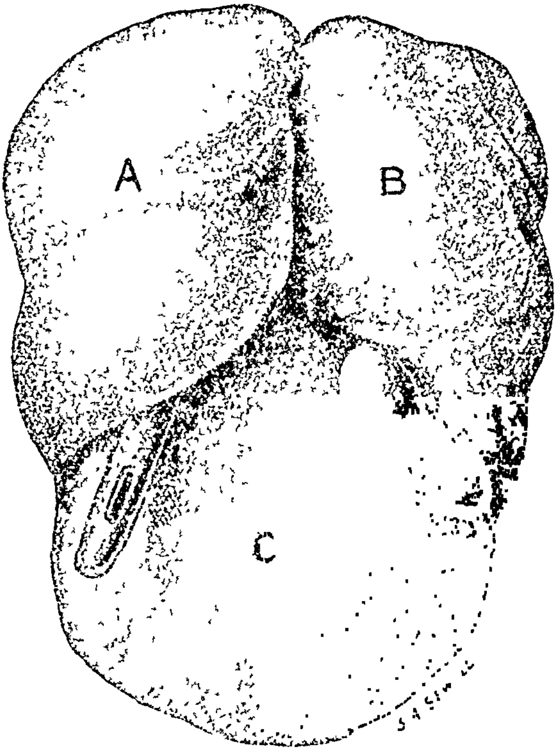


Prostate weighing 4½ ounces removed from a patient aged 81 years (Case 67). A, Left lobe B, Right lobe.

CASE 70—The patient, aged 84 years, was seen with Dr H E Bruce Porter of Windsor on Nov. 22nd, 1903 Prostatic symptoms had been present for eight years The catheter had been employed for six years and the patient had been entirely dependent thereon for five years, it was passed every two hours The urine contained much blood and ropy muco pus; it was alkaline and fœtid. The catheter passed in 13½ inches before the urine flowed; a stone could be felt grating against its end. The prostate was enormously enlarged per rectum; it was roundly bilobed, smooth, soft, and moveable The patient was emaciated, bearing the impress of terrible suffering "Life not worth living under present condition," as he put it; *morphine was given daily to* mitigate the pain. He had an intermittent and irregular pulse; the arteries stood out like whipcords all over his body. Rigors and fever occurred periodically. He came to London on Nov. 27th and his bladder was washed out twice daily. On Dec 4th, Mr. C C. Braine being the anæsthetist and Dr. Porter assisting, I opened the bladder suprapubically and found two phosphatic stones which were removed; they weighed two and a half drachms. Both ureters were dilated to such an extent that the index finger passed readily into them. The prostate was felt to be of the size and shape of a cricket-ball, and was jammed beneath the pubic arch, half of it lying in the bladder and half outside. It was enucleated entire in its capsule. Much force was required to separate it from the surrounding sheath. The time from commencing the suprapubic cystotomy till the prostate was delivered from the bladder was seven minutes. There was scarcely any bleeding or shock. The drainage-tube was removed on Dec. 7th. There was not an unfavourable symptom. No morphine had been given since the operation. "Talk of the pains of an operation," said the patient, "the last four days have been holidays from pain amongst many years." He sat up daily after Dec. 16th. He passed urine naturally by Dec. 20th. The wound was dry on the 23rd and the patient was walking about. On Jan. 2nd, 1904, he travelled home in good health and spirits, passing and retaining his urine naturally. He stated that he felt 20 years younger than his age—a truly grand old soldier who was present in the Afghan war in 1840. On July 26th last Dr. Porter wrote: "I saw old —— to-day; he looks a marvel." In spite of the putrid state of the urine before operation the wound remained healthy and was free from phosphates throughout.

The prostate (Fig. 4), which weighs six and a quarter ounces, is a fine specimen of symmetrical enlargement with a small outgrowth in the form of a lip below the orifice of the urethra. This is the oldest patient on whom I have performed this operation and I submit that the result is a great surgical triumph considering his age, the large size of the prostate, the weak state of the patient, the presence of chronic cystitis with formation of phosphatic calculi, the dilated condition of the ureters from backward pressure, indicating a probability that the kidneys were much diseased and in spite of all this the complete restoration to health and function of the bladder.

FIG. 5.



Prostate weighing 5¼ ounces, removed from a patient aged 82 years. A, Left lobe B, Right lobe, presenting a tongue shaped outgrowth, C, in the bladder.

CASE 85.—The patient, aged 82 years, was seen with Mr. J. L. Hewer of Highbury New Park on March 2nd, 1904. Prostatic symptoms had been present for 20 years and the patient had been entirely dependent on the catheter for ten years. He experienced great difficulty and pain in introducing the catheter latterly, two hours being frequently spent in manipulating the instrument before it passed. He *had had frequent attacks of cystitis, hæmorrhage, and* orchitis and had undergone seven operations for vesical calculus. He had inguinal hernia requiring a truss. The prostate was much enlarged, soft, tense, and moveable; it could be felt bimanually. The urine contained pus and mucus. On March 7th I removed the prostate entire in its capsule, Mr. Hewer assisting. The time occupied was six minutes. The operation was well borne; recovery supervened without any unfavourable symptom, the temperature remaining normal throughout. Urine passed naturally on the 23rd and the wound was dry on the 25th, 18 days after operation. The patient is now in excellent health, attending to his business daily. On July 19th he wrote to me: "The result of your operation has been entirely satisfactory. I am now able to pass and retain the urine as well as I ever did."

The prostate (Fig. 5), which weighs five and a quarter ounces, presented a large tongue-shaped outgrowth in the bladder growing from the right lobe. The rapidity with which the wound closed is remarkable in a patient aged 82 years.

CASE 96.—The patient, aged 81 years, was seen with Mr. H. Huxley on Feb. 17th, 1904. Prostatic symptoms had been present for five years. The patient was in great distress with an over-distended bladder. I passed a catheter and drew off 55 ounces of fairly clear urine. The prostate was much enlarged, rounded, smooth, and moveable. His general health was good. He passed some urine naturally for a few days but eventually he was completely dependent on the catheter. He was seen again with Mr. Huxley on May 3rd, when he travelled to London for operation, as catheter life was unbearable. His health was bad and he was very feeble. Rapid loss of flesh had taken place during the last two months. I enucleated the prostate on May 6th, Mr. Huxley and Mr. Thomson Walker assisting The gland was scarcely prominent in the bladder; it was firmly bound down by its sheath. There was hardly any bleeding. The prostate weighed two and a half ounces. Progress was most favourable till May 10th, when a severe attack of gout set in, followed by severe inflammation of the parotid glands which, however, did not suppurate. Though the wound kept clean throughout progress was slow, owing to the weak state of health. Urine was passed naturally by June 2nd and entirely per urethram by the 11th. The patient left the surgical home on the 16th and on the next day the suprapubic wound reopened. A catheter was tied in till the wound closed again. The patient can now pass and retain his urine normally and his health generally is gradually improving.

CASE 121.—The patient, aged 83 years, was seen with Dr. R. M. H. Randell of Beckenham on August 10th, 1904. The usual prostatic symptoms had been present for 12 years. He had had cystitis eight years previously, since when he had employed a catheter, latterly three times nightly, and once or twice by day. He could pass small quantities of urine naturally by day but with great frequency of micturition, attended by pain. There was difficulty in introducing the catheter, attended by bleeding. The patient was in great distress and was suffering from chronic cystitis. The prostate was greatly enlarged per rectum and was bilobed, soft, moveable, and smooth; it was easily felt bimanually. His general health was fair. On Sept. 15th, Dr. Randell assisting and Dr. F. de Havilland Hall and Mr. E. G. Renny of Colchester being present, I enucleated the prostate which weighed four ounces, in its capsule, leaving the urethra behind. The time occupied by the operation was five minutes. There were scarcely any bleeding and no shock. The patient made an uneventful recovery, urine passing naturally by Oct. 12th and the suprapubic wound being dry on the next day. He is now in good health and able to retain and to pass his urine as well as he ever did.

CASE 123.—The patient, aged 83 years, consulted me on Oct. 22nd, 1903. He had had vesical calculi crushed in 1897 and again in 1900. During the last two years he had been in great distress from pain and frequency of micturition, being out of bed every half hour by night. The prostate was not enlarged per rectum but there was a nodule in the right lobe of stony hardness. The cystoscope revealed considerable enlargement of both lobes in the bladder and under the anæsthetic the nodule in the right lobe was felt bimanually to be of considerable size and gave rise to a suspicion of malignancy. The residual urine was only two and a half ounces. Employment of a catheter was advised. I saw the patient again in June, 1904, when he was no better. He would not persist in the use of the catheter, which, he said, made him worse. *Early in September he begged for operation as* he could not sleep owing to the pain and frequency of micturition. There was rapid loss of flesh during the last few months. On [illegible] of the right lobe of the prostate (which weighed one and a quarter ounces) showed it to be carcinomatous. The patient made very favourable [illegible] and the [illegible] which he [illegible] faint, fell [illegible] 1904, I have performed the operation in a further series of 34 cases, amongst whom there were two octogenarians. To complete the record to date I will give details of these two operations.]

CASE 155.—The patient, aged 83 years, was seen with Dr. J. O. Ferrier of South Norwood on Dec. 8th, 1904. Prostatic [illegible] years; these had been much [illegible]. The patient had reten- [illegible] was entirely dependent on the catheter for ten days There were much pain and difficulty in introducing the catheter and he was in great distress from cystitis, attempting to pass urine every few minutes. The prostate was enlarged, bilobed, tense, and moveable and was felt bimanually. The patient was stout; his general health was fair; the urine contained pus and albumin. On Dec. 10th he was conveyed to London by ambulance. After washing out the bladder daily and preparing [illegible] 20th, Dr. Ferrier assisting, I [illegible] ically, removed a small urate [illegible] then enucleated the prostate, [illegible] rter ounces, entire. The time occupied was five minutes. There was very little bleeding and no shock. No unfavourable symptoms supervened. Urine commenced to pass naturally on Jan. 9th and the wound was closed on the 12th. On the 16th the patient was walking about his room and on the 25th, when he left for home, he was in good health, passing and retaining his urine as well as he ever did. On Jan. 28th Dr. Ferrier wrote: "I am exceedingly pleased to see how well a man of his age has done after your operation."

CASE 160.—The patient, aged 80 years, was sent to me by Dr. A. M. Mitchell of Guildford on Jan. 11th, 1905. Prostatic symptoms had existed for four years. Retention of urine occurred one and three-quarter years ago and was relieved by catheter which had been regularly employed since then; he had been entirely dependent thereon for one year. He had had cystitis, hæmorrhages, intense pain in the penis during and after using the catheter, and the urine, which was alkaline, contained much pus and mucus. He had been in bed for seven weeks and was so feeble that he had to be conveyed to London by ambulance. The heart was very feeble with irregular and intermittent pulse. The prostate was bilaterally enlarged, soft, smooth, and moveable. Much pain and tenderness were felt during examination which were suspected to be due to the presence of vesical calculi. The patient's condition was very distressing, the catheter being introduced with much difficulty and pain. On Jan. 16th, Mr. C. C. Braine being the anæsthetist and Dr. Mitchell assisting, I removed four phosphatic calculi, weighing 185 grains, suprapubically and then enucleated the prostate entire without difficulty. The prostate projected into the bladder in the shape of an enormously hypertrophied cervix uteri with wide, irregular os. It weighed two and a half ounces. The time occupied [illegible] which were expended in removing [illegible], well borne and there was no [illegible] satisfactory, the patient soon [illegible] ine was passed naturally on [illegible] ry on Feb. 8th. He is sitting [illegible] an pass and retain his urine (which is almost quite clear) as well as ever and will leave for the country in a few days.

Harley street, W.

Scottish Poor-Law Medical Officers' Association.—At a meeting of the executive council of this society held on Feb. 15th at Glasgow, Dr. William Cullen, vice-president, presented Mr. W. L. Muir with several handsome pieces of silver plate in appreciation of his indefatigable services as secretary of the association. The presentation was made by the unanimous wish of the association.

ENELECTROLYSIS: AN IMPROVED METHOD OF OPERATING ON SUPERFLUOUS HAIRS.

By BALMANNO SQUIRE, M.B. Lond.,
SURGEON TO THE BRITISH HOSPITAL FOR DISEASES OF THE SKIN.

THE extreme dislike evinced by most women to engaging in the habit of shaving when they are the subjects of superfluous hair, although this method is probably the best they can adopt for ridding themselves of the disfigurement, and their almost invariable insistence on having the hair removed by electrolysis, renders any improvement in operating with the electrolytic needle a desideratum. The operation as hitherto practised is by no means ideal as to the results obtainable from it even in the hands of expert operators, and instances are by no means rare in which the effects of the operation have produced considerably more disfigurement [illegible]: the procedure has consequently [illegible] liscredit. As hitherto practised, [illegible] for the direction in which the [illegible] h a view to its point reaching the root or papilla from which the hair grows and after the needle has been allowed to remain *in situ* for a period presumably long enough for the current to destroy the papilla, the hair thus operated on is seized by a pair of tweezers and very gentle traction is made on it; then if the hair comes out as if quite loose the hair papilla is considered, and with good reason, to be destroyed.

Quite recently, however, another mode of setting to work occurred to my mind—namely, to pull out the hair first and then to pass the needle into the hole left by the extraction of the hair. This difference, trivial as it seems, alters the whole character of the operation. It renders the destruction of skin that necessarily accompanies the destruction of the papilla very much less, and in consequence the scarring left after the operation is not very noticeable. It makes the operation a much more certain one—indeed, it converts it into an operation of precision. The upper lip, hitherto always by far the most difficult region to operate on, becomes as easy to deal with as the chin. One very important advantage of it is that it makes the procedure much more expeditious and another is that the pain caused by the introduction of the needle is notably less. My doubts as to this improvement before I had tried it were that in pulling out the hair first, often in itself a difficult thing to see, one at once loses one's only guide not only as to the point at which the needle should be inserted but also as to the direction in which it should be pushed; that, even if one could contrive to see the orifice of the hair follicle, one has lost in the plucked-out hair the clue to the precise direction of its slant. Then I feared that in passing the needle down the hair follicle the point would get caught in the wall of the follicle and thus diverted from the proper direction, and, lastly, I foresaw that the only test of success—namely, the hair yielding easily on traction with the tweezers—was rendered impossible. On trial, however, I found that not one of these objections was valid.

The drawbacks to the method hitherto in use are, on the contrary, by no means imaginary. The direction of the hair outside the skin is not a trustworthy indication of its direction in the substance of the skin. It shows the direction of the slant but not the degree of the slant, inasmuch as the majority of the hairs directly they issue from the skin become at once curved. I am aware that it has been claimed [illegible] that a catheterisation by th [illegible] is possible and that thus [illegible] the sharply pointed needle [illegible] considerable experience of the operation has convinced me that this is not so or at the most happens only in an extremely small percentage of the hairs operated on. As a rule the point of the needle, even when very carefully and slowly introduced, pierces the skin by the side of the follicle and arrives at its destination at a spot on one side of, and at a variable distance from, the papilla. The consequence is that an unnecessary destruction of the skin has to be produced in order that the destruction may radiate until it has reached the papilla; in short, that this has to take place visibly before the hair will come out under really gentle traction with the tweezers. Then, on pushing the needle point into the skin, however slowly, so that its electrolytic action may, so far as possible, enable it to eat its way; still the mobile and elastic skin always gets more or less pushed out of its proper place, for hairs always slant, and so the true direction of the hair gets lost. This is especially so on the extra mobile upper lip. In many instances the most practised operator finds that when he thinks he must have attained approximately the right direction the hair still sticks fast and will not come out on gentle traction, unless, indeed, a regrettable hole is at last burnt in the skin by the prolonged cauterising effect of the needle. The pushing of a needle, however fine, however pointed, and however polished, into the skin is very perceptibly resisted by the skin unless, indeed, it be done with a jerk, which is inadmissible for the purpose in question, and it pushes the skin before it even if the puncture be made perpendicularly to the surface, which is never possible in dealing with hairs on account of their pronounced slant. This is a great disadvantage of the method hitherto pursued.

As to the operation I now propose I must premise that it is quite possible to see the orifice of the hair follicle after the hair has been pulled out and that this being identified it becomes possible always to introduce the point of the needle into the hair follicle itself, a feat which is scarcely, if at all, possible to achieve unless the hair has first been pulled out. As to the direction in which the needle should be guided this can be known by carefully observing the exact direction of the hair before it is pulled out and even after this has been done considerable aid is afforded by observing the precise direction of slant and degree of slant of the neighbouring hairs. This being so it is easy to effect a true catheterisation of the hair follicle with the needle. In this manner the point of the needle touches the spot instead of arriving somewhere on one side of it. The needle if thus used enters the skin with the greatest ease, it does not in the least push the skin before it, and it does not displace the skin laterally. It has glided down a pre-existing tube which a No. 12 sewing needle fits quite easily. The introduction of the needle is much more expeditious, also it has to be left in the skin for a much shorter time because only a very short electrolytic action is required to destroy the papilla when the point of the needle is in actual contact with it. The whole process thus becomes much more expeditious. A much greater number of hairs can be operated on in a given time. The destruction of skin each time the needle is inserted is infinitely less and the scarring left is reduced to a minimum, not only by reason of the shorter action required of the current when the papilla has been reached but also by reason of the far more rapid introduction of the needle. It may, perhaps, be objected that one hereby loses one's test of success—the easy withdrawal with the tweezers of a loosened hair. One gains, however, in exchange a new and equally satisfying test. Here I must explain that I soon learnt that it is better to use the butt end (the eye end) of the needle than its pointed end. It slips down just as easily—indeed, more easily—because the point end is apt to stick and get caught in the walls of the follicle and is thus diverted from its aim. Now when one finds that the butt end of a needle enters the skin far more easily than the point, as used in the ordinary way in the hitherto practised methods, one may be reasonably sure that it is passing down the follicle.

A word now as to the means of identifying the orifice of a hair follicle after the hair has been pulled out. The orifice is, of course, not boldly obvious; a little practice is naturally a great aid in discerning it. One is assisted too by taking the bearings of the orifice before the hair is pulled out; it may, for example, be in a line with the point of emergence of two other hairs and the three may be equidistant or what not. In any case, after pulling out the hair with the tweezers it is necessary to keep one's gaze fixed on the orifice until the needle has been inserted into it. The butt-end of the needle ought to be allowed to remain in the orifice for an instant so as to burn a minute funnel in it before the needle is allowed to glide in. For this instant the needle should be held perpendicularly to the surface and then slanted to approximately the right direction and the right slant. I say only approximately, for it is one of the great advantages of this method that, that being so, as soon as the needle is once engaged in the follicle it becomes guided in its further progress by the follicle itself. I have to admit that in performing this operation I have the great advantage of being myopic to – 8 dioptres but anyone who will put on spectacles of, say, + 8 dioptres, will be in exactly the same position as myself for identifying the orifice of the hair follicle. The orifice under favourable conditions looks like a very minute needle-prick. I would suggest as a distinctive name for this method of operating the word "enelectrolysis."

Weymouth-street, W.

LACERATION OF THE ABDOMINAL WALL THE RESULT OF BEAR-BITE SIMULATING AN ABDOMINAL TUMOUR.

BY V. S. UMACHIGI, L.M. & S.

A MAN, aged 45 years, with a red fungoid pendulous tumour in the left hypochondriac region, was brought to the surgery from Castle-Rock on May 14th. The patient while returning home from his work in the jungles one evening was attacked by a wild bear. He received several nail-wounds on his chest and abdomen and a severe bite on the left side of his abdomen. He struggled hard with the bear, which at last ran away, leaving him disabled. After the injury a fleshy pendulous mass was seen protruding from the skin wound on his abdomen. The patient was weltering in blood on the spot and was helped to his hut by his companions. An attempt was there made by his fellow coolies to treat the wounds with some dark stuff. As he did not feel any relief from these applications and as the tumour began to increase in size they thought it fit to seek for better treatment and therefore took him to Castle-Rock exactly one week after he had received the injury. He was thence brought to Belgaum and into our surgery by a kind gentleman. On admission the patient looked quite exhausted and his condition appeared to be critical; his pulse was weak, his extremities were cold, and his face was pinched and drawn. His voice was low and he felt thirsty. There was no history of nausea or vomiting. He preferred the recumbent posture to sitting up, as the tension was relieved thereby. He said that he had felt a dragging pain throughout the week in the gastric region. On palpation the stomach was found to be distended and the spleen (which was malarial) was considerably enlarged; the liver was normal. The tumour presented beneath the costal arch of the left hypochondriac region. It had a fungoid appearance more or less pear-shaped with a notch at the fundus, the most dependent part, and had a pedunculated neck as it issued forth from the skin wound. It measured six inches long, seven inches around the fundus, and five inches around its peduncle. The thickness of the tumour was about two inches. The whole surface was looking very fleshy and was covered with stinking and thick pus. When the tumour was raised and the posterior surface exposed a central notch that extended nearly as far as half the depth of the tumour was noticed (which appeared to be the mark left by the teeth of the animal).

The tumour felt like an elastic mass. On gentle percussion a dull note could be elicited and the patient felt no pain. A probe could be run around the peduncle of the tumour, between it and the border of the skin wound. The probe was, however, not forced deeper down for fear of entering the peritoneal cavity if it should be an abdominal tumour. The situation of the tumour just near the enlarged spleen, a marked notch on the border and another on the posterior surface which very much resembled the hilum, and the elastic feel of the tumour led one to believe for some time that it might be an accessory spleen. The possibility of a portion of the transverse colon protruding was also not lost sight of. Hence, to make sure of its nature a small piece of it at the inner angle of the fundus was removed. This piece showed mostly fibrous structure with a rich supply of blood. Above all this, the patient having lived eight days after the receipt of the injury made me very doubtful of the tumour being abdominal unless localised peritonitis should have prevented it from infecting the general peritoneal cavity. Having made the usual preparations for the operation the tumour was removed; profuse hæmorrhage from several cut vessels was controlled by hæmostatic forceps and ligaturing. Trying to dissect it out at the peduncle, its firm attachment at the costal arch without any connexion with the abdominal cavity was noticed. The wound being dressed the patient was kept in bed and was directed to take perfect rest lest bleeding might set in again.

On examining the tumour after removal it had a film of thick pus all over the surface, which on being cleaned showed a nodular surface over which were seen a few hair follicles scattered about. It was therefore certain that the surface was skin structure and on making a section of the tumour it showed abundant fibrous tissue with traces of adipose tissue and muscle fibres. This was confirmed by microscopic examination. The patient was repeatedly questioned as to whether he had noticed any tumour or swelling at the seat before the receipt of the injury but he and his friends emphatically denied the presence of any.

The occurrence of a tumour of mixed type consisting of fibrous, adipose, and muscular tissues with a capsule of cutaneous structure as a result of bear-bite leads one to believe that laceration of a few fibres of the first digitation of the external oblique muscle together with the overlying skin and subcutaneous tissue took place by the severe bite, and as the lacerated piece had a good supply of nutrient vessels it did not slough off but on the contrary the proliferating overlying skin encapsuled the whole mass. The discharge of the wound kept it soaking and thus disguised its real nature by rendering it sodden and fungoid. The patient progressed very satisfactorily after the removal of the tumour but he had two attacks of malarial fever during his stay under treatment. These were checked by a few doses of quinine. In 13 days the wound healed and he was discharged relieved on May 26th.

Camp Belgaum.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Prooemium.

EAST LONDON HOSPITAL FOR CHILDREN, SHADWELL.

A CASE OF EXTRAPERITONEAL URETERO-LITHOTOMY IN A CHILD, AGED THREE YEARS.[1]

(Under the care of Mr. HENRY BETHAM ROBINSON.)

ON June 17th, 1904, a male child, aged three years, was admitted to the East London Hospital for Children, Shadwell. On the 16th he had pain in the penis, which was worse on running about, and in the evening he passed small quantities of urine frequently with great penile pain but no blood which the mother looked out for. She gave him castor oil and the [illegible] He was admitted [illegible] ving passed urine [illegible] acted calculus in the bulb with the bladder distended up to the umbilicus. Very shortly afterwards this stone was cut down on and removed with a scoop and there was a free flow of clear urine. The wound in the urethra was closed with fine silk and the skin wound was only partially closed, the remainder being lightly packed with gauze. Before closing the urethral wound a sound was passed into the bladder but no other stone was detected. A bimanual examination confirmed this and gave some more information, for a small hard lump was felt on the left side of the pelvis just below its brim, [illegible] ureter; [illegible] ng how [illegible] perhaps [illegible] determined to watch it for a few days. The urethral wound healed without any leakage and as on examination at the end of a week the ureteral calculus remained in the same position Mr. Robinson assumed that it was fixed and arranged to remove it. The urethral calculus was of about the size and shape of a cherry-stone, measuring seven-sixteenths of an inch by three-sixteenths of an inch and showing no facets.

The operation of uretero-lithotomy was performed on the 28th. A curved incision was made on the left side as if to tie the external iliac artery and the peritoneum was pushed upwards and inwards till the inner side of the vessels was reached. The little hard lump in the ureter was felt just below the brim of the pelvis and the delicate fat was separated to expose the ureter. A finger in the rectum enabled the ureter to be pushed well up into the wound; a small longitudinal incision was made down on to the stone which was lifted out with a small scoop. There was an immediate gush of pale odourless urine estimated at about two ounces, so that although no enlargement of the kidney could be made out there must have been considerable distension of its pelvis and calyces. A fine catgut stitch was put through the outer coats of the ureter, avoiding the mucous membrane, and a small drainage tube with a gauze wick inside was placed in close relation with the ureteral wound. The muscles and the skin were sewn up together with horsehair. The calculus was of oval shape, slightly flattened, and roughened on its outer side with a coating of oxalates. It measured just under three-sixteenths of an inch in length and two-sixteenths at its thickest diameter. Section showed it to be composed of alternating laminæ of oxalates and uric acid, the nucleus apparently being oxalates. On the 29th the wound was dressed and the gauze wick was removed and renewed. There had been some discharge of urine into the dressings. The child's condition was most satisfactory. The drainage-tube was taken out on the third day, the gauze being only a little damp, but a piece of gauze was replaced between the lips of the wound. After the fourth day there was no suspicion of any leakage of urine. The child's state was perfect, a normal quantity of urine being passed and at regular intervals. There had been no blood in the urine since the operation. There was never any rise of temperature after the operation. The wound was quite healed on July 13th.

Remarks by Mr. ROBINSON.—On two previous occasions I have elsewhere recorded successful cases of extraperitoneal uretero-lithotomy occurring in adults. Reference to other published cases shows no instance where this operation has been previously performed at such an early age and this fact alone, *apart from the desirability of recording all these* cases, makes this one worthy of notice. The experience of my three cases enables me to state that it is a far easier operation in the child than in the adult for the following reasons—viz., the thickness of the soft parts is less, the peritoneum strips back more readily owing to the small amount and the delicate nature of the subperitoneal connective tissue (although great care must be taken not to wound the very thin peritoneum), and the small size of the pelvis with the abdominal position of the bladder enables the finger in the rectum to push the ureter with the impacted stone well up into the wound instead of having to work at the bottom of a deep space.

One point brought out in this case I would wish to emphasise—viz., that with an impacted urethral calculus it should not be assumed that this is the only one. Examination of the bladder with sound and bimanually as well as palpation of the abdomen may discover a second or more stones which, if left behind, may produce serious results; in this case especially the unsuspected impacted ureteral stone would assuredly have caused hydronephrosis if left *in situ*. On the technique of the operation there is nothing to comment. It was extraperitoneal, as is now firmly established it should be. The lips of the ureteral wound were brought together with catgut which did not go through the whole thickness of its wall; if possible to do this it is better as it limits, if not prevents, the discharge of urine and induces rapid healing. Of course, drainage down to the ureter must be still used to circumvent any urinary extravasation.

MEATH HOSPITAL, DUBLIN.

A CASE OF RICHTER'S HERNIA.

(Under the care of Dr. R. LANE JOYNT.)

A WOMAN, aged 75 years, was admitted to the Meath Hospital, Dublin, on Dec. 27th, 1904, suffering from a strangulated hernia. She had been seen early that day by the dispensary medical officer of the district in which she lived, who diagnosed this condition and advised her instant removal to hospital for operation. She had been constipated for five days, had noticed pain in the left groin for two days, and had vomiting occasionally during the day preceding her admission. The pain was not excessive; the swelling though hard was freely moveable, in fact so much so as to give the idea of a pedicle beneath the tumour in the left femoral region. The patient was a thin spare woman and seemed not much concerned at her condition. She could give no exact statement as to the duration of the constipation or about the onset or extent of her vomiting. She stated that the tumour "might have been there" three months before but evidently until the medical man found it and it caused her pain she had thought nothing about it. She had no rise of temperature on admission but slight pain on examination and a pulse of 105. Her arteries were very rigid and tortuous. Dr. Joynt saw her on her arrival in hospital and decided to operate at once.

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[1] A case read before the Clinical Society of London on Feb. 10th, 1905.

The operation was briefly as follows. The hernia was cut down upon. A globular piece of gut one and a quarter inches in diameter was in the sac, the neck of which was deep, and any attempt at division of the stricture from within was impossible without risk to the gut and, moreover, would not allow of inspection of the strangulated portion. Accordingly, prolonging the skin incision vertically upwards, Dr. Joynt opened the abdominal cavity by separating the muscles half an inch above Poupart's ligament. From within a coil of ileum was found tightly caught in the left femoral ring and to free it Poupart's ligament was divided vertically. The hernia embraced two-thirds of the lumen of the bowel, the part protruded being expanded like a ball on the bowel. This was at once excised and a Murphy's button was inserted. The sac was ligatured, the cut Poupart's ligament was sewed to itself and also to the pectineal fascia, and the abdomen and the femoral portion of the wound were closed without drainage. The patient made a good recovery and the button was passed on the fourteenth day.

Remarks by Dr. JOYNT.—A valuable and instructive lecture on Richter's Hernia having appeared in THE LANCET of Jan 28th, p. 205, by Mr. V. Warren Low, the above case may prove of interest, bearing out the many points laid stress on by Mr. Low and raising some others worthy of consideration. Now, the interesting points in such a case are the following: (1) the diagnosis; (2) the variation of the symptoms from the text-book type of "strangulation"; (3) the influence of age in modifying these symptoms; (4) the absolute necessity for operation in all cases of hernia giving any trouble; and (5) the question of how to free the sac rapidly in a way that complies with the proper inspection and treatment of the gut and leaves least damage to the abdominal wall.

Now as to diagnosis. Mr. Low has dealt very fully with that. To the operating surgeon it resolves itself into judging whether the patient is fit or not to undergo the operation. Every case not obviously *in extremis* ought to be operated on. The practitioner who may first see the case should remember that a recent hernia, a femoral hernia, and a small hernia are all especially dangerous; that old age seems to eliminate the violent pain and fever so often seen in robust adults; that gangrene of a hernia occurs with rapidity in old people, at times apparently after from 12 to 24 hours only have elapsed since acute symptoms set in; that chronic constipation from atony occurring in old patients may lead them to disregard constipation as a serious matter and they may make misleading statements about the regularity of their motions; and, finally, the great probability of small recent hernias being "partial" ones. These are known to be very dangerous and to give rise to anomalous symptoms. Old age unquestionably abates the number and severity of the symptoms, while it accelerates the fatality. Of the necessity for prompt operation little need be said. Taxis in a hernia which is recognised as the seat of present trouble ought to be banished to the limbo of the past like the swallowing of metallic mercury and lead bullets.

The opinion of a competent physician who may have seen such a case prior to its coming under the care of the operating surgeon ought not to be disregarded, although active symptoms are wanting when the case is seen by the latter. To wait for the reappearance of symptoms in the presence of a tumour would be to lose valuable time. The hernia has given trouble. It must be dangerous, especially in old people; how much so we do not know. Operation *per se* is not dangerous and nothing but an unrestricted operation will allow the condition present to be made out clearly and dealt with. To free the hernia is not so easy as may at first sight appear. The acute angle which the strangulated gut makes round the sharp margins of the ring prevents the safe introduction of the hernia bistoury. Even supposing that with due care and skill it is introduced why should such an uncertain, blind, and unsurgical method be tried? In the great majority of cases it would no doubt give sufficient freedom for the gut to be reduced but not to pull it down to inspect it sufficiently without having to exercise undue traction on the injured portion. I refer, of course, here only to femoral hernia and much less does the old method give facility to do any end-to-end anastomosis and would, moreover, negative the use of the button. Now it is well known that the most injured portion of a hernia is where the healthy bowel meets the protruded part and this part must be examined. If the surgeon has freed the bowel to his satisfaction I hold that if a partial hernia is found one ought to go further and to consider the following. The extrusion of a portion of the lumen of the bowel through an aperture argues the application of great pressure from within, much greater than is necessary for the production of a common hernia. The edges of the ring are sharper and more unyielding in femoral than in inguinal hernia and in consequence the portion of gut extruded has been subjected to a degree of injury which makes its recovery highly doubtful, however "glossy" or viable it may seem at the time it is inspected. Most men have experience of cases where though everything seemed right at the time of operation yet subsequently at post-mortem examinations necrosis or ulcerations were found of the originally strangulated gut. By an operation conducted from above—i.e., through the abdomen as well as from below—safety can be insured to the gut, if as yet unopened by gangrene, and so avoidance of risk to the peritoneum. Risk to the deep epigastric artery or an aberrant obturator artery is avoided, while ligation, if necessary, is rendered easy and a fair field is secured for whatever method of completing the operation may be deemed advisable.

Now, as to freeing the so-called constriction, in my case Gimbernat's ligament was not the cause but the deep crural arch and Poupart's ligament had been pressed into one sharp-edged band and Hey's ligament had been pressed upwards until it coincided with Poupart's ligament. This mass I divided at once in this case without hesitation, because the patient was old (75 years) and feeble and I had already taken some time in carefully cutting down on the hernia proper, and she being old a weakness of her abdominal walls would not be so serious as in a young active person. Further, as time was all important I used a button in preference to suture for the resection. I resected the bowel because of the mechanical reasons mentioned above, also that for one reason or another cases of Richter's hernia have a high mortality and my own experience up to the present has borne this out. Other methods, of course, occur to one as suitable in certain cases. In younger subjects every effort should be made to preserve Poupart's ligament, possibly dealing with the hernia proper by converting it into a fæcal fistula and so relieving the obstruction, and subsequently or at the time doing a lateral anastomosis between the pieces of bowel continuous to the hernial portion. This presupposes that adhesions have formed between the hernia and the ring. Here we are met with uncertainty. This would suggest itself as feasible where gangrene with rupture of the hernia had occurred into the sac with perhaps a localised abscess, but unhappily this argues a neglected case, and it is more than likely the opened bowel has receded into the abdominal cavity and caused general peritonitis. Again, seldom are such adhesions found in strangulated recent hernia and to rely on them if present would be dangerous. I have never met with this class of adhesion myself but if I did I should not rely on their holding power. The moveable bowel is held to an immoveable ring; the pressure of intestinal contents, the abdominal pressure, and peristaltic action can only act in one way—viz., to tear them apart. If the gut were gangrenous then the safer procedure would be to clamp both portions of the gut within the abdomen, to withdraw and to remove the injured portion, to excise the sac and to wall off the general abdominal cavity with sponges to protect it as much as possible from infection. If the condition of the patient permitted it I should join up the gut, if not, I should use Paul's tubes and subsequently resect the bowel when the patient had recovered from the first operation.

In conclusion, femoral hernia should be looked on as a very grave condition, most probably of the partial hernia kind and as such calling for early and sweeping measures; taxis of any sort is dangerous (the herniotome should be laid aside) and the force required to produce it is great, therefore the damage is great Had I met with bowel in an ordinary case of hernia presenting the naked eye appearance seen in this case I should certainly have hesitated to excise it I think the success of this case may be attributed to the early period at which the operation was performed and the excision of the bowel left no potential cause of mischief behind In spite of the severance of Poupart s ligament there has so far been no evidence of a hernia there

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON

Blood Glands as Pathogenic Factors in the Production of Diabetes and Obesity —Leucocythæmia with Change of Type from Spleno medullary to Lymphatic

A MEETING of this society was held on Feb 21st, Mr R J GODLEE being in the chair

Dr ARNOLD LORAND made a communication on Blood Glands as Pathogenic Factors in the Production of Diabetes and Obesity Dr Lorand laid stress on the important influence exerted by the internal secretion of the blood glands on all the vital processes of the body and pointed out that the influence of the thyroid, the sexual glands and the hypophysis was in the direction of increasing oxidation Insufficiency of these organs led to a diminution of oxidation All blood glands stood in close relation to one another, pathological changes in one being followed by alterations in others Extirpation of the pancreas in four dogs was followed by enlargement of vesicles and considerable increase in the colloid substance of the thyroid The effects of increased colloid secretion were seen in cases of exophthalmic goitre in which the symptoms resembled those produced by the administration of large quantities of thyroid tablets This condition of thyroidism, especially when it was associated with pathological changes in the pancreas

which presented similarities in their structure to that of the parathyroids the medullary part of the adrenals and the interstitial cells of the testicles The secretion of these islets was probably under the influence of a nervous mechanism and it was necessary to take this into account in explaining those cases of diabet
changes were found in the gland
of the pancreas had been desc
disease and acromegaly associated with diabetes Glycosuria was comparatively frequent in exophthalmic goitre but was unknown in connexion with myxœdema and in the latter condition could not even be produced by the ingestion of large quantities of grape sugar Extirpation of the thyroid was followed by increase in the number and perhaps new formation of
creas Moreo
of three diabe
removed In
infectious diseases, mental shock or other causes there was not only frequently glycosuria but also loss of weight On the other hand in athyroidia obesity was frequent Extirpation of the sexual glands led to similar results with regard to obesity and it was noticeable that the formation of fat was common as a sequel to frequent pregnancies and prolonged lactation After the menopause
l changes
Moussu
on of the
thyroid and the ovaries breast milk was very rich in fat and very poor in sugar Obesity had been associated with tumours of the hypophysis even in the absence of symptoms of acromegaly The cases of obesity caused by degenerative changes in the blood glands—endogenous obesity—were clinically different from those caused by over feeding—exogenous obesity Glycosuria was rare in the former but frequent in the latter class If the pancreas only was degenerated, as was sometimes the case in old people with arterio sclerosis, the glycosuria was slight, but if the pancreatic change was combined with very active thyroid secretion as in young persons, the glycosuria was likely to be severe In 20 cases of diabetes the serum of sheep which had undergone thyroidectomy had given good results In the treatment of obesity in women ovarian extracts should be used as well as thyroid gland —Dr F W PAVY referred to the question of the occurrence of diabetes in association with myxœdema and although he could not remember having met with such a combination in his own experience cited the reports of three cases in children which he had found in the Journal of the Philadelphian Medical Society His own experiments tended to show that the internal secretion of the pancreas promoted the assimilation of carbohydrates and that sugar passed through the circulation in a combined form in healthy
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Dr C H MELLAND reported a case of Leucocythæmia with change of type from the spleno medullary to the lymphatic A woman aged 35 years, came under observation in June 1904 The symptoms of general weakness dated from Christmas 1903 and about two months later a swelling had been noticed in the abdomen On examination the spleen was found to occupy the whole of the left side of the abdomen but there was no evidence of enlargement of lymphatic glands The most noticeable feature in the examination of the blood was the large increase in the number of large lymphocytes which at first were as numerous as 46 per cent and later as 83 per cent, of all the white cells In six other cases he had found the average to be about 14 per cent The myelocytes formed at first 22 per cent and later 4 per cent of the leucocytes In spite of treatment the patient died on Sept 17th Post mortem the spleen weighed 26 ounces the liver showed small aggregations of white cells and the lymphatic glands no enlargement or evidence of hyperactivity The bone marrow contained very few eosinophilic or neutrophilic myelocytes and consisted almost entirely of non granular cells similar to the large lymphocytes of the blood Dr Melland had come to the conclusion that the large lymphocytes really represented myelocytes which had undergone retrograde changes and he had been able to trace all gradations from large cells with no true granules but with a certain amount of basophilic stippling up to the typical neutrophilic myelocyte He was inclined to regard his case therefore, as a pure but acute spleno medullary leucocythæmia and not one in which the spleno medullary and lymphatic types were mixed —Mr L S DUDGEON referred to the important part played by the hæmolymph glands as well as the bone marrow in these cases and said that he had sometimes found the thymus much enlarged He preferred the terms myelæmia and lymphocythæmia to those used by Dr Melland and emphasised the difference in the blood conditions found in the two varieties —Dr F PARKES WEBER referred to another case of acute leukæmia which he was about to publish and which tended to confirm Dr Melland s views with regard to the derivation of the large non granular cells in the blood In the terminal stages the white cell count fell to 3000 per cubic millimetre and all these presented the characters of large lymphocytes —Dr R HUTCHISON asked whether Dr Melland had formed an opinion as to the possible origina

forms of leucocythæmia were very ill defined —Dr H BATTY SHAW agreed with Dr Melland and the latter replied

LIVERPOOL MEDICAL INSTITUTION

Modified Eye Speculum — Internal Hydrocephalus — Addison s Disease —Union of Divided Nerves

A MEETING of this society was held on Feb 16th, Dr JAMES BARR the President, being in the chair

Mr RICHARD WILLIAMS exhibited and demonstrated the
it forward
symptoms
simulated those of intracranial tumour The patient received a blow on the head in 1898 which caused temporary loss of consciousness Gradually symptoms of cerebral tumour developed and these symptoms continued until

June, 1903, when clear fluid commenced to flow from the right nostril and very soon improvement set in, followed by complete recovery in the course of a few weeks.—Mr. F. C. LARKIN, Dr. R. CATON, Dr. W. B. WARRINGTON, Dr. F. A. GILL, Dr. R. J. M. BUCHANAN, Dr. J. HILL ABRAM, and Mr. W. THELWALL THOMAS discussed the case.

Dr. A. G. GULLAN read notes of two cases of Addison's Disease in which he had administered Suprarenal Extract. In the first case, that of a young man, in whom the symptoms of the disease were well marked, 15 grains of the extract were given thrice daily but with only temporary relief, the patient dying seven weeks later. At the post-mortem examination no signs of tubercle were found except in the suprarenal bodies which were both enlarged and destroyed by caseous masses evidently of a tuberculous nature. In the second case, that of a woman, the symptoms were less severe and she had benefited greatly by taking 20 grains of the extract thrice daily.

Mr. DAMER HARRISSON opened a discussion on the Union of Nerves after Division He gave a short history of the subject, physiological and surgical. The more recent histological observations which support the theory of coalescence and the process of regeneration in the peripheral end of a divided nerve were described, together with the criticisms of Mott, Halliburton, and Edmunds. On the physiological side he advanced the view that the weight of evidence was on the side of the outgrowth theory and brought forward a series of observations made by himself and Professor F. Gotch after division and suture of the sciatic nerve in the rabbit which proved that sensation reflexes appeared first in the peripheral end nearest the point of suture and at later periods at the more distant points in the peripheral end. With regard to the motor response this appeared at an earlier date in proportion to the nearness of the division and suture to the muscles. These facts were difficult to explain by means of the coalescence theory and strongly supported the outgrowth theory.—Dr. ROBERT KENNEDY said that from the clinical point of view there was a well-established observation which the central theory of regeneration of nerves could not explain—namely, the early return of sensation after secondary suture of a divided nerve. Ranvier's view did not explain this rapid restoration, for, in the first place, unnaturally rapid growth of new nerve fibres from the central end would be required, as no sensation could be felt until the axis cylinders had reached the end organs. In the second place, there would be a difference of time in the reappearance of sensation accordingly as the section of the nerve was near or far removed from the end organs, which there was not. As regards suture of the nerve immediately after section, sensation took much longer to appear, and this was what would be expected, as time was required for regeneration of the new fibres in the distal segment. When suture was performed at a time remote from section the distal segment had had time to form its new nerve fibres. The only difficulty was to explain the very early passage of impulses across the plane of suture, but this was probably brought about by the junction of neurilemma cells newly formed from the central and peripheral ends, the gap being thus bridged, the impulses apparently having the power to pass along the protoplasm of such cells. The reason why motion recovered later than sensation was owing to the rapid degeneration of the muscles after nerve section, which degeneration must first be recovered from. From observations made in the past few years Dr. Kennedy was of opinion that muscular tissue never completely degenerated, although separated from the nerve centres for long periods. A series of microphotographs were shown illustrating his views of nerve regeneration in the distal segment as opposed to the recent explanation advanced by Langley and Anderson.—Professor C. S. SHERRINGTON said that he favoured the peripheral rather than the central theory of nerve regeneration and remarked that after removal of a spinal ganglion delicate nerve fibres could be found in the portion of the root attached to the cord.—Dr. W. B. WARRINGTON called attention to certain alterations in the nerve cell which took place after section of its axone. In this condition, known as chromatolysis, the cells assumed the embryological form in preparation for renewed activity. Chromatolysis occurred in nearly all the cells of the spinal ganglia when the section was made on the peripheral side but not at all when the posterior root was divided. In the former case the nerve fibres regenerated but not in the latter. Similarly, after section of the anterior root nearly all the cells of the corresponding segment in the vertebral horn underwent chromatolysis and ultimately repaired, but after cutting off the incoming impulses by division of the posterior roots and thus producing a permanent isolation, some of the cells of the anterior horn atrophied and underwent complete degeneration. It was submitted that these experiments furnished evidence of the important part taken by the cell in the regeneration of a nerve fibre.—Mr. J. S. MACDONALD and the PRESIDENT also took part in the discussion.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Recurring Torsion of the Spermatic Cord.—Massage in Cardiac Dilatation.—Bradycardia.

A MEETING of this society was held on Feb. 1st, Professor JOHN CHIENE, the President, being in the chair.

Mr. J. W. DOWDEN read a paper on Recurring Torsion of the Spermatic Cord. It was based on five cases which had come under Mr. Dowden's own observation and on five other recorded cases. The varieties of this affection had been classified by Perry as (1) acute, where there was one sudden and severe attack; and (2) "recurring," where the attacks were more or less frequent with or without the eventual onset of an acute attack. The main predisposing factor was the manner in which the testicle, epididymis, and part of the cord were covered entirely by visceral tunica vaginalis and so hung free in the serous sac, giving rise to a condition of "floating testicle." There was also a broad arrangement of the cord with its constituents grouped in two parts, the vas deferens at one free border and passing to the globus minor, while the main vascular structures at the other free border passed to the globus major ("intermesorchial separation of the cord"). Puberty was a predisposing factor, as it was also in acute torsion. In six out of the ten cases the testicle was a descended one. Both sides were equally affected. The patients gave a history of attacks from time to time of sudden pain in the testicle associated with collapse, vomiting, and great local tenderness with (in a few hours) swelling of the testicle. Sudden relief of the severe symptoms occurred with the disappearance of the swelling in about 24 hours. Such attacks might go on for years. The condition could be distinguished from epididymo-orchitis by the suddenness of the onset and the severity of the collapse. After swelling had occurred in the scrotum a strangulated hernia might be simulated but pain followed in some hours by swelling was the main distinctive sign of torsion. A case of an infant, aged five months, and another of a child, aged three years, showed that recurring torsion might happen in infancy. The direction of the twist was ascertained in eight cases and in seven it was from without inwards and the twist varied from half a turn to two turns. The treatment in an attack was to perform detorsion and if this failed an immediate operation to untwist and to fix the testicle was required. In the interval fixation of the testicle should be carried out by clipping away the parietal tunica vaginalis and suturing the testicle to the scrotum.—Mr. DAVID WALLACE and Mr. ALEXANDER MILES took part in the discussion.

Dr. R. A. FLEMING read a paper on Massage, Passive Movements, and Modified Resisted Exercises in the Treatment of Advanced Cardiac Dilatation, in which rest and cardiac tonics had failed to yield further benefit. He thought that the exercises gave tone to the heart where it was possible for the myocardium to respond at all and they probably did so by dilating the vessels and relieving the over-burdened heart. Careful percussion of the cardiac right and left borders, taken along with the position of the apex beat, yielded accurate data as to the contraction of a dilated heart. The method of treatment consisted in successive periods of daily massage, followed from seven to ten days later by passive movements of the arms and legs and after other seven to ten days by resisted exercises. The patient was not allowed out of bed during the period of from 21 to 30 days and the exercises were limited, therefore, to those which could be performed in bed. Clinical details were given of ten cases, two of which were cases of aortic and mitral incompetence and in neither of these two was the treatment successful. In the remaining eight cases success followed the treatment, the patients were allowed up after the period of resisted exercises was finished and were made to walk slowly for a few minutes, and the period of active exercise thus taken was gradually lengthened day by day One of the eight patients speedily relapsed but with six the results were extremely satisfactory Periods varying from two years to six months have elapsed since treatment was stopped and all the six retain the degree of improvement gained —Dr G A GIBSON said that resisted movements were i[illegible] of massage could not [illegible] did [illegible] nse [illegible] 'apex beat [illegible] was that it was caused by the left ventricle The "apex beat was not caused by the true apex of the heart in the cases referred to so that the only safe guide as to the size of the heart was percussion

Dr GIBSON contributed a paper on Bradycardia He said that this condition had been described by many writers as by Morgagni who recorded two examples in 1762 by Stokes by Charcot and by Huchard Then Broadbent had described paroxysmal bradycardia associated with apoplectic or epileptiform attacks The condition had also been treated of by McKenzie, His Osler and others After an enumeration of many exoteric causes Dr Gibson said that of the esoteric causes the intrinsic factors concerned with the heart often led to bradycardia There were cases in which the whole heart participated in the lessened rate where probably the venous sinuses have lost some of their irritability In other cases the auricular portion of the heart beat two or three times for each ventricular systole Several instances of this have been proved by simultaneous tracings from the jugular veins and the apex beat or radial pulse *In certain of these neither the apex beat nor the radial pulse* showed the least sign o[illegible] to the auricular systole but [illegible] little impulses corresponding [illegible] were two chief varieties of the affection in one of which the alteration in rate was constant while in the other it was paroxysmal, though the one variety might pass into the other The clinical features might be inconspicuous or might be very disturbing In the mild form of persistent bradycardia there were weakness and breathlessness with occasionally angina *In the paroxysmal form faintness and* giddiness associated with apoplectic or epileptic attacks were present In many cases digestive disturbances were found and more rarely glycosuria or some other symptom pointing to bulbar disease In the persistent form of the affection it was probable that the great factors which induced the condition were myocardial and arterial lesions while in the paroxysmal form changes in the cerebral vessels were probably the causal factors In sclerosis of the cerebral vessels the blood supply to the brain was inadequate to *meet any stress and ineffective when the stress went* beyond a certain point Thus a condition of irritable weakness of the inhibitory mechanism was produced and impulses were sent down to the heart which led to an attack As regards treatment rest was the most important therapeutic agent Respiratory exercises were also of real importance and of course attention to digestion was required Amongst drugs iodides and hydriodic acid were most beneficial in attempting to restore a healthy condition of heart and vessels, nitrites or nitroglycerine were useful if there was any tendency to vascular spasm, bromides were good in lessening the action of the vagus while strychnine and digitalis or strophanthus were of value where cardiac failure threatened —Dr JAMES MACKENZIE (Burnley) and Dr RUSSELL took part in the ensuing discussion

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ROYAL ACADEMY OF MEDICINE IN IRELAND

SECTION OF OBSTETRICS

Physometric Uterus —Cystic Endometritis —Bossi s Dilator

A MEETING of this section was held on Feb 3rd Dr ALFRED J SMITH the President being in the chair

The PRESIDENT showed a rare specimen—a large Physometric Uterus The patient was delivered early in October 1904 of twins (at the sixth month) both dead and beginning to decompose On the fourth day after delivery she had a severe rigor, with a temperature of 106°F Her medical [illegible] itll [illegible] ame [illegible] she was *in evident distress from distension* with a temperature of 102 6 and a pulse rate of 120 Examination under ether was unsatisfactory as nothing could be mapped out The diagnosis was not made until the abdomen was opened Numerous discoloured gangrenous looking patches were found and hysterectomy was performed, fortunately without rupture Examination of the contents was postponed as the President wished to show the large uterus in its distended condition The patient made an uninterrupted recovery —Dr FREDERIC W KIDD asked how the gas had been kept *in the specimen? The only similar case he had seen was* an accumulation of gas inside a gestation sac The patient came into hospital three months pregnant, with symptoms of threatened abortion The symptoms abated and she went out He saw her again 13 months after the presumed commencement of the pregnancy The whole of the front of the abdomen was perfectly dull A rectal examination was made and next day her temperature was 104° and the abdomen was very resonant An operation was performed and it was found that there had been a *primary rupture into the layers of the broad ligament and* the gestation sac had gone on developing There was an escape of very offensive gas on the sac being opened The patient made a good recovery and had had two children since The only explanation he had for the formation of the gas was that the bacillus coli communis had got into the gestation sac on account of the rectal examination —Dr RICHARD D PUREFOY said that most of them had seen the condition termed physometric in connexion with malignant disease or in cases of delayed or neglected labour where air had got *into the uterus The President s case was* remarkable on account of the gas having remained in the uterine cavity

Dr PUREFOY read a paper on two cases of Cystic Endometritis with Remarks on Treatment —Mr I HASTINGS TWEEDY said that cystic endometritis was a disease which he did not know personally and of which he could find no account He objected to fresh nomenclature and thought it better to adhere to the term glandular His objection to the term cystic was that it did not lead anyone to a knowledge of what was being dealt with, whilst glandular did —The PRESIDENT said that he divided endometritis into glandular and interstitial There were two kinds of glandular endometritis—hyperplastic and hypertrophic Hyperplastic endometritis was adenoma and in it there was an enormous increase in the number of glands Hypertrophic endometritis had a normal number of glands but they were greatly increased and distended and when occluded formed cysts The hyperplastic cases frequently became malignant therefore they had to be seen *often* and the uterus removed T[illegible] be merely distended tubes or if [illegible] ment was to remove the muc[illegible] and to try to cultivate a healthy mucous membrane His practice was to curette and to wash out once and to wash out again on the third and fourth day to see that nothing was left behind He used hot sterilised saline solution and did not employ any intra uterine medications

The PRESIDENT read a paper which indicated that Bossi s Dilator had not met with universal approval or adoption He was however convinced that within certain well defined limits it served a useful purpose He had employed it in four cases—three of eclampsia and one of placenta prævia—all of which were successful The entire time between the introduction of the dilator and the end of the third stage did not exceed one hour In the case of placenta prævia there was an extensive laceration of the cervix requiring stitches He considered Bossi s dilator to be dangerous when the cervix was long The close proximity of the uterine sinus added a new danger should the laceration unfortunately extend to or open them up —Dr KIDD said that one disadvantage of Bossi s dilator had been met by changing the number of blades from four to eight thus having eight points of pressure on the lower zone of the uterus and less probability of rupture Another objection was that the angle at which the dilator was set to the shaft was not the angle at which dilatation would take place Seigneux tried to meet this objection in his dilator but it had its disadvantages also —Dr FITZGIBBON said that he had used Bossi s dilator in a case in which he had induced labour at seven and a half months He commenced by using bougies but the uterus took on no action and they were introduced again on the following day The membranes had then ruptured and the

June, 1903, when clear fluid commenced to flow from the right nostril and very soon improvement set in, followed by complete recovery in the course of a few weeks.—Mr. F. C. LARKIN, Dr. R. CATON, Dr. W. B. WARRINGTON, Dr. F. A. GILL, Dr. R. J. M. BUCHANAN, Dr. J. HILL ABRAM, and Mr. W. THELWALL THOMAS discussed the case.

Dr. A. G. GULLAN read notes of two cases of Addison's Disease in which he had administered Suprarenal Extract. In the first case, that of a young man, in whom the symptoms of the disease were well marked, 15 grains of the extract were given thrice daily but with only temporary relief, the patient dying seven weeks later. At the post-mortem examination no signs of tubercle were found except in the suprarenal bodies which were both enlarged and destroyed by caseous masses evidently of a tuberculous nature. In the second case, that of a woman, the symptoms were less severe and she had benefited greatly by taking ·20 grains of the extract thrice daily.

Mr. DAMER HARRISSON opened a discussion on the Union of Nerves after Division He gave a short history of the subject, physiological and surgical. The more recent histological observations which support the theory of coalescence and the process of regeneration in the peripheral end of a divided nerve were described, together with the criticisms of Mott, Halliburton, and Edmunds. On the physiological side he advanced the view that the weight of evidence was on the side of the outgrowth theory and brought forward a series of observations made by himself and Professor F. Gotch after division and suture of the sciatic nerve in the rabbit which proved that sensation reflexes appeared first in the peripheral end nearest the point of suture and at later periods at the more distant points in the peripheral end. With regard to the motor response this appeared at an earlier date in proportion to the nearness of the division and suture to the muscles. These facts were difficult to explain by means of the coalescence theory and strongly supported the outgrowth theory.—Dr. ROBERT KENNEDY said that from the clinical point of view there was a well-established observation which the central theory of regeneration of nerves could not explain—namely, the early return of sensation after secondary suture of a divided nerve. Ranvier's view did not explain this rapid restoration, for, in the first place, unnaturally rapid growth of new nerve fibres from the central end would be required, as no sensation could be felt until the axis cylinders had reached the end organs. In the second place, there would be a difference of time in the reappearance of sensation accordingly as the section of the nerve was near or far removed from the end organs, which there was not. As regards suture of the nerve immediately after section, sensation took much longer to appear, and this was what would be expected, as time was required for regeneration of the new fibres in the distal segment. When suture was performed at a time remote from section the distal segment had had time to form its new nerve fibres. The only difficulty was to explain the very early passage of impulses across the plane of suture, but this was probably brought about by the junction of neurilemma cells newly formed from the central and peripheral ends, the gap being thus bridged, the impulses apparently having the power to pass along the protoplasm of such cells. The reason why motion recovered later than sensation was owing to the rapid degeneration of the muscles after nerve section, which degeneration must first be recovered from. From observations made in the past few years Dr. Kennedy was of opinion that muscular tissue never completely degenerated, although separated from the nerve centres for long periods. A series of microphotographs were shown illustrating his views of nerve regeneration in the distal segment as opposed to the recent explanation advanced by Langley and Anderson.—Professor C. S. SHERRINGTON said that he favoured the peripheral rather than the central theory of nerve regeneration and remarked that after removal of a spinal ganglion delicate nerve fibres could be found in the portion of the root attached to the cord.—Dr. W. B. WARRINGTON called attention to certain alterations in the nerve cell which took place after section of its axone. In tl [illegible] as chromatolysis, the cells assumed the [illegible] in preparation for renewed activity, [illegible] urred in nearly all the cells of the [illegible] the section was made on the peripheral side but not at all when the posterior root was divided. In the former case the nerve fibres regenerated but not in the latter. Similarly, after section of the anterior root nearly all the cells of the corresponding segment
bral horn underwent chromatolysis and ultimat
but after cutting off the incoming impulses b
the posterior roots and thus producing a perman
some of the cells of the anterior horn atrophied
went complete degeneration. It was submitted
experiments furnished evidence of the important
by the cell in the regeneration of a nerve fibre.
MACDONALD and the PRESIDENT also took p
discussion.

EDINBURGH MEDICO-CHIRURG SOCIETY.

Recurring Torsion of [illegible] —M Cardiac

A MEETING of this society was held on Feb. 1st,
JOHN CHIENE, the President, being in the chair.

Mr. J. W. DOWDEN read a paper on Recurring T
the Spermatic Cord. It was based on five cases w
come under Mr. Dowden's own observation and on
recorded cases. The varieties of this affection
classified by Perry as (1) acute, where there was on
and severe attack; and (2) "recurring," where th
were more or less frequent with or without the event
of an acute attack. The main predisposing factor
manner in which the testicle, epididymis, and part
cord were covered entirely by visceral tunica vaginal
hung free in the serous sac, giving rise to a cond
"floating testicle." There was also a broad arrange
the cord with its constituents grouped in two pa
vas deferens at one free border and passing to the
minor, while the main vascular structures at the oth
border passed to the globus major ("intermesorchial
tion of the cord"). Puberty was a predisposing facto
was also in acute torsion. In six out of the ten cas
testicle was a descended one. Both sides were equally aff
The patients gave a history of attacks from time to t
sudden pain in the testicle associated with collapse, vom
and great local tenderness with (in a few hours) swell
the testicle. Sudden relief of the severe symptoms occ
with the disappearance of the swelling in about 24 h
Such attacks might go on for years. The condition cou
distinguished from epididymo-orchitis by the suddenn
the onset and the severity of the collapse. After swe
had occurred in the scrotum a strangulated hernia might
simulated but pain followed in some hours by swelling
the main distinctive sign of torsion. A case of an inf
aged five months, and another of a child, aged three ye
showed that recurring torsion might happen in infan
The direction of the twist was ascertained in eight cases
in seven it was from without inwards and the twist var
from half a turn to two turns. The treatment in an att
was to perform detorsion and if this failed an immedi
operation to untwist and to fix the testicle was required.
the interval fixation of the testicle should be carried out
clipping away the parietal tunica vaginalis and suturing t
testicle to the scrotum.—Mr. DAVID WALLACE and M
ALEXANDER MILES took part in the discussion.

Dr. R. A. FLEMING read a paper on Massage, Passi
Movements, and Modified Resisted Exercises in the Treatme
of Advanced Cardiac Dilatation, in which rest and cardi
tonics had failed to yield further benefit. He thought th
the exercises gave tone to the heart where it was possible fo
the myocardium to respond at all and they probably did s
by dilating the vessels and relieving the over-burdened heart
Careful percussion of the cardiac right and left borders, taken along with the position of the apex beat, yielded accurate data as to the contraction of a dilated heart. The method of treatment consisted in successive periods of daily massage, followed from seven to ten days later by passive movements of the arms and legs and after other seven to ten days by resisted exercises. The patient was not allowed out of bed during the period of from 21 to 30 days and the exercises were limited, therefore, to those which could be performed in bed. Clinical details were given of ten cases, two of which were cases of aortic and mitral incompetence and in neither of these two was the treatment successful. In the remaining eight cases success followed the treatment, the patients were allowed up after the period of resisted exercises was finished and were made to walk slowly for a few minutes, and the period of active exercise thus taken was gradually lengthened

the menses occurred regularly during the early months of extra-uterine gestation.—Mr. Malcolm replied to Dr. Sunderland by saying that he was quite sure that menstruation was not always in abeyance until the tube ruptured.—Dr. F. J. McCann delivered an address (illustrated by a large series of lantern slides) on the Early Diagnosis of Cancer of the Neck of the Womb. A short description was given of the normal anatomy of the cervix and the importance of the "transitional area" (i.e., where the squamous epithelium covering the vaginal portion joined

advent of ulceration altered the relationship of the different parts of the cervix. Three clinical types of cancer of the vaginal portion of the cervix occurred. 1. The papillomatous or polypoid type, where a sprouting growth extending upwards into the vaginal canal originated by a somewhat broad base from the margin of the external os uteri. In this class was included the so-called cauliflower excrescence. 2. The infiltrating type, where the tissue of the vaginal portion was infiltrated with cancerous growth, one or both lips of the cervix being affected. 3. The superficial flattened type prone to early ulceration. Here the growth crept over the surface of the vaginal portion, and as there was a tendency to early ulceration a true malignant ulcer in an early stage was seen. Two special types of cancer affecting the cervix proper might be identified: (1) superficial carcinoma of the mucous membrane of the cervix proper, characterised by the growth of papillomatous masses of different sizes in the interior of the canal, followed later by ulcerative changes which hollow out the cervix and produce the characteristic crateriform ulcer; and (2) the infiltrating type where the walls of the cervix were infiltrated in part or in their entirety with cancer. This last type tended to spread rapidly to the lymphatics and hence was frequently discovered when it was beyond hope of eradication. The early signs of cancerous disease were discharge and hæmorrhage. Discharge was the first sign but hæmorrhage was the sign which prompted the patient to seek advice. It would be found that careful inquiry into the history of early cases would elicit the fact that an alteration in the quality and quantity of the leucorrhœal discharge was observed before any bleeding had occurred. For this reason all cases of discharges or atypical bleeding should be carefully examined and the os uteri inspected through a speculum. The signs elicited on examination were as follows: (1) friability, a sign of great importance which could be tested by the finger nail, the curette, the uterine sound, or a long probe; if there be much fibrous tissue present in the growth friability may be entirely absent; (2) the occurrence of bleeding, the amount of which was entirely out of proportion to the extent of the injury inflicted; and (3) the definite occurrence of new growths from the surface of the cervix, from the lining of the cervical canal, or in the substance of the cervix.
changes in the cervix which
were as follows. 1. Erosion.
was no ulceration. It surrounded the os externum; the edge was not sharply defined but faded away into the surrounding mucous membrane. Epithelial islets and plugged follicles might be noted on the surface and there was no infiltration of the base. 2. Chronic

On withdrawing the finger blood might be seen upon it. Per speculum the mucosa of the cervix was smooth, shining, bright red, with total absence of any ulceration It was only by firm pressure of the finger or the sound that bleeding from the surface occurred, and, above all, neither the sound nor the sharp curette could detach pieces from the cervical lining. If still in doubt the microscope could be used. A full description was given of the different varieties of ulcer met with in the cervix. The differential diagnosis from
'ended follicles, &c., was given.
inted out that one of the most
cancer was the presence of
sues.—Mr. Donald J. Armour asked Dr. McCann whether in cancer of the vaginal portion of the cervix he always performed a panhysterectomy or was satisfied with supravaginal amputation.—Mr. Cecil H. Leaf wished to know Dr. McCann's opinion as to how much importance he attached to the presence of ulceration, as he did not consider it a trustworthy guide.—Dr. McCann emphasised Dr. Robinson's remarks as to the importance of friability being an early sign. In reply to Mr. Armour, he said that he was still in favour of supravaginal amputation of the cervix in early cases of cancer affecting the vaginal portion, whilst he preferred hysterectomy for other forms. In replying to Mr. Leaf he said that apart from traumatism a genuine ulcer of the cervix was malignant, tuberculous, or syphilitic, and as the last two were rare cancer should be suspected.

FORFARSHIRE MEDICAL ASSOCIATION.—A meeting of this society was held in the Royal Infirmary, Arbroath, on Jan. 18th, Dr. Andrew Key, the President, being in the chair.—Dr. A. D. Yule read a paper on Some Symptoms and Sequelæ of Pyloric and Duodenal Ulcers. He referred specially to dilatation of the stomach as a sequel and gave particulars of two cases of excessive gastric dilatation due to obstruction produced by cicatrisation of ulcers near the pylorus. Medical treatment had no effect but complete recovery followed the operation of posterior gastro-jejunostomy performed by Mr. D. M. Greig. Notes were also read of the case of a woman, aged 42 years, who for many years had all the classical signs and symptoms of a gastric ulcer near the pylorus and whose persistent pain and frequent vomiting were not improved by medical treatment but were abolished by an exploratory laparotomy at which no evidence of any old or existing ulcer was found. Mr. Greig was again the operator and pyloroplasty was performed as there were moderate dilatation of the stomach and some degree of hypertrophy of the circular muscular fibres of the pylorus. Three months after the operation, however, the persistent pain, with exacerbations and occasional vomiting, returned. The case was most probably one of neurasthenia and it was considered that further surgical measures did not hold out much hope of permanent benefit.—Mr. Greig then read notes on a series of cases of Suprapubic Prostatectomy for Senile Enlargement. He pointed out that it was a mistake to consider the prostate as a trilobed organ, for it only became such as the result of pathological changes as in the hypertrophy of old age. He described the method of operation and indications for surgical intervention in over-distension of the bladder and showed specimens from ten operations.—Various cases were shown by Dr. W. J. Dewar, Dr. J. D. Gilruth, Dr. D. Laing, and Dr. J. D. Duncan.——A meeting of the society was held in the School of Medicine, Dundee, on Feb. 2nd, Dr. J. Rorie being in the chair.—Dr. W. E. Foggie read notes of a report on the Incidence of Rickets amongst the children who had attended the medical out-patient department of the Dundee Royal Infirmary during the past year when he was in attendance two days during each week. Amongst 463 children examined beading of the ribs was present in 75 per cent. and enlargement of the wrists in 23·3 per cent. The percentage of changes in the shape of the chest and of the long bones was but small. Though rickets was thus widely spread the type of the disease did not seem a very severe one, this being proved by the fact that "flat pelvis" was not met with to any great extent in obstetrical practice.—Dr. J. S. Y. Rogers read notes on three cases of Infective Arthritis occurring after Influenza. He remarked that the literature on the subject was very meagre but the subject was worthy of further investigation. The cases were similar in that all were influenza of the gastro-intestinal type and several other persons in the same three households as the patients were affected. The first and second cases were those
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int for
) years
of age, who on the fourth day of his illness developed
ght wrist which afterwards
with considerable swelling
nd showed every sign of
t reveal any pus but a
nined fluid escaped with

pieces of necrosed tissue. This was examined bacteriologically but the result was negative. The patient made a good recovery but very considerable stiffness remained in the joint. Dr. Rogers considered that there were two distinct forms of infective arthritis. The first variety was seen in typhoid fever and scarlet fever where a swelling of the large joints simulating acute rheumatism might take place. This condition passed off in a few days and did not go on to suppuration. In the second variety there was implication of one joint only which might be of the four following types: (1) slight transient swelling and effusion; (2) considerable effusion, which was at first turbid and then might be purulent: (3) involvement of the peri-articular tissues, with brawny swelling and reddening of the skin, suggesting suppuration; and (4) early suppuration, a destructive arthritis. The first variety might be due to the action of the specific micro-organism. The second variety was probably due to the action of ordinary bacteria of suppuration. The prognosis depended on the type of the disease. The first three types were favourable with regard to recovery, though there might be considerable stiffness of the joint following. In the fourth type the prognosis was very unfavourable, as a great many ended fatally within a short time.—Dr. J. Mackie Whyte showed a Placenta having Numerous Tubercles on the Amniotic Surface. The woman suffered from pulmonary tuberculosis of five years' duration.—Various patients were shown by Dr. E. F. M. Neave and Dr. Foggie.

EDINBURGH OBSTETRICAL SOCIETY.—A meeting of this society was held on Feb. 8th, Sir J. Halliday Croom, Vice-President, being in the chair.—Dr. F. W. N. Haultain read a paper on a Clinical and Pathological Analysis of a Successive Series of 120 Abdominal Hysterectomies for Fibro-myomata. The operation was performed in 85 for bleeding, in 15 for size, in 13 for severe pressure symptoms, in 2 for reflex symptoms, in 3 for dysmenorrhœa, and in 2 for constant pain. The ages of the patients were in 2 cases between 20 and 30 years, in 28 between 30 and 40 years, in 80 between 40 and 50 years, in 8 between 50 and 60 years, and in 2 over 60 years. Of the eight cases between 50 and 60 years only one had reached the climacteric. The severe pressure symptoms included three cases of retention of urine, one case of cramp in the legs, and one of pressure on prolapsed ovaries. Reflex symptoms were illustrated by a case of violent laryngismus stridulus and one of persistent vomiting, both cured by the operation. The effect of fibroids on child-bearing was shown thus: of the 120 cases 71 were married and of these 42 were absolutely sterile and the remaining 29 had an aggregate of 78 children. But the average age of the youngest child before the patient was operated on was nine years; this proved convincingly that fibroids had a sterilising effect on the patient. Dr. Haultain tabulated the pathological characters of the fibro-myomata as follows:—1. Of the uterine body.—Simple fibro-myomata, 63: (*a*) multiple, 54; and (*b*) single, 9. Degenerated, 20: (*a*) œdematous, 12; (*b*) red degeneration or infarction, 1; (*c*) cystic, 2; (*d*) calcified, 1; (*e*) sarcomatous, 2; (*f*) teleangiectatic, 1; and (*g*) diffuse nodular fibrosis, 1. Complicated with other growths, 24: (*a*) adeno-carcinoma of the body, 5; (*b*) mucous polypi, 9; (*c*) cystic ovarian tumours, 6; (*d*) solid ovarian, 1; and (*e*) broad ligament cyst, 3. Complicated with pregnancy, 3. Complicated with marked ascites, 1. 2. Of the cervix, 7: (*a*) single, 6; and (*b*) multiple, 1. 3. Of the body and cervix combined, 2. The hard and slow growing were mainly fibrous, while the soft rapidly growing had a large proportion of muscle in their composition. The blood-vessels had a primitive character of the nature of sinuses, producing thus a sluggish circulation in the growth and predisposing to secondary changes. Of the three cases associated with pregnancy, hysterectomy was performed in one case at the third month, and in the other two at the fourth month. The reason for operation in two cases was severe continuous pain and pressure symptoms. Unless urgent symptoms manifested themselves pregnancy should, in the majority of cases, be allowed to continue, but if interference became necessary hysterectomy was preferable to the production of abortion. The method of operation was the sub-total or supravaginal in 105 cases and panhysterectomy in 15 cases owing to cervical involvement or associated malignancy. Dr. Haultain's preference for the supravaginal method was due almost entirely to the fact that it was simpler to perform and thus quicker and safer. The supporters of the pan operation referred to a possible chance of a subsequent malignant growth forming in the cervix; but the chance of this was infinitesimal. In operating, Dr. Haultain first clamped the vessels and after removal of the tumour tied them. He left the cervical stump as it was cut, not making any flaps to cover over the raw surface; the cervical canal acted as a drain. The layers of the broad ligament were carefully apposed by continuous silk sutures. He preferred sponges to swabs; they were softer and kindlier to the peritoneum, were more absorbent, and were more easily counted. He prepared them with a very strong solution of carbonate of soda and afterwards kept them in carbolic lotion. During the operation they were washed in cold and then placed in hot sterile water. He used the through-and-through method of stitching the abdominal wound and with silkworm gut. The patient was in the Trendelenburg position during the operation. The patient after the operation was permitted to lie in any position in which she might feel most comfortable. After the chloroform sickness tea, soups, and liquid nourishment were given. The bowels were moved on the third day, after which a plain diet was allowed according to fancy. Three of the 120 cases died. One never rallied after the operation (supravaginal) owing to her extreme anæmia. The other two died after the pan operation from sepsis; one the result of the infection of the tumour bed by the bacillus coli through the bared rectum, from which the large posterior cervical fibroid was separated, and the other was due to peritoneal infection from a sloughing growth involving both body and cervix uteri. In all cases of subperitoneal and interstitial fibroids which gave rise to symptoms and reduced a patient's health and comfort, hysterectomy should be performed if she was under 45 years of age. Hysterectomy should be performed at any age when the symptoms were urgent if myomectomy could not readily be performed. If no symptoms were present then no treatment was necessary and it was unwise to acquaint the patient of the presence of the tumour.—Dr. J. Haig Ferguson, Dr. J. M. Munro Kerr (Glasgow), Dr. J. W. Ballantyne, Dr. S. Macvie, Dr. J. B. Hellier (Leeds), Dr. W. Fordyce, Dr. J. L. Lackie, Dr. M. Campbell, Dr. J. Ritchie, and Sir Halliday Croom discussed the paper and Dr. Haultain replied.

HARVEIAN SOCIETY OF LONDON.—A meeting of this society was held on Feb. 9th, at which Dr. G. A. Sutherland read a paper on Lobar Pneumonia in Children. He referred to the valuable information to be obtained by a study of the child's expression and breathing. The expression of the face was much more placid in lobar pneumonia than in catarrhal pneumonia owing to the obstructive conditions present in the latter. The breathing in lobar pneumonia was rapid, superficial, and often of inverted respiratory type. The increased movement of the alæ nasi usually consisted of an expiratory and not an inspiratory dilatation and was due to forcible expiration. He reviewed the clinical symptoms of three leading types of pneumonia—the cerebral, the gastro-intestinal, and the renal—in which all through the disease the pulmonary condition might remain unsuspected. Renal cases might present as the leading symptom hæmaturia or general dropsy. The treatment in ordinary cases was practically that of a specific fever. Coughing, fever, sleeplessness, and pain were symptoms which might call for treatment. As a rule the pre-critical stage was the period of greatest severity and cardiac tonics and leeching were the best remedies at this time.—Dr. Guthrie thought that lobar pneumonia was better recognised now, being less fatal than broncho-pneumonia. He thought that the fa [illegible] not apathetic and placid, the breath being [illegible] He believed that central pneumonia with distant tubular breathing occasionally occurred. He remarked on [illegible] should be pushed where required. [illegible] thought that the expression was mostly anxious. [illegible] when given should be started early in the disease. Empyema was more common after lobar pneumonia than after the catarrhal form.—Dr. A. Morison thought that the fever should be treated if high and not allowed to run riot as it affected the circulatory system. Ice to the head was soothing and a useful antipyretic. Bleeding was at times useful at the onset. He also thought that strychnine was a drug that should be pushed when needed. Digitalis he did not use. Turpentine was useful when there was much secretion in the tubes —Dr E Cautley was accustomed to differentiate between children and infants in speaking of pneumonia in childhood The possibility of otitis media as a complication, often unaccompanied with pain, should always be remembered Bleeding in children was rarely necessary and he doubted the advantage of using the ice bag —Dr Sutherland replied —Mr E Laming Evans read a paper on Anterior Metatarsalgia with notes on seven cases An analysis of these seven cases showed that the fourth metatarso phalangeal joint was affected in all and the third in two cases All the cases occurred in women, six in private and one in hospital practice in this agreeing with all previous records No injury, or sudden onset, or rupture of the transverse ligament, was present The longitudinal arch was depressed in three cases and the transverse arch in three The fashionable narrow pointed shoe was considered to be responsible for an aggravation of the mischief, if not the actual cause of it Five of these cases had been dealt with by palliative measures, with partial relief of the symptoms and two by excision of the head and the neck of the fourth metatarsal bone with complete removal of the pain and with a sound functional foot, without any weakening Mr Evans advocated that palliative measures should be tried in the first instance, but if these failed, that removal of the head of the metatarsal bone should be performed with a good chance of removing the disease and without fear of weakening the foot —Mr J Jackson Clarke had not operated on these cases during the last five years The general health should be improved and much attention paid to shoes He advocated the use of steel plates in the boots carefully made after taking a plaster mould or model of the foot Metatarsalgia was often a symptom of flat foot Patients were often markedly irritable with this condition

Society of Medical Officers of Health —A meeting of this society was held on Feb 10th, Dr J F J Sykes the President being in the chair —Dr G F McCleary read a paper on the Reform of the Milk supply, in which he urged its municipalisation on the lines suggested by Dr Edmund Cautley and Mr Lawson Dodd or by Dr W Leslie Mackenzie Sanitary progress during the nineteenth century had been mainly concerned with civic cleanliness, sewerage, scavenging, house construction, and water supply, but of late personal cleanliness or hygiene had been attracting attention in the control of food supplies infectious diseases, overcrowding, and like questions Few of these were of greater importance than that of the milk supply, which, as Dr A Newsholme had shown was answerable for a large part of infant and child mortality, directly or indirectly The conditions under which milk was produced, conveyed and distributed were for the most part defective and antiquated when not actually filthy and dangerous The rural sanitary authorities on whom devolved the duty of inspecting the cowsheds were apathetic, if not worse and the county councils were little better Only by acquiring powers to extend their activities beyond their boundaries could the urban authorities protect the interests of the great majority of the consumers This had been done on the largest scale in the matter of water supply and on more restricted lines in respect of sewerage works isolation hospitals, &c The corporation of Manchester had through the efforts of Dr James Niven obtained powers under the milk clauses of a local Act which had proved of great value But inspection could do no more than prescribe prohibit and prosecute it could regulate but could not alter character habit economic conditions and in each of these, from the cowshed in the country and the cowman s cottage to the shop and trolley in town there was need of radical change He wished to see cowsheds abolished and milk drawn by clean men into clean vessels and after being chilled sent up and sold in clean stoppered bottles without any rise in price This could be achieved only by the entire control and if possible the production of the milk supply being entrusted to municipal councils or elective boards having exclusive privileges over certain districts, as was the case with sewerage and drainage and the supply of gas water, and electricity, or if that were found impracticable they might open model dairy farms and milk shops which should serve as object lessons to others This however, would not meet the difficulty of the price of milk which in any industry conducted for profit must be affected by a serious increase in the cost of production —Dr Philip Boobbyer took a practical interest in the milk question and was in favour of a progressive policy when he could see a limit or a goal, but municipal indebtedness had reached such vast dimensions that they ought to consider seriously proposals for embarking on undertakings that could, even though less perfectly, be carried on by private enterprise, and it was not politic to do so at a loss throwing the burden on the ratepayer One large borough had suspended *sine die* the scheme for an abattoir for which the estimates had been obtained and the site secured on account of the cost £25 000 —Mr J Sadler (secretary of the Cheshire Milk Supply Association) pointed out that the conditions of the production of milk in scattered farms over wide areas were totally different from those of the manufacture of gas or generation of electricity in large central buildings Reform should be directed to the education of all engaged in the work, the cooperation of farmers collectors and dealers and stricter supervision of the carriage provided by the railways The local authorities should enforce the Cowshed and Dairies Orders, throwing the responsibility and expenses on the owner rather than the occupier —Mr J Nugent Harris (secretary of the Agricultural Organisation Association) testified to the good effects of education, moral suasion and cooperation and said that to obtain clean milk our farmers should treat their cows with the same individual attention that they gave to their horses —Mr J Tubb Thomas and others deprecated municipal action while several gentlemen mostly visitors, defended it urging against collection by companies the difficulty of tracing the source of epidemics when milks from many farms were mixed —Dr E F Willoughby, speaking from an experience of 20 years condemned municipalisation as futile and impracticable He entirely agreed with Mr Harris and Mr Sadler These and other speakers had shown them what improvement could be brought about by strict inspection under existing conditions

Glasgow Pathological and Clinical Society —A meeting of this society was held on Feb 13th, Professor R Muir the President, being in the chair —Dr John Anderson showed as a fresh specimen an Abscess of the Brain accompanied by leptomeningitis due to the pneumococcus —Dr J Lindsay Steven showed a girl aged two years suffering from Enlargement of the Spleen and the Liver possibly Splenic Anæmia The illness was of eight months duration The enlargement of the liver and the spleen was considerable The blood condition was similar to that seen in the splenic anæmia of adults red corpuscles 3 900 000 hæmoglobin 35 per cent, leucopenia (about 2000) with relative decrease of the polymorphonuclears There were no symptoms of ill health except irritability the child being fairly well nourished not anæmic and not jaundiced There was no enlargement of the lymphatic glands Another member of the family had died after a similar illness —Dr J Crawford Renton showed or read notes of a series of cases (1) A case of Cholecystenterostomy, (2) cases of Excision of the Elbow joint to remedy the effects of a fracture in the neighbourhood, (3) a case of Kader s Gastrostomy for œsophageal stricture (4) a case of Laminectomy for paralysis of the legs due to tuberculous disease of the vertebræ, and (5) demonstrat

—Dr J Kerr Love and Dr J

Intrathoracic Tumour and sh

of the growths In Case 1 the first symptom was pleurisy, then hoarseness cough and muco purulent sputum developed, later hæmoptysis and paralysis of the left vocal cord The growth involved nearly the whole of the left pleural sac and there were large masses in the left lung, there was very little mediastinal extension Microscopically it presented the characters of an endothelioma and Dr Love and Dr Leitch were of opinion that it had originated from the pleura The patient was a man aged 32 years In Case 2 the principal sign of disease was pain and swelling of the left arm supposed to be due to thrombosis Latterly extreme dyspnœa developed The growth was a small spindle celled sarcoma It was situated in the mediastinum in front of the trachea and for the most part above the bifurcation It had extended round, and was invading the walls of the trachea The patient was a woman aged 46 years —Dr W S Syme read notes of a case of Tumour ("Carcino sarcoma) of the Thyroid and Dr M Logan Taylor described the histological characters of the growth In parts the tumour presented the characters of a scirrhous carcinoma, in other parts it appeared to be a mixed-celled sarcoma and where these met the two types of tumour overlapped and intermingled, producing the effect of a scirrhous carcinoma, the connective tissue stroma of which was undergoing sarcomatous development, which was destroying the carcinoma. The tumour was very curious and puzzling. The case would be reported in full detail.—Dr. G. H. Edington showed: (1) specimens of Ribs showing different Degrees of Thickening from cases of Chronic Empyema; (2) a Large Epulis from the Upper Jaw; and (3) a Parotid Mixed Tumour.—Dr. Edington also showed Photographs of cases of Carcinoma of the Mamma.—Dr. Anderson showed: (1) a Sarcoma of the Male Breast with recurrences; (2) a Malignant Cystoma (Papillomatous) of the Kidney, with microscopic sections of both as card specimens.

Medico-Legal Society.—A meeting of this society was held on Feb. 14th, Dr. W. Wynn Westcott being in the chair.—Dr. A. G. Bateman of the Medical Defence Union opened a discussion on Privileged Communications and Professional Secrecy. Many certificates of health and of death were open to the public gaze; the privacy of the chamber of death was not respected by the press; indeed, our law courts to-day would not allow *the oath of Hippocrates as a plea for secrecy. Judges at nisi prius* trials had differed as to the rights and duties of medical witnesses. Personally he advised the exposure of crime when it was discovered, even during professional attendance. Detailed consideration was given to the demands of employers to know the result of the medical examination of employés; the reports of medical officers upon the conduct of subordinates (such documents should be brief and unadorned); and the clinical jurisprudence of cases of suspected poisoning. After citing many actual illustrations Dr. Bateman suggested the following points as pertinent to the discussion: Can a medical man obtain the same measure of protection as a lawyer and, if so, is it for the public benefit? Given, for example, a case of abortion, should the public authorities be informed, or would such information be "an act of monstrous cruelty"? If he held his peace would he be concealing a felony and hence liable as *particeps criminis?* Should not Parliamentary powers be obtained whereby death certificates would become confidential documents?—Dr. Westcott claimed that a man should have as much secrecy as he desired during life and after death as much as his representatives wished.—Sir Thomas Stevenson held that secrecy should be strictly kept; medical men, clergymen, and also lawyers should, however, "tell what they know" in the witness-box.—Dr. John Glaister discussed the position of the "hostile" medical witness; a medical man should never initiate criminal proceedings; in court he should demand a definition of his rights and duties as a witness; he should forewarn those whose bodies he examined of the possible adverse consequences and supply both sides in criminal trials with identical reports.—Dr. F. J. Wethered tested the rules with several examples.—Dr. W. P. Herringham noted that both the ethics and the law on the subject varied from time to time; in some cases (e.g., venereal infections) it might be necessary to break the rule of secrecy.—Dr. J. G. Garson saw the need of a public official who might be taken into the confidence of medical men when in doubt as to a point of clinical jurisprudence.—Mr. A. D. Cowburn, Dr. M. Greenwood, Miss E. L. C. Appel, M.B., Mr. D. Cotes-Preedy, and Dr. S. B. Atkinson having spoken, Mr. Walter Schröder stated that it was very rare for coroners to demand preliminary information from medical men, it was usually volunteered, otherwise the facts were revealed at an inquest.

Midland Medical Society.—A meeting of this society was held at Birmingham on Feb. 15th, Dr. E. W. Wood White, the President, being in the chair.—Dr. J. G. Emanuel showed an infant, six weeks old, suffering from Paralysis of both Arms caused at birth. The mother was a primipara, aged 32 years. The child was full term, the pelvis was a little contracted, and the head presented. The accoucheur, failing to deliver with forceps, turned and delivered the trunk, the shoulders, and the arms without difficulty. The after-coming head, however, became impacted and great force was expended in its delivery by pulling on the trunk with the help of a towel wrapped round the shoulders. The day after birth complete paralysis of both upper limbs was noted. Two weeks later movements in the fingers of the left hand were observed. A month later the left arm showed typically the condition seen in Duchenne's birth paralysis as a result of rupture of the fifth and sixth cords of the brachial plexus, but the right extremity had undergone no improvement and evidently the brachial plexus on this side was severely damaged. Mr. L. P. Gamgee proposed to wait till the infant was two months old and then if the right arm still showed no improvement to attempt suture of the divided cords of the plexus.—Dr. J. Douglas Stanley showed a case of Subsiding Tuberculosis.—Dr. Thomas Wilson showed: (1) A specimen of Cancer of the Cervix Uteri with Pyometra; and (2) a specimen from a case of Tubal Gestation showing an oval enlargemt of the broad ligament due to hæmorrhage into an early ovum; the tube was continued over the surface of the hæmatoma, from which its lumen was free.—Mr. W. Billington read a paper on Some Points in the Treatment of Tuberculous Disease of the Hip.

Reviews and Notices of Books.

Mental Defectives; their History, Treatment, and Training. By Martin W. Barr, M.D., Chief Physician, Pennsylvania Training School for Feeble-minded Children, Elwyn, Pennsylvania. London: Rebman, Limited. 1904. Pp. 368. Price 17*s.* 6*d.* net.

This work, the preface informs us, "addresses itself primarily to anxious parents and earnest teachers rather than to the scientist." The author observes that he has not dwelt at any length on the stigmata of degeneration. This topic cannot be said to be dealt with at all, in point of fact and for this omission no explanation is given. The historical survey of the subject treated is instructive, a good account being given of the rise and development in various countries of the modern system of care and training of the feeble-minded. This is followed by as complete a list as possible of the principal institutions for mental defectives in all countries providing such. The need for larger provision in most of these (including our own), if not in all, is apparent. Passing to classification the usual etiological, pathological, and physiognomical (ethnological) groupings are mentioned, but the author eschews them, and we think wisely, for they contain much that is pretentious, illogical, and unscientific. Since the ideal, or pathological, classification is impossible in the present state of our knowledge it appears to us of no great moment what the basis of classification may be provided that the scheme followed be consistent. The London School Board has adopted a simple educational classification in the medical examination of children for its special schools and Dr. Barr follows the same principle though on a more elaborate scale. He describes idiots and idio-imbeciles—a low-level class requiring asylum care; imbeciles, including moral imbeciles, of different grades, trainable in various (some in high) degrees but requiring perpetual guardianship; and backward or mentally feeble, capable of being trained for a place in the world.

The question of etiology is dealt with on a basis of 2380 cases collected by Beach and Shuttleworth in England and 3050 cases compiled by the author, chiefly from the records of the Pennsylvania Training School, a total of 5430 cases. The immense preponderance of ante-natal causes of mental defect is manifest. This both English and American tables show but the reader is struck by the difference in importance assigned to individual ante-natal causes in the two. Thus, taking the tables in the order mentioned the following are the percentage occurrences of certain causes: family history of pulmonary tuberculosis, 28·31, against 7·57; of insanity, 16·47, against 7·08; and of intemperance, 16·38, against 4·46; abnormal condition of mother during gestation, *29·87, against 8·49. As regards causes acting at birth,* whilst the English table assigns 14·24 per cent. of cases *to* protracted pressure the American has only 0·59 per cent. due to difficult labour. Again, in post-natal causes there is great discrepancy as to epilepsy and eclampsia, the English table giving these in 35·5 per cent. and the American in 5·90. On inquiry into these great discrepancies it is clear to us that they must be due to different methods of dealing with the etiological factors. Whereas the English table states the number of times an individual cause was recorded, thus giving a preponderance of causes over cases, the American evidently assigns one cause and no more to each case. We fail to see how percentage results are comparable in these circumstances.

The figures of many authorities are quoted as upholding the usual teaching that consanguinity is not harmful except as intensifying bad heredity common to both parents. Syphilis as a factor is shown to be unimportant. In a chapter on Diagnosis due attention is given to the important subject of early recognition of indications of mental defect. A useful table of death-periods based on 625 deaths shows the largest mortality to occur between the tenth and the twenty-fifth years. 50 pages are devoted to training, mental and physical, and treatment. Speaking of trainable defectives Dr. Barr says that the consensus of opinion is that training at an earlier period than the seventh year is likely to prove disastrous. He considers that the limit of receptivity rarely extends beyond the sixteenth year. The importance of special school training for the backward, on the borderland of deterioration, is emphasised. It is stated that defective vision is noticeable in 90 per cent. of the high and middle grades of imbeciles. The futility of craniectomy, which is well known to be based upon a false pathological conception, is shown and perhaps the demonstration scarcely needed seven pages.

There is a short chapter on "asexualisation" of the mentally defective. It appears that a circular was sent from Elwyn to the heads of 61 institutions for mental defectives in America and abroad requesting an expression of opinion on this subject, including an opinion as to the kind of operations desirable and as to the propriety of legalising operations. Only 12 replies were received and of these only nine were explicit. All agreed that procreation was inadvisable and a majority considered that legislative aid should be sought. A memorial on this subject addressed to the Senate and the House of Representatives of Pennsylvania, and signed amongst others by the author, was followed by an Act which passed both Houses authorising operation for the prevention of procreation in non-improvable idiots and imbeciles in institution care and under safeguards. This Act was returned by the Governor "for some trifling technicality" and was lost and failed to become law. An account is given of the performance of operations for "asexualisation" in certain institutions for the feeble-minded in the United States.

Short chapters are devoted to cretinism, microcephalus, and hydrocephalus. Epilepsy, pure and simple, and Jacksonian epilepsy have a chapter, though whether these subjects are suitable for inclusion in a work of this sort may be doubted. The author considers that the epileptic "may be brought to recognise that with some assistance outside himself he may avert or defer an attack, and that therefore it is in a measure under his own control." Thus he is able "at theatrical entertainments to exact promises from epileptics that there shall be no spasms during the performance, and the evening always passes without such interruption, the attention being diverted, whilst the will is *unconsciously* [the italics are ours] exerted and centred on one aim with definite result." The greater part (65 pages) of the rest of the book is taken up with illustrative cases. There are 53 full-page plates of excellent illustrations of all kinds of mental defectives and a good list of works on the subject closes the treatise.

Dr. Barr writes from an experience of almost 20 years in his subject and this fact lends weight to his views. The wisdom of writing books for "anxious parents" may be doubted. But the "earnest teacher," who is also addressed in this work, will, we think, derive benefit from its study.

Lectures on Diseases of Children. By ROBERT HUTCHISON, M.D. Edin., F.R.C.P. Lond., Assistant Physician to the London Hospital and to the Hospital for Sick Children, Great Ormond-street. London: Edward Arnold. 1904. Pp. 338. Price 6*s.*

THESE lectures have already been published in the *Clinical Journal.* Of the importance of the subject there can be no question but the author scarcely does justice to the ordinary qualifying examinations when he says in his opening lecture that they make no demand for a special knowledge of the diseases of children. A cursory glance at examination papers or a casual visit to any of the *vivâ-voce* examinations should have convinced him that those responsible are fully alive to the need for stimulating the study of this branch of medicine.

The volume is composed of nineteen lectures and in these the author has endeavoured to fill some of the gaps which are, in his opinion, left in ordinary teaching in the wards. The first lecture deals with the clinical examination of sick children and the details are full of practical hints. Every practitioner has learnt the importance of delaying percussion to the end of the examination but it is well that students should here be warned against percussing before auscultating. Concerning the artificial feeding of infants stress is laid upon the perils of rapid changes from one kind of food to another and there is a valuable analysis of the infant foods at present in use. Regarding the employment of starchy food the directions are somewhat vague and it is to be regretted that the age of the infant who thrived with "a considerable quantity of cornflour" (p. 42) is not given. The next two lectures are devoted to the digestive disorders of infancy, colic, vomiting, and diarrhœa, and in these due stress is laid upon washing out the stomach and the colon and upon the subcutaneous injections of fluids.

Marasmus, congenital syphilis, and tuberculosis in childhood form the prelude to an interesting lecture on Rickets, a subject which appears to possess a peculiar fascination for all who write or speak of diseases of children. Probably all who practise among children are struck with pity for the innocent sufferers from this preventable disease and are cheered by the extremely satisfactory results of treatment, while the cases are so numerous that it is impossible for anyone lecturing upon rickets to employ the vague terms so often necessitated when dealing with rare diseases and with secondhand information. The account here given is vivid and the subject is illustrated by several admirable reproductions of photographs. Infantile scurvy is next dealt with, Dr. Hutchison expressing an opinion that this term should replace that of "scurvy rickets." It is rather surprising, in a book characterised by dogmatism, to find the author repeatedly recommending "recourse to the therapeutic test." Concerning rheumatism in childhood much that is of interest is to be found in these pages, though many will demur at the somewhat loose pathology indicated in the comparison of rheumatic nodules in the skin and the vegetations to be found on the mitral valve. Considerations of space seem to have influenced the lecture on the Respiratory Diseases of Children, while the range of subjects touched upon under the heading of "Some Functional Nervous Diseases of Children" is also too wide for adequate treatment. The lectures on the Paralysis of Childhood and upon Meningitis are far more complete and the hints for diagnosis are likely to be very serviceable. The varieties of mental deficiency are carefully classified, the differences between cretins and Mongols, of the microcephalic, hydrocephalic and paralytic groups, together with other varieties, being duly dealt with. One of the concluding lectures is devoted to the varieties of anæmia and here the author once more presents a rather overcrowded picture. It is obviously difficult to compress into one lecture all that is worth knowing about the following subjects: (1) Congenital abnormalities of the blood; (2) primary anæmias—e.g., pernicious anæmia and chlorosis; (3) secondary anæmias: (4) anæmia associated with enlarged spleen: (5) leukæmias: and (6) affections of the adenoid tissue. The diagnostic significance of some common symptoms of disease in children is approached in a lighter vein and with reference to illustrative cases. The subject readily lends itself to this treatment though it necessarily leads to a certain repetition of material contained in the earlier lectures. The same remark holds good for the concluding lecture on some medical aspects of adenoid vegetations in infancy and childhood.

From the foregoing remarks it will be gathered that within the scope of these lectures Dr. Hutchison has succeeded in imparting a great deal of information which should stimulate further inquiry and study. He has been hampered by the difficulty, inseparable from lectures, of dividing his material into sections which fill out the allotted time, and as the diction of the lecture is retained the style is perhaps more personal and dogmatic than is customary. Reference has already been made to the illustrations; these are of unusual excellence and the 52, with one or two exceptions, are from photographs of the author's cases.

Anatomie des Membres: Dissection; Anatomie Topographique. (Anatomy of the Limbs: Dissection and Description.) By Dr. CH. DUJARIER, late Prosector in the Dissecting Room of Clamart, Director of Surgical Clinique at the Faculty. With 58 original plates by REGNIER. Paris: G. Steinheil. 1905. Pp. 304. Price 15 francs.

THIS work is the fruit of Dr. Dujarier's term of prosectorship in the dissecting room at Clamart and is intended as a practical guide to students in their dissections. The illustrative plates have been prepared under the author's supervision from his own dissections; they are mostly from normal subjects but there has been no hesitation in including the more common abnormalities when present. In certain regions plates illustrative of the different stages of dissection have been introduced. Sufficient detail has been incorporated in the text to avoid reference to books of descriptive anatomy. Amongst regions of which a particularly full description is given may be mentioned the axilla, the bend of the elbow, the palm of the hand, the gluteal region, Scarpa's triangle, the sole of the foot, and the knee-joint. The volume reflects great credit upon both the author and the artist. The descriptions given in the text are lucid and exhaustive and many little points about the illustrations bear out the author's statement that they are drawn from actual preparations. We know of no text-book which gives better or more faithful representations of the anatomy of the limbs. A student who has conscientiously followed this book in dissection cannot fail to attain an excellent and correct knowledge of the structure of the limbs. At the same time we are inclined to think that the size of the volume will to some degree militate against its use in the dissecting room, for it is much larger than the ordinary manuals used by students, and in spite of this only contains the anatomy of the upper and lower extremities. Dr. Dujarier is a pupil of Farabœuf and in the preface he pays a touching tribute to his old master by whose permission he has reproduced the illustrations of the transverse sections of the limbs.

LIBRARY TABLE.

Landmarks and Surface Markings of the Human Body. By LOUIS BATHE RAWLING, M.B., B.C. Cantab., F.R.C.S. Eng., Senior Demonstrator of Anatomy, St. Bartholomew's Hospital; Assistant Surgeon to the German Hospital, Dalston; Hunterian Professor, Royal College of Surgeons of England. With 21 illustrations. London: H. K. Lewis. 1904. Pp. 76. Price 5*s.* net.—Mr. Rawling's small manual of surface anatomy cannot fail to recall to the reader's mind the famous "Landmarks" of Luther Holden, the subject-matter of each chapter being arranged in terse sections after the style of the older book. The idea has been to produce a handy volume of landmarks and surface markings such as may prove useful both to junior and to advanced students of medicine. The work is purely anatomical, no reference being made to operations or to pathology. Such being the scope of the book there is little room for originality in the text. There are five chapters and an appendix. The chapters are devoted respectively to the head and neck, the upper extremity, the thorax, the abdomen, and the lower extremity. The appendix, which gives the lengths of various tubes and passages and the average weight of most of the organs, is a useful novelty. The book is freely illustrated, partly by reproductions of actual photographs of the living body with the surface markings outlined in black and partly by outlines showing the surface relations of the thoracic and abdominal viscera. At the side of each paragraph is a reference to the corresponding illustration. On the whole the text appears to be trustworthy but in some places greater accuracy is to be desired; for instance, the surface markings of the lower limits of the cerebrum, of the lateral sinus, and of the upper border of the cerebellum are rather loosely given. In Fig. 18 the transverse colon appears to pass behind the duodenum. We have no doubt that the book will prove handy and useful to students.

Autobiography of Frederick James Gant, F.R.C.S., Consulting Surgeon to the Royal Free Hospital. London: Baillière, Tindall, and Cox. 1905. Pp. 200. Price 3*s.* 6*d.* net.—The public work and private matters which have served to mould the character of the writer of this autobiography are set forth in a modest and graceful way in this little volume which will cause pleasure to his old colleagues and friends. Some of the most private matters, which are too sacred for the pen of the reviewer to comment on, are treated in a way that shows how deeply they have touched the author and we could almost wish that Mr. Gant had let even the bare remembrance of them pass away into oblivion. Mr. Gant has seen and done much in his 80 years and the record of his work as author, as surgeon, and on public questions is here suitably set forth. Unquestionably many of the author's good intentions have borne fruit in good deeds. Mr. Gant has many pleasant memories to live with.

The Liverpool Medico-Chirurgical Journal. Including the Proceedings of the Liverpool Medical Institution. No. 47. January, 1905. Liverpool: Medical Institution; London: H. K. Lewis. Pp. 273. Price 3*s.* 6*d.*—This issue contains a large amount of excellent material. Among the papers are the following: 1. A Report of an Interesting Case of Operation, by Mr. R. C. Dun, for Congenital Hydronephrosis, in which the position of the abdominal tumour was unusual. 2. On Puerperal Septicæmia, with special reference to the value of antistreptococcic serum, based on an observation of 61 cases. In this paper Dr. Nathan Raw says that he has never been able to isolate pneumococci or gonococci and doubts if either will produce puerperal septicæmia. 3. On the Treatment of Severe Cases of Placenta Prævia by Bossi's Method prior to the introduction of Champetier de Ribes' bag, by Dr. H. Briggs. 4. On the Successful Treatment of Foreign Bodies which have been Swallowed by the Internal Administration of Cotton-wool, by Dr. W. Blair Bell. 5. On the Theory of Purin Formation, by Dr. W. Gordon Little. 6. On the Early Diagnosis of Consumption, by Dr. John Hay. 7. On the Education of Epileptics, by Dr. W. Alexander. There is also a report of an interesting ceremony at the eighth ordinary meeting of the Liverpool Medical Institution when the late Sir William Banks on behalf of the institution presented to the President, Dr James Barr a gold badge with a riband to be worn round the neck which had been subscribed for by the members It is intended that the badge shall be handed down to successive presidents

Studies from the Department of Pathology of the College of Physicians and Surgeons Columbia University N Y Vol IX For the collegiate year 1903-04 Reprints —These reprints of the most important studies published by the workers in this department in various journals during the year 1903-04 are brought together in this form for convenience of reference The cost of reprinting and issuing these studies is defrayed by the Alumni Association of the College of Physicians and Surgeons The volume contains the following papers 1 A Study of a Bacillus resembling the Bacillus of Shiga from a case of fatal diarrhoea in a child with remarks on the recognition of dysentery typhoid and allied bacilli, by Dr Philip Hanson Hiss and Dr F F Russell The bacillus described is closely related also to the bacillus typhosus both in agglutinating reactions and in the usually observed cultural characters but can be separated from it by the absence of mobility and by its reactions in the maltose and dextrin media employed 2 Experiments relating to the Question of Fixation of Strychnine in Animal Tissues by S J Meltzer and G Langmann 3 A *Resume* of some recent Researches relating to Cytolysis and Immunity, illustrated by Dr T Mitchell Prudden 4 A Case of Multiple Fibroma (*Fibroneuroma*) of the Nerves of the Lower Extremities with Diffuse Enlargement of the Sciatics, complicating Sarcoma and Metastases in the Lungs by Dr John H Larkin 5 6 and 7 Papers by Dr F C Wood on the Prognostic Value of the Diazo Reaction in Pulmonary Tuberculosis on a Simple and Rapid Chromatin Stain for the Malarial Parasite, and on the Mixed Tumours of the Salivary Glands (illustrated) 8 9 10 and 11 Papers by Dr Augustus Wadsworth on the Agglutination of the *Pneumococcus* with certain Normal and Immune Sera, on Experimental Studies on the Etiology of Acute Pneumonitis on a Simple Method of obtaining Blood from the Rabbit and on a Convenient Method for growing and storing Virulent Pneumococci 12 Hæmolymph Nodes by Dr Hughes Dayton 13 A Bacteriological Study of Trachoma with remarks on the Occurrence of the Influenza Group of Bacteria in Conjunctivitis by Dr Arnold Knapp 14 The Bacterial Precipitins by Dr Charles Norris 15 Hæmorrhages in the Eye present at Birth illustrated by Dr F B Coburn 16 An Adenoma of Sebaceous Glands of the Abdominal Wall illustrated by Dr W C Clarke

Manual of Hygiene for Students and Nurses By JOHN GLAISTER M D Glasg D P H Cantab, F F P S Glasg Second edition Edinburgh E and S Livingstone 1905 Pp 403 Price 6s net —This new edition has been carefully revised and some additions have been made to it to make the work more complete The author from his long experience as a teacher of hygiene and public health may fairly claim to be able to measure the needs of students and nurses in a public health manual and that his book met a want is shown by the rapidity with which it was taken up by those for whom it was written This second edition will we think maintain the popularity of the manual

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JOURNALS AND MAGAZINES

The Practitioner —The February issue of this magazine opens with a communication from Sir William Broadbent based upon two cases of interlobar pneumonia which are related in detail Mr Edmund Owen contributes a useful addition to the copious literature that has recently adorned the subject of loose cartilages in the knee joint Intestinal obstruction and the cervical sympathetic are dealt with respectively by Mr T Carwardine and Dr Purves Stewart, and Mr Harvey Hilliard discusses the use of ethyl chloride by the general practitioner Dr George F Still contributes a review of recent work on children's diseases

Belfast Health Journal —Vol III of this journal commences with the number for December 1904 and an editorial address to our readers which immediately follows the title page shows that its career has been one of great prosperity The first of the original articles is a report of a Health Lecture for the People delivered in the Ulster Hall Belfast by Dr Henry O'Neill on Nov 15th In subsequent articles the food supply of the city the organisation of the markets and in particular the system of meat inspection are described at considerable length In the January number the majority of the articles refer to the feeding and the general care of children Professor G Sims Woodhead's lecture on Alcohol and Public Health, delivered in the Wellington Hall Belfast, is fully reported and there are useful accounts of municipal meetings at which public health matters were discussed The general recommendations of the journal on health questions are excellent, it presents an attractive appearance and is embellished with an immense number of portraits of "Worthy Health Pioneers" including representatives of royalty and nobility as well as many who hold prominent positions in political and municipal life

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New Inventions.

THE STELLITE AIR DEODORISER

UNQUESTIONABLY an important degree of purification of the air is effected by bringing it into intimate contact with a spray of water The cleansing effect of rain or even mist or fog (when they have subsided) upon the air is well known The air again in the vicinity of disturbed water as at the sea or near water falls is proverbially sweet and fresh In these circumstances it is probable that apart from mere mechanical action water present in a myriad of minute droplets acts as an oxygen carrier it may be in fact that even peroxide of hydrogen is formed and that organic impurities in the air are destroyed by this agent This is in part the principle upon which depends the purifying action of the Stellite Air Deodoriser introduced by the Electric and Ordnance Accessories Co Limited Stellite Works Birmingham It consists of a metal case containing two revolving discs between which is an air fan By means of an electric motor the metal discs are made to revolve rapidly through a pool of water placed in a container at the bottom of the apparatus The discs rapidly whisk up a stream of water droplets At the same time the fan between the discs brings air into intimate contact with these droplets and a volume of air scrubbed clean so to speak issues from a funnel shaped outlet The effect upon the air of the room is according to our experiments decidedly satisfactory The air is freshened and gives the impression of having been cooled We have tried in particular the effect of the apparatus upon the air of a chemical laboratory dense with the fumes of chloride of ammonium The air was rapidly cleaned and reduced to a perfectly clear state and ammonium salts were found in the wash water The apparatus may be applied to the cleansing or even deodorising of the sick chamber or the hospital ward Sponges moistened with a volatile antiseptic such as thymol carbolic acid or even formaldehyde may be placed in the air inlets After a very short time on merely connecting the motor with the terminals used for an electric lamp the apartment is completely pervaded with the smell of the disinfectant that has been employed Perfumes may be used with equal effect in a similar way Primarily however, the machine is an effectual air washer and as such it may obviously have numerous hygienic applications The purifying action of a spray of water upon air is of course to some extent mechanical but it is probable also that a physical and chemical effect is produced in the direction already indicated

THE LANCET.

LONDON: SATURDAY, FEBRUARY 25, 1905.

The Financial Relations between Hospitals and Medical Schools.

IT will be in the recollection of our readers that towards the close of last year KING EDWARD'S Hospital Fund for London appointed a committee to investigate and to report upon certain questions relating to the expenditure of the twelve London hospitals having medical schools. It is scarcely necessary to trace the history of the inquiry beyond indicating that it arose out of a certain agitation against medical schools where experimental research is conducted. The violent feelings of those opposed to research led to formal declarations of a direct desire to prejudice nearly all the public appeals for charitable support made by the hospitals in question, and upon these followed acrimonious discussions which gradually centred in a protest against the diversion of funds contributed for the support of a hospital to the maintenance of a medical school. In face of this charge a committee, consisting of Sir EDWARD FRY, the Bishop of STEPNEY, and Lord WELBY, was appointed and the terms of reference are printed in another column with the resulting report. It is certain that the report will be widely read and it appears to be equally certain that it will be found both surprising and disquieting to those who have at heart the interests of the hospitals and of the medical schools of London. It will be seen that the committee took rather a wide view of the scope of inquiry and sought information outside the hospitals with medical schools. In the course of the evidence many interesting facts were brought to light but these, although they bear on medical education, are outside the main object of the inquiry. The financial relations between the schools and the hospitals and the extent of their mutual dependence formed the chief subject of dispute and of inquiry.

The difficulty of disentangling the mass of evidence must have been considerable, since the terms of reference implied complete separate existence between the hospitals and the schools. Historically this is incorrect; in certain cases it is evident that there was a gradual process of growth, the hospital being created to meet the needs of the school, or the school being constructed as part of the hospital. The lack of uniformity in the history of the development of the relations between the individual hospitals and their medical schools renders impossible the formulation of general statements and continually calls into question the objects desired at the foundations of these institutions, so that the extent to which it is feasible to consider the school buildings as separable from the hospital buildings must remain doubtful. Turning, however, to the current expenditure we find greater possibility of precision and the conclusions are not creditable to our wealthy metropolis. It is lamentable that the claims of medical education should be so far ignored that it should ever be necessary for any contributions, direct or indirect, to be made to the schools out of the funds of the hospitals. There are only two institutions, King's College Hospital and University College Hospital, of which the committee is able to report that no money, given or subscribed, is contributed for the maintenence of medical education. Some doubt is expressed with regard to Guy's Hospital and the Royal Free Hospital but all the other medical schools appear to have received aid from their hospital funds. In fairness it might have been indicated that the two hospitals thus highly commended are the only two in which the medical schools form part of general teaching institutions, in every sense separate from the hospitals. In King's College and University College endless confusion would have been created by any overlapping of accounts and in both instances the hospitals were to a very large extent developed to afford facilities for clinical teaching of students trained in the parent institution. Supported primarily by the friends of these institutions it was in each case essential that the hospital funds should be distinct, since the welfare of the Colleges could not be imperilled by the uncertainty of the adequacy of charitable contributions.

The extent of benefit derived by the hospitals from their assoication with the medical schools is a matter upon which opinions may differ. It is perhaps inevitable that a committee without opportunities of personal observation should think that "the quiet of a hospital without students" must often be a comfort to patients. Much depends upon the class of students and the class of patients and the amount to which the students, as distinguished from the junior staff, are brought into connexion with the patients is less, we think, than the authors of the report imagine. It is difficult also to realise what is meant by the suggestion that "in cases of great obscurity and difficulty the presence of a large number of students may at times be useful." We believe that in cases of "great obscurity and difficulty" unofficial visits to the wards are frequently made in order that the members of the staff may form an opinion at their leisure without the disturbing need of explaining and demonstrating each step of investigation to a large class of students anxious to move on to something definite. If the large class could be composed of qualified men much help might be derived from their presence, but students demand instruction and rarely offer illuminating suggestions. Still, this portion of the report must not be criticised too rigorously, since the main facts are clearly recognised, and these are that opportunities of teaching in a hospital connected with a school will insure the gratuitous services of the most eminent men in the profession and that publicity inevitably tends to maintain the whole work at a high level. There is no need to doubt the conclusion that both the schools and the hospitals benefit from their association and that the mutual benefits may be fairly set off the one against the other.

The third point of reference, and the stern brevity of the report upon it, may lead to very grave modifications of existing conditions. The committee was asked whether there are any special considerations advanced in justification of contributions from the hospitals to the medical *schools* or any general considerations which would apply to all hospitals having medical schools. The reply is an uncompromising negative. It is, however, easy to point to circumstances showing that in some directions the medical school makes to the hospital a large return for benefits received. For example, the school supplies to the hospital a number of unsalaried officers whose places must be filled under any distinct pecuniary scheme by paid men. Evidence of this kind was placed before the committee but does not appear to have weighed with them. Much was said about the difficulties and the expenses of the medical schools and many spoke of the possibility of meeting these expenses by a judicious concentration of studies. We have recently referred to the steps which have been taken by King's College and University College to facilitate this course and in their evidence Sir ARTHUR W. RÜCKER and Mr. H. T. BUTLIN dwelt on the advantages of centralisation. The committee reports that it feels the cogency of the arguments in favour of making a broad line of distinction between the preliminary and intermediate studies on the one hand and the final studies on the other, and it refers sympathetically to efforts in this direction to free some of the schools from burthens which they find it difficult to bear. But this does not alter its view that moneys intended for the hospitals should not go to the schools. It is possible that this report may, for a time, check the flow of charitable contributions to KING EDWARD'S Hospital Fund but its general effect should ultimately be for the good of all concerned. The public have been furnished with additional proof that the hospitals are really in want of assistance, while the urgent need of reorganisation of medical education in London could not have been placed before them more forcibly.

The Influence of Diet on the Growth and the Functions of Tissues.

THE great importance of the study of the principles of dietetics and the adjustment of dietaries to the needs of the organism in health and in disease was early recognised both by physiologists and clinicians. The scientific study of the problems of metabolism constitutes a branch of physiological inquiry of which the literature is now enormous. Much of our information we owe to the work of LIEBIG, PETTENKOFER, VOIT, VON RANKE, and MOLESCHOTT and to the very valuable and ingenious researches of LAWES and GILBERT which are all of them now classical. But most of these researches have been made on chemical or chemico-physical lines and comprise among other things the construction of balance-sheets of anabolic and katabolic changes in the body and the adjustment of diet scales to varying conditions of the organism as regards age, climate, and the amount of muscular work performed. A further advance was made when by calorimetric methods of investigation the energy values of food substances were investigated by RUBNER and other physiologists so that the physiological heat value of the various articles of diet being known a diet could be constructed adjusted to the needs of the body as regards heat and the energy of muscular movement. The question of diet in disease has also received attention from the earliest times of medicine and at the present day its importance is becoming more and more recognised; and although there is still abundant scope for research on scientific lines to confirm or to modify the results of the old or empiric methods of constructing dietaries adapted to various diseases yet undoubted progress has been made.

In striking contrast to the amount of attention which has been given to these aspects of the study of dietetics is the meagreness of our information of the effects of varying diets on the histological structure and the growth of tissues and organs. The effects of various diets on the deposition of glycogen in the liver and other tissues and of fat droplets in connective tissue cells and on the growth of bone furnish perhaps the chief examples. At the same time the subject is one of undoubted importance, as we may learn from the profound alterations in the growth of bone in cases of rickets and the very extensive pathological changes in cases of scurvy due to errors of diet. The beneficial effects of the correction of such errors in these diseases are too well known to require more than passing reference. Again, the effects of some special constituents of articles of diet in producing leucocytosis afford another example of the direct effect of diet on the activities of the tissues. In this connexion a paper, published in THE LANCET of Feb. 11th (p. 347), by Dr. D. CHALMERS WATSON of Edinburgh on the Rôle of an Excessive Meat Diet in the Induction of Gout contains an account of some observations of considerable interest. In the course of a research on the pathogenesis of gout Dr. CHALMERS WATSON fed various animals upon a diet of raw meat and water, approximating to the so-called Salisbury diet sometimes prescribed for the human subject. He found that in three healthy fowls fed on such a diet for periods varying from 13 to 16 months there were striking changes in the thyroid and parathyroid glands. The thyroid showed in each case great enlargement of its vesicles and an increase in the amount of colloid material and in some instances proliferation and shedding of the glandular epithelium—in other words, changes similar to those of parenchymatous goitre in the human subject. The enlargement was of such a degree that the thyroid weighed from eight to ten times the normal amount. The parathyroids were also increased in size from microscopic structures to masses larger than a pea, which presented the appearances characteristic of normal parathyroid tissue. Similar investigations were made with rats which were also fed on a diet of raw meat and water for periods varying from six weeks to four and a half months. In ten cases out of 12 definite changes in the thyroid were found, although differing in character and degree from those observed in the fowl. Proliferation of the epithelial cells of the vesicles and of the connective tissue occurred with a diminution in the amount of colloid which showed evidence of degeneration into a mucinoid material. The appearances are stated to resemble closely those seen in cases of exophthalmic goitre in man. The parathyroids were in most cases normal.

It is to be regretted that so few details are given in Dr. CHALMERS WATSON'S paper, which is, we presume, of the nature of a preliminary communication, since we learn from him that he has other evidence as yet unpublished of similar effects in a second generation of animals as well as in the first and that he contemplates a systematic investigation of the whole question with the aid of a number of co-workers at Edinburgh. So far as his researches have gone, he is encouraged to expect valuable information on the influence of diet on the histology of the blood, bone marrow, bone, and other tissues and incidentally of its effects on catarrhal and other pathological processes. Without details of the number of animals employed in these experiments, of the number of control observations made on healthy animals of the same species under ordinary diet, and of the histological methods adopted in the fixing and preparation of his specimens it is difficult to appraise the value of Dr. Chalmers Watson's observations on the thyroid and parathyroid bodies. Again, no details are given of the relative weights of the glands in the normal rat and the rat on the raw-meat diet and, while stating that the histological appearances in the latter case were strikingly like those of the thyroid in exophthalmic goitre, he does not mention whether the proliferated epithelium approximated in type to that of the parathyroid, as is stated to be the case in that disease. With Dr. Chalmers Watson's views as to the infective nature of gout or the rôle played by an excessive meat diet in its pathogenesis we are not now concerned. He himself admits that it may be some time before conclusive evidence of an infective element is forthcoming. In this we may agree with him and regard his premiss as not proven. The feature of his work, which seems to us to be of great importance, is the evidence that different diets may be associated with demonstrable histological changes in various organs and alterations of their functional activity. The extended research which he proposes on these lines, if properly controlled by observations on normal animals and carefully carried out by various histological methods, should afford very valuable additions to our knowledge of diet in health and disease and we shall await with interest the results obtained by Dr. Chalmers Watson and his co-workers

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The History of the Discovery of the Acarus of Scabies.

It cannot but be instructive to review now and again the course of discovery in medicine, for by such an examination of the past we may be enabled to recognise fallacies current at the present time and may thus to some extent avoid falling into errors like those which have proved disastrous to our predecessors. Not only do we find that in former times many erroneous opinions have been held, for this is only what we expect in a science at first purely empirical, but we also find that in some cases the true theory, the correct explanation of facts, though known, has for one reason or another been discarded in favour of some utterly false hypothesis. It would not be difficult to find many examples of this but one lies ready to our hand. In the issue of The Lancet of Jan. 7th, p. 49, under the heading of "Looking Back" we reprinted a note on the etiology of scabies which had appeared in The Lancet of Jan. 6th, 1827. At that time the evidence against the parasitic origin of scabies appeared to be very strong—in fact, strong enough to overthrow completely the idea that the acarus scabiei was the cause of the disease, and the very existence of this animalcule was firmly denied. The history of this controversy from the beginning is of great interest as showing how the truth may appear, may become more or less established, and then may disappear again to await re-discovery.

The ancients confused many different diseases under the terms scabies and psora and therefore but little reliance can be placed on their descriptions. Aristotle certainly speaks of an "ἀκαρές" residing in the skins of animals but it is by no means certain that he refers to the sarcoptes hominis. It is very doubtful whether the Romans were acquainted with the presence of an insect in scabies, for most of the references which have been advanced as referring to this animal probably relate to pediculi. Abu Merwan ibn Zohr, the Arabian physician who lived in the twelfth century and is better known as Avenzoar, was the first to give such an account of the acarus as to enable us to be sure that he knew of its existence. He says, according to the Latin translation, "sunt pedicelli subter manuum, crurum et pedum cutem serpentes et pustulas ibidem excitantes aqua plenas; tam parva animalcula quam vix visu discerni valeant." It can hardly be that this description refers to pediculi corporis as Hebra has suggested; it seems clear that in this we have a description of acari living in the skin. Benedictus in 1535 gives a very similar account. Scaliger, in a letter to Cardanus in 1557, says that the acarus lives in burrows which it makes in the skin and that it is globular in form and extremely minute. Moufet, an Englishman, however, gives a very full account in his work "Theatrum Insectorum," which was published in 1634 after his death. He points out that the "animalculum est omnium minutissimum," and that the acarus "extractus acu et super ungue positus, movet se, si solis etiam calore adjuvetur." Hauptmann in 1654 was the first to print a drawing of the acarus, though it was not very accurate. Many other writers described it in the seventeenth and eighteenth centuries and among them may specially be mentioned Bonomo, Bonanni, and Baker, but the most valuable work on this subject in the eighteenth century was a book on the "Aetiologie der Kraetze" by Wichmann, published in 1786. Wichmann was the first to point out clearly that the acari live on the side of the vesicles and not in the vesicles or pustules, as was maintained by most of the writers preceding him and many of those who wrote after him. Adams in 1805 figured the acarus and described the method of extracting it from its burrow but he was inclined to think that the disease in which the acarus could be found was not identical with true scabies. Thus the matter rested until in 1812 the Academy of Sciences of Paris doubting the exactitude of the description of the acarus and its location offered a prize for a full demonstration of the situation and mode of discovery of the animal. Galès, who was an apothecary at the Saint Louis Hospital, gained the prize by a public demonstration of the extraction of an acarus from a pustule, and for a time this demonstration was held to have proved conclusively that the acarus was the cause of the disease, but doubts soon began to arise for many dermatologists examined the vesicles and pustules in cases of scabies and were unable to discover the presence of any acari. Alibert, Biett, Mouronval, and Rayer of Paris sought in vain for the animalcule and even the employment of microscopes did not enable them to find any trace of it and so disbelief in the existence of the acarus became almost universal and the passage to which we have referred as appearing in *The Lancet in 1827 was written at a time when this scepticism prevailed.*

Yet a very little attention devoted to earlier accounts of the site of the acarus would have sufficed to dispel the erroneous notions then prevalent. Moufet in 1634 had pointed out that the acarus was not *in* the vesicles or pustules but at the side. Casal of Madrid in 1762 had well described the burrows made by the acarus and Adams in 1807 had clearly said that in looking for the acarus we must not examine the vesicle but the extremity of the little line or ridge running off from it. However, Renucci of Corsica was a medical student in Paris and he had seen the people of his native country extract the organism; he was therefore able to demonstrate conclusively the presence of the acarus and to instruct others how to remove it from its burrow. Raspail investigated the subject and he showed that the illustrations of the acari "discovered" by Galès exactly resembled the "mites" of flour and were very different from the true acarus of scabies; it has, therefore, been concluded that Galès acted fraudulently in order to obtain the prize offered by the Academy of Sciences. It is conjectured that he concealed the flour mite beneath his nail and when he opened the pustule in a patient affected with scabies he brought out the mite from under his nail and presented it to the admiring spectators as the *vera causa* of scabies. There seems to be little doubt that Galès had deceived those who witnessed the demonstration. It is curious to note that many of the older observers speak of finding the acarus in the vesicle just as Galès did, though now we know that the acari never occur in the vesicles. It is a little difficult to account satisfactorily for these older accounts of the existence of the acari in the vesicles but it is probably only an error of description. When Renucci had shown how very easy it was to find the acarus when it was searched for in the right place the rôle of the acarus as the *causa causans* of scabies was fully admitted though there have been a few who have looked upon the animalcule as a result of the morbid process of scabies and not as its cause. Albin Gras published in 1834 an account of a series of experiments which he had made with praiseworthy devotion to the cause of science. He placed acari on his forearm and covered them with a watch-glass and they formed burrows. He placed others on his finger and covered them with a finger-stall and in several other ways he proved satisfactorily that the acari could give rise to the disease. We may take it that it has been proved definitely that the acarus is the essential cause of scabies and that the doubts raised by the inability to discover the acarus were ill-founded and were dependent chiefly on fraud. Though there is much excuse for the scepticism shown, yet the fact *remains that the true theory of the etiology of scabies* which had been held for several hundreds of years at least was given up in favour of an erroneous doctrine. This is by no means a solitary example of scepticism in relation to scientific discoveries. Many dermatologists may remember that Sir Erasmus Wilson would not admit the parasitic nature of ringworm and looked upon the spores in the hair as the result of a granular degeneration.

Annotations.

"Ne quid nimis."

WHAT IS PORT?

The fact that such questions are so constantly brought into public prominence as what is port, what is flannel, what is butter—instances could be multiplied *ad nauseam*—is an eloquent indication of the extent to which substitution, adulteration, or misbranding is practised. There are those who seek to convince us that old definitions are passing away. That view is at any rate convenient to those who hold a brief for the substituted article or who are interested in pushing its sale. It will not appeal, we should hope, to an enlightened public. Even the "man in the street" is too well-informed to believe that it matters little what spirit he chooses to drink because all are alcohol, which is equivalent to saying that the distinctive terms whisky, rum, and brandy are obsolete and mean nothing. We commend the admirable judgment delivered on Feb 15th by Mr. Mahony in the Dublin police courts in a case in which certain wine and spirit merchants were charged with selling a bottle of wine which was falsely labelled as port and contained Tarragona, a cheap wine not produced in, or shipped from, Portugal. The defendants contended that they had simply followed the trade custom of selling such wine as port, without any qualifying words. "Geographical words," said Mr. Mahony, "when used to designate trade products gave rise in course of time to some difficulty, as, for instance, Brussels carpets" (and he might have added Bath buns). "But," he went on to say, "there was a difference between manufactured articles like those mentioned and a natural product. The latter may, and probably does, owe its qualities to the characteristics of the real soil and the climate where it is produced. It is not likely that these peculiar local circumstances would be reproduced elsewhere and consequently the production of that particular product must be limited to its original district." He very appropriately quoted Tennyson in the following verse:—

"[illegible]

You set before chance comers,
But sack, whose father, grape, grew fat
On Lusitanian summers."

We may add that similarly the "father" of brandy should be the grape; of whisky, barley malt; of rum, sugar; and so forth. Mr. Mahony came to the conclusion that the term port applied to wine and used without any qualifying or explanatory words was only applicable to wines produced in Portugal and in the Douro district and when applied to any other wine was a false trade description within the meaning of the Merchandise Marks Act and he therefore convicted the defendants on the summons.

THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

At the meeting of this society on Tuesday next, when Sir *Frederick Treves will open the discussion* on the Subsequent Course and Later History of Cases of Appendicitis after Operation, records and statistics of cases, printed for the occasion, will be provided for the use of those present at the meeting. These records and tables have been collected and arranged by the surgical registrars and other gentlemen connected with some of the chief hospitals of London. Between 2000 and 3000 cases, by much work, have been thus tabulated and the conclusions to be drawn from them will add greatly to the interest and the value of the discussion. It is expected that after Sir Frederick Treves and Sir William Broadbent, the speakers will be Mr. Charters J. Symonds, Sir Lauder Brunton, Mr. A. Pearce Gould, and Sir William Bennett, and that the debate will then be adjourned to Tuesday, March 7th. This adjourned meeting will probably be held at 5 o'clock (tea and coffee at 4.45) instead of the usual hour of the society's meetings. The annual general meeting of the society, at which the President will deliver an address, will be held on Wednesday, March 1st, at 5 P.M. It is hoped that the meeting may be well attended in view of important matters to be considered.

CURRENT THEORIES OF THE HEREDITARY PROCESS.

THE fourth lecture[1] delivered by Professor W. F. R. Weldon, F.R.S., at University College, London, on Dec. 13th, 1904, dealt with the environment and its special action on developing organisms. The relation of organism to environment is a matter of common knowledge but the investigation of the special action of elements of the environment on development is a recent achievement in biology. Thus, the sea-water in which the sea-urchin lives and develops has an average composition of sodium chloride, 25·9 grammes; potassium chloride, 3·6 grammes; magnesium sulphate, 1·6 grammes; calcium sulphate, 1·2 grammes; potassium sulphate, 0·8 gramme; calcium carbonate, 0·1 gramme; and magnesium bromide, 0·1 gramme per litre. Herbst studied the development of the egg of echinus in sea-water in which one or another of these saline constituents was changed and found that, excluding the bromide, all the other salts influenced development, abnormalities being produced if these were not in the right proportions. Thus, excess of potassium chloride causes feebleness and high mortality of the embryos, while absence of calcium or the presence of small quantities of strontium or lithium produces malformed and abnormal larvæ. Fertilisation is impossible except in a slightly alkaline sea-water; in neutral or faintly acid water it does not occur. In sea-water without sulphates eggs of echinus segment normally to blastulæ and mesenchyme is formed but the latter forms a disordered mass of cells and spicules. Moreover the gut does not differentiate into three parts as it normally would and the larva remains a symmetrical gastrula with a single equatorial ciliated band and centrally situated mouth. The normal form is an asymmetrical gastrula which develops a ventral mouth, bilateral symmetry, and a complex set of three ciliated bands. Other monstrous forms of gastrulæ also occur in the absence of sulphates. If the water is warmer than the normal environment should be the endoderm cells which are formed do not invaginate to form the gut but evaginate (are everted) forming a small tubular projection which is soon thrown off from the globular blastula. Mesenchyme and spicules are formed but owing to loss of the gut the blastula is unable to feed itself and dies. Changes in temperature produce abnormalities in development as marked as changes in the chemical composition of the water. The presence of lithium salts in sea-water affects the egg as a "toxin." Thus, 1 part of lithium bromide in 1000 parts of water causes in echinus the production of an enormous everted globular gut (hyperplasia of endoderm), while the smaller ectodermal portion develops a transverse ciliated band. The character of echinoderm larvæ, says Professor Weldon, depends not only on the intrinsic quality and structure of the egg and the relations between the early blastomeres but also upon the relations between cells at various later stages of embryonic development, and all agencies in the environment, physical and chemical, such as disturb the processes of normal development show their special action at particular "critical" periods of the process. Normally and fully developed blastulæ transferred to lithium water change but little, whereas at an earlier stage the toxic and deformative effect of the lithium is shown at its maximum. Passing on to the variations of colour in insects, Professor Weldon said that they offered the most striking example of susceptibility to variation at special periods: thus, by placing caterpillars in boxes of black, golden, silvery, or other colours there were produced dark pupæ and golden-coloured pupæ (young butterflies) in course of time. Heat accelerated the formation of the pupa but did not disturb much the colouration. The characteristic change produced by heat was that the relative growth of the various parts was so disturbed that the "hot-house" pupa had the look and characters of a different species. Larva and pupa differed in their respective reactions in these respects. Every phase of development of an embryo was influenced by thermal, physical, chemical or toxic, and nutritive agencies, and no distinction could thus be made between blastogenic or somatogenic characters. No character could be shown in an animal to be completely germinal in origin and independent of environment, and the environment (and its elements) affected even closely allied animals very differently. Striking changes of colour could be produced in siren, a tailed amphibian, by exposure to coloured lights, and the absence of the stimulus of light for long periods of time produced loss of pigment as well as atrophy of the visual organs, as in the blind fauna of the Kentucky caves. The eggs of proteus (a cave amphibian of Austria) grown and hatched in light give rise to coloured larvæ unlike the normal colourless ones. The lower side of the sole which is white develops colour if the fish is reared in an aquarium the floor of which is illuminated with coloured lights from below.

THE AMETHYST-TINTED WINDOW.

IN not a few shops in London, and particularly those which have a southern or sunny aspect, there may be noticed panes of glass in the window of a violet tint. They are perhaps more frequently seen in the shop windows of silversmiths, in which the panes of glass are relatively small. We were under the impression that these panes of glass were intentionally tinted in order to lend an antique lustre to the silver goods exhibited in the window, but it appears that the colour is really due to the effect of prolonged sunlight upon the manganese in the glass. Radium will produce the same colouration in glass containing manganese and presumably the colourless manganous salt present is oxidised under the influence of sun or radium radiations. Manganese is added to glass in order to neutralise the green effect produced by the presence of iron. Amethyst-tinted windows are observed more often in silversmiths' shops, probably because many of these shops are very old and the glass panes have consequently been exposed for a long time to the action of the sun's rays. Old glass windows are generally broken up into small squares but not all the squares assume the amethyst tint, as some are probably free from manganese. According to Sir William Crookes the colouration is not superficial. It occurs intensely in pieces of glass exposed to sunlight at high altitudes, ranging from deep violet (almost black in some places) to pale amethyst. Sir William Crookes adds that sunlight and radium both produce similar effects. Their modes of action, however, are known to be in the main very different Still, it has been clearly shown that what radium is capable of doing in the way of inducing chemical change sunlight will also effect It may be noted also that the same amethyst colouration appears in some x ray tubes after constant use

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[1] Abstracts of the first, second, and third lectures were published in THE LANCET of Jan. 7th (p. 42) and 21st (p. 181) and Feb. 4th (p. 307), 1905.

THE LANCET SPECIAL ANALYTICAL COMMISSION ON BRANDY

COPIES of the report of THE LANCET Special Analytical Commission on Brandy, which was published in THE LANCET of Nov 29th 1902 have been in such request as to have exhausted not only our stock of that number of the journal but of the reprints that were issued This demand has been occasioned by the successful proceedings which have been established throughout the country against vendors for selling as brandy a spirituous liquid which proved to be not of the nature substance and quality of brandy accepting that word to mean a spirit obtained by the simple distillation of grape wine The question is still occupying considerable public attention and it has been stated that the possibility of strengthening the provisions of the Sale of Food and Drugs Act so that the sale of spirits may be brought under more efficient and satisfactory means of control, is being officially contemplated In these circumstances and in view also of the fact that inquiries for more copies of the report continue to reach us we have issued a further number of reprints in pamphlet form [1] The report deals with the production of brandy at Cognac the position of the industry in the Charentes, and the supply of genuine brandy to this country

STRIÆ PATELLARES

IN the *British Journal of Dermatology* for February Dr J L Bunch has recorded two cases of the rare condition termed "striæ patellares" In the first case the patient was a boy, aged 13½ years He had typhoid fever five months previously Convalescence was slow and he was still weak and poorly nourished Above both knees were several irregular pinkish transverse striæ which appeared during the illness They varied in width from a few lines to about one eighth of an inch and tapered off somewhat at the ends During the illness he had suffered considerably from pain in the region of the knees Since the onset he had grown one and a quarter inches In the second case the patient was a girl aged 12 years, who had suffered four months previously from pleurisy and endocarditis During the illness she was kept recumbent and striæ patellares appeared but their advent was not accompanied by pain They were pinkish blue and similar to those in the preceding case A limited number of cases of striæ patellares has been recorded principally in children after typhoid fever Sir Dyce Duckworth observed unilateral striæ on the thigh after typhoid fever in a patient aged 15 years Several explanations of these striæ have been given It has been urged that unusual growth takes place in the long bones especially in the femora, owing either to absence of pressure on the epiphyses during the prolonged rest in bed or to juxta epiphyseal osteitis Measurements of the limb before and after the attack may show an increase of from one centimetre to one and a half centimetres It has also been alleged that the striæ are due to rupture of the subcutaneous tissue as a result of tension on the skin in the position in which the child lies with the legs drawn up They are not peculiar to typhoid fever, though they have been observed after this disease most frequently They have been described by Fussat and Brissaud in pulmonary tuberculosis and by Chevallereau in a patient, aged 20 years who was laid up for eight months with colitis Striæ in other positions are well recognised The best known are the lineæ albicantes of pregnancy Striæ may be produced by distension from other causes such as ascites or obesity Kirstein and Gilbert have described them on the chest in pulmonary diseases In the museum of the Hôpital Saint Louis are several models of linear striæ, in one they are the result of typhoid fever but occur on the flank Striæ are usually pink at first and after a time become white On microscopic examination of a stria which was losing its pigment Dr Bunch found changes chiefly in the elastic fibres and to a less extent in the white fibres The latter showed general thinning and a few had ruptured The interlacing of the network of elastic fibres was much less marked than normal owing to a new parallel arrangement of the fibres which had been produced at the expense of the transverse elastic fibres The latter were ruptured and retracted to the edge of the lesion where their broken ends were seen These changes were best marked in the pars reticularis of the corium

THE AFTER-CARE ASSOCIATION

ALTHOUGH the methods of treating the insane have made great strides of late there is still no provision, except that of the After care Association, for looking after poor persons discharged as recovered from asylums for the insane As a consequence many who might otherwise have a chance of becoming useful members of society relapse into their former condition This fact, we think, is somewhat of a reproach to a civilised country The association receives the small sum of £700 a year only in contributions, yet there are 7000 persons discharged annually from the asylums in this country Many of these people are friendless and without assistance find almost insurmountable difficulties in getting employment The association endeavours to facilitate the readmission of these poor people into social life by obtaining for them an interval of change of scene and air, by boarding them out in the country under proper care and supervision, by giving them grants of money, and in other ways By these methods an amount of good is done which cannot be easily estimated Certainly many people are prevented from drifting into the asylum again and possibly the procreation of mental weaklings is often hindered by the judicious care which the association exercises over its protégés We therefore cordially endorse the council s appeal for subscriptions The secretary is Mr H T Roxby, Church House Dean's yard Westminster, London, S W

UNGUENTUM ACIDI CARBOLICI

THE periodical revisions of the Pharmacopœia are necessary not only for the introduction of new remedies but also for the improvement and better description of old and well tried drugs and galenical preparations Ointment of carbolic acid has always been a difficult subject for the prescriber and the dispenser owing to the carbolic acid crystal ising out The official formula contains 1 of phenol in 25 and has for a basis a mixture of hard and soft paraffins with some glycerine The tendency to separate is overcome by adopting a slight modification of the official formula, as suggested by Morley Taylor phenol, 1 part, hard paraffin, 6 parts, and soft paraffin, 18 parts Undoubtedly this formula is superior to the official one and is to be recommended especially for obstetric use and in all cases where absorption by the skin is not desired But the desirability may be suggested of inserting in the Pharmacopœia alternative formulæ replacing the paraffin basis in this and other ointments by vegetable or animal fats or oils—e g, olive oil, lard, and wool fat—in cases where absorption is required The bases used for making ointments have been classed by Hallberg into (1) non absorbed protective, epidermatic bases—e.g., hard and soft paraffin; (2) emollient, absorbent, endermatic bases, as lard and olive oil; and (3) systematic, absorptive, diadermatic bases, as represented by wool-fat. Of the official ointments those of carbolic, boric, and salicylic acids are probably designed to afford in most cases an antiseptic protective coating. But in other cases—for example, the ointments of lead subacetate and ammoniated mercury—it is difficult to account for the choice of a paraffin basis except on pharmaceutical grounds. In devising formulæ the first consideration should be to determine the therapeutic requirements and afterwards to find out the best means of compounding the ingredients. Of the official ointments the following are also prepared with a paraffin basis though it might be expected that a more absorbent basis would be selected—ointments of yellow and red mercuric oxide, lead acetate, lead carbonate, lead iodide, and zinc oleate.

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[1] Copies of the reprint can be obtained from THE LANCET Offices price 1s each

BOMBS.

WHEN left alone to its natural functions nitrogen pursues a perfectly peaceful course but when man succeeds in capturing it and combining it with other elements it becomes a dire potentiality for evil, as is obvious in the recent events of the war in the Far East and in the crime committed last week in the streets of Moscow. The love of freedom, so to speak, characteristic of nitrogen is terribly exemplified in the explosion of the bomb in which it is imprisoned and bound to other elements. On the slightest provocation—a spark, a shock, a fuse—the nitrogen suddenly expands from seemingly nothing, as regards the space which it occupies, into infinity. This is, in reality, what happens when dynamite, lyddite, or other unstable nitro-compounds explode when hurled in shells in warfare and in bombs in desperate attacks on human lives. Nitrogen, against its natural disposition, is locked up in an uncongenial space in these compounds, from which it is set free by very simple means in an enormously expanded gaseous state with deadly effect, returning, in fact, to its normal peaceful mission once more. It is the analogue of the sword and the ploughshare; in the nitro-explosive nitrogen is the modern engine of warfare and crime; in the free state in the atmosphere it ministers directly to the quiet and peaceful needs of plant and human life.

THE INCIPIENT STAGE OF INSANITY.

AMONG the many problems connected with psychology one of the most important is the early recognition of symptoms of mental aberration. It must also be kept in mind that certificates given in cases of this description have sometimes proved fruitful sources of anxiety to the medical men concerned. In a recently published pamphlet[1] Mr Charles Williams of Liverpool emphasises the great practical value of the early recognition of insanity from the point of view of treatment and prevention of family trouble, suicide, and homicide. He follows up his exhortation by stating and explaining the signs and symptoms by which incipient insanity may be detected. We imagine that all medical men are well aware of the importance of the early detection of disease whether so-called mental or physical, and in these days we should suppose that most are well acquainted with the early symptoms of insanity as described in the various text-books. But a short essay of this kind may well serve a useful purpose by supplying the intelligent public in a succinct and easily assimilable form with information which they would otherwise be not very likely to acquire. From his concluding remarks Mr. Williams evidently thinks that he may be charged with undue optimism and therefore the less compunction need be felt in ascribing this fault to him. He has a strong conviction that the early recognition of the approach of insanity would prevent large numbers of people annually from becoming insane. Mr. Williams is presumably prepared to give reasons for the belief which is in him. If medical men in general practice and the alienists whom they call in will come forward with evidence of the prevention of threatening insanity their experiences will be received with much interest by those working in the department of mental disorders. The claim to prevention must in the nature of things be eminently difficult to maintain. Mr. Williams also dwells upon the "supreme importance of eradicating, or at least attempting to eradicate, a delusion at its first inception." He says that a delusion at this stage may often be successfully removed but he does not give any instance of the operation, nor does he describe the *modus operandi*. Is it by appeal to the mind or to the body, by argument, entreaty, cajolery, or by antiphlogistics, hypnotics, and purgatives? All this is very sanguine but is it scientific? We think that even an intelligent general public may regard with scepticism these *ex cathedrâ* utterances. Mr. Williams says that from hallucinations alone a person should never be pronounced insane and asserts, apparently in all seriousness, that this view is "opposed to that generally accepted by the medical profession, the legal profession, and the public generally." Being, however, satisfied that he is correct on this point he proceeds, in this instance at any rate, to give reasons for his view. Various explanations have been put forward to account for the increase of insanity of late years, but if it were generally believed that hallucinations constituted insanity, and this belief were acted upon, an explanation for the increase would be forthcoming which we do not remember to have met with and, fortunately, have no expectation of meeting with.

THE DISSEMINATION OF PLAGUE.

AT a recent meeting of the Bombay Natural History Society an interesting paper was read by Captain W. G. Liston, I.M.S., on Plague, Rats, and Fleas. The fact that rats may play an important rôle in the dissemination of plague is now a generally accepted fact. The manner in which the disease is so spread is still under discussion and Captain Liston's views on the subject are certainly worthy of consideration. He points out that there are two species of domestic rats—the *mus decumanus*, the common rat found in Europe, a burrowing rodent living in drains and cellars, and the *mus rattus*, the common rat of Bombay and the East generally, living in the roofs of houses and even in trees. Captain Liston maintains that plague may rage as an epizootic among rats of the first-named species without human beings running much risk of being infected but that an epidemic of the disease among rats of the species *mus rattus* is very liable to be communicated to man. He further makes the interesting statement that the disappearance of plague from Europe was coincident with the invasion of that continent by the brown rat and the displacement of the black rat. A habit of rats which has an important bearing on the spread of plague is that of migrating as a community when scared by an unusual mortality among them. In these circumstances the disease would be communicated to other colonies of rats in the same town and so a fresh focus of infection might be established. Captain Liston then proceeds to consider how the disease is communicated from rats to man and points out the manner in which fleas may act as transmitters. The rat flea is seldom found on man but when the rats migrate in the presence of an unusual mortality among them some of the fleas remain behind and from sheer hunger attack man and other animals He records proof of this fact in the case of a certain epidemic among guinea pigs in an outbreak of plague in a chawl in India While normally rat fleas are never found on guinea pigs in the above instance 18 were captured on one sick guinea pig Man seldom harbours the rat flea, yet Captain Liston states that in this epidemic of 30 fleas caught on man no less than 14 were rat fleas He concludes by saying that he believes it is impossible to place a distance between rats and man except by years of sanitary improvement and education The only method that holds out any hope of success now and until sanitary reforms are carried out is to acquire immunity to plague by inoculation

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[1] A Short Essay on Insanity. By Charles Williams, L.R.C.P., L R C.S. Edin., L.S.A. London. Henry J. Glaisher. 1905. Pp. 22. Price 1s.

THE AUTO-INOCULABILITY OF SYPHILITIC CHANCRES

IT is generally held that the pure syphilitic chancre is not auto inoculable But from the evidence brought forward by M Queyrat at the meeting of the Société Médicale des Hopitaux of Paris on Dec 23rd 1904 it would seem that this view must be modified As long ago as 1884 Pontopiddan reported at the International Congress of Medicine held at Copenhagen in that year a case of auto inoculation of a recent syphilitic chancre in three places No change was noticed until the twelfth day when red spots of the size of the head of a pin appeared On the nineteenth day they had become red papules of the size of a grain of millet On the twenty sixth day these were of the size of a pea and transformed into pustules covered with crusts and the secondary eruption appeared On the thirty second day they reached their acme On the thirty sixth day the crusts fell off and the papules *were flattening down They then gradually disappeared* Mercurial treatment was begun on the twenty sixth day Inoculation was attempted again on the twenty eighth day without success The objection was made to this experiment that the lesions produced were secondary ones Metchnikoff performed experiments which support the view that auto inoculation is possible He inoculated an orang outang with syphilis on Oct 26th and again on Nov 5th 1904 On Nov 21st a primary lesion appeared on the site of the first inoculation after an incubation period of 26 days After an incubation period of 20 days a primary lesion followed the second inoculation M Queyrat has previously recorded a case in which a man developed 11 chancres in succession of which the later ones were abortive[1] They were evidently inoculated during intercourse on successive days with the same woman This case led M Queyrat to the conclusion that immunity to syphilis is developed only gradually after the appearance of the first chancre and that therefore auto inoculation is possible At the meeting he brought forward still more cogent evidence of this view With their consent he inoculated from their own chancres three men who had contracted syphilis In all 13 inoculations were performed from chancres varying in duration from four to 28 days In each case he obtained one successful result from chancres of five five and six days duration respectively The following is an example A man aged 29 years had gone to hospital on Nov 5th with a typical syphilitic chancre on the prepuce of five days duration On the 6th (the sixth day) he was inoculated in two places in the right deltoid region with a vaccination style charged with the juice of the chancre In order to meet the objection that the result might be due merely to the injury he was similarly pricked with a sterile vaccination style in the left deltoid region in two places to a greater depth than that of the inoculations On the 18th he left hospital without having shown any signs of reaction at the inoculated spots He returned on Dec 10th with two dark red papules of the size of small lentils on the sites of inoculation and two enlarged glands in the right axilla On the left side he showed nothing He had been instructed to watch the inoculated spots and said that the papules appeared 21 days after the inoculation On the trunk was a macular secondary eruption which began eight days after the appearance of the papules of inoculation On Dec 13th the papules were surrounded with a whitish scale. After the 15th they retrogressed and the infiltration diminished On the 23rd there were only dark red lenticular macules at this time the chancre on the prepuce was completely healed. The patient was treated by injections of grey oil In the other cases the result was similar but the incubation period was only 12 days and enlarged glands were not observed The results cannot be explained by saying that they were due to auto inoculation of soft chancres, for the primary lesions had all the characters of pure syphilitic chancres and the diagnosis was confirmed by the secondary eruption Moreover the auto inoculation of soft chancres would have produced in four days pustules which would have been followed by ulceration Nor can the results be explained by the accidental inoculation of staphylococci or streptococci for the incubation period was too long and there were no signs of suppuration M Queyrat regards the lesions produced as abortive chancres produced in a 'soil on the way to immunisation They may be compared with the abortive vesicles produced when a person is vaccinated day by day

HIGH POWER MICROSCOPY

THE evening lecture at the Royal Institution on Feb 17th was delivered by Mr J W Gordon who took for his subject High Power Microscopy In referring to method of illumination Mr Gordon made special mention of the method devised by Dr Siedentopf This is a variety of dark ground illumination with cross lighting and was described in THE LANCET of July 16th 1903 p 116 Mr Gordon then went on to say that with the compound microscope when objectives of very short focal length were employed and eye piece enlargement of high magnifying power it was practicable to get a magnification of, say 2000 diameters But in these circumstances the emergent pencil of light was extremely small a state of things which involved serious practical inconveniences so that the average scale of good critical work hitherto had ranged at about from 400 to 600 diameters Mr Gordon then proceeded to describe his own method of using a ground glass oscillating screen placed in the tube at the point where the image was formed This screen broke up the small pencil of light and passed it on as a broad pencil the image carried by which could be magnified by a second microscope instead of the usual eye piece so that enormous magnifications giving a clear image, could be obtained The screen had to be kept in motion It will be remembered that this method was exhibited by Mr Gordon at the Royal Society s conversazione which was held in June 1904 when a phagocyte which had ingested tubercle bacilli was beautifully shown

CONVALESCENT HOMES ASSOCIATION

A CONFERENCE will be held in the rooms of the Royal Medical and Chirurgical Society 20 Hanover square London W on March 2nd at 4 P M of delegates from all the chief convalescent institutions which supply charitable relief to London patients The object of the conference is to obtain some form of union and cooperation between the various convalescent homes by forming a central association which will be in *immediate touch with* the hospitals on the one hand and with the various homes on the other. The following convalescent homes have decided to send representatives—viz., the Metropolitan Convalescent Institution; Mrs. Gladstone's Free Convalescent Home for the Poor, Woodford; Surrey Convalescent Home, Seaford; *All Saints' Convalescent Home*, Eastbourne; and probably St. Andrew's Convalescent Home, Folkestone. The Presidents of the Royal Colleges of Physicians of London and Surgeons of England and of the Hospitals Association and the Dean of the Faculty of Medicine of the University of London have signified their intention to be present if possible, and King Edward's Hospital Fund for London, the Metropolitan Hospital Sunday Fund, and the Metropolitan Hospital Saturday Fund intend to send delegates. It is expected also that leading medical representatives from the chief London hospitals, members of the medical profession, and leading laymen specially interested in this work will be present. Communications on the subject should be addressed to Mr. Alex. Hayes, secretary, Metropolitan Convalescent Institution, 32, Sackville-street, W., or to Dr. S. H. Habershon, 88, Harley-street, W.

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[1] THE LANCET Sept 10th 1904 p 779

THE medical officer of health of the Cape Colony states that for the week ending Jan. 28th the condition of the Colony as regards plague was the following. At Port Elizabeth 1 case of plague was discovered during the week, namely, a native female on Jan. 25th. Of 146 rats and 182 mice examined during the same period 1 rat and 4 mice proved to be plague-infected. At East London no case of plague in human beings was discovered but 7 rats and 1 cat were found to be infected. In other districts no case of plague was discovered. As regards the Mauritius, a telegram from the Governor, received at the Colonial Office on Feb. 17th, states that for the week ending Feb. 16th there were 6 cases of plague and 5 deaths from the disease.

AS stated in THE LANCET last week the dinner in honour of the celebration of the hundredth anniversary of the birth of Señor Manuel Garcia will take place on March 17th, at 7.30 P.M., at the Hotel Cecil. Members of the profession who have subscribed to his portrait, painted by Mr. John Sargent, R.A., and who wish to attend the dinner are requested to communicate with Mr. Philip de Santi, 15, Stratford-place, London, W., one of the honorary secretaries of the Garcia committee, who has been intrusted with the arrangements for the dinner. The banquet will be attended by ladies and it is desirable that applicants for tickets should state the numbers which they require and whether they will be accompanied by ladies.

THE anniversary dinner of the Medical Society of London will be held at the Whitehall Rooms of the Hôtel Métropole on Wednesday, March 15th, at 7.30 P.M. Communications with regard to the dinner should be addressed to the honorary secretaries at 11, Chandos-street, W.

THE EPIDEMIC OF TYPHOID FEVER AT LINCOLN.

THE epidemic of typhoid fever at Lincoln appears to show at last some signs of abating but the signs are too slight to have any significance. The city has been sorely stricken and the inhabitants at the present moment are living not only in great discomfort but in considerable danger. The epidemic, excluding a few scattered cases, may be said to date from the third week in January and by Feb. 1st 268 cases had been notified. Additional cases were then notified daily, so that by the end of the first week in February over 500 cases were known to have occurred in the district, the official city total being 477. A fund was immediately opened for a supply of comforts for the patients. At the corporation offices gifts were received of clothing, bedding, and nightshirts, and a subcommittee of the health committee arranged for daily meetings. A systematic arrangement for nursing was placed under experienced control, while the local staff of nurses was largely augmented by nurses imported from other towns. Auxiliary hospitals had to be provided and at the same time the corporation issued instructions to the public with regard to the boiling of water and milk and the disinfection of sinks and drains. The big employers of labour in Lincoln coöperated splendidly with the efforts of the medical men. As well as subscribing largely to the various funds to secure nursing and adequate sick supplies they provided the families of their sick employés with free meals, and in other cases fed the men so as to lessen the risk for them of meals at their homes. In every way, in short, the city showed disposition to help the sufferers and to coöperate with the medical officer of health and the other medical practitioners of the town and neighbourhood in their earnest endeavours to stay the plague. The second week in February showed some abatement, the total for the week ending Feb. 13th being 154 cases, that for the first week of February being 268, while the shortage of pure water—for it speedily became obvious that the water-supply was at the bottom of the mischief—began to be counteracted to some extent by the carriage of water from neighbouring and presumably healthy sources. The whole story of the epidemic appears to be simplicity itself. None of the sanitary problems which often occur in connexion with sudden and severe outbursts of typhoid fever in urban communities are here present. The water-supply of Lincoln, which has for at least 20 years been known to be open to contamination, has at last been seriously poisoned. As far back as April 1st, 1885, the medical officer of health of the city, Dr. C. Harrison, presented a lengthy report on the water-supply of the city, showing that the river Witham, which is the chief source of supply, was dangerously open to outside contamination. Seven years later the Local Government Board expressed regret at learning that the corporation of the city had not decided to provide the town with a supply of water from an uncontaminated source. Between and since those dates the water-supply of the city has been amply discussed, sources of small contamination have been discovered and dealt with, and at last, five years ago, the council approved a plan of boring for water and three years ago boring proceedings commenced. In February, 1903, after one year's boring the boring tool was lost and the work has since been suspended and now the city is in a parlous state, having two needs to consider—what shall be done in the present emergency and what shall be done in the future?

As regards the present position the community is to be congratulated upon the courage and resource with which it has faced the situation. The sewage effluent from Bracebridge Asylum has been turned into the proper place for it—namely, the sewers—so that one obvious source of evil has been removed. The water supplied by the corporation, which must be drawn from the Witham, the corporation having no other source whence to procure it, is being treated with sodium or calcium hypochlorite in pursuance of an edict issued by the authority on Feb 9th. The corporation further recommends that the water should be boiled for ten minutes as an additional precaution. Various complaints have been received that the use of chemicals has given rise to colic, but not much stress must be laid upon the statement of a rightly aggrieved and naturally apprehensive public. Newark water is being supplied free of cost, by the generosity of a citizen of Newark, to the lower part of Lincoln daily and the upper part of the city is being supplied by the relief committee with water from Wilton. But much remains to be done. The total number of cases, now over 650, will certainly increase. There were nine fresh cases notified on Tuesday, Feb. 21st, and ten on Wednesday, so that the signs of abatement are, as we have said, slight. Between 650 and 700 cases of typhoid fever call for much hospital accommodation as well as much medical attention and nursing, and the provision that has so far been made with bravery and promptitude will not suffice. These are the problems of this grave emergency, but it is evident that the whole question of the water-supply of the city must be tackled in the immediate future, and the authorities, we understand, are convinced that this is so and are already consulting the engineer who was responsible for the water-supply of Manchester from Thirlmere as to the course to be taken.

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS

CHAPTER II[1]

THE CONSTITUTION AND SCOPE OF THE GENERAL MEDICAL COUNCIL

The Medical Profession and General Scientific Progress —The Struggle for Registration —The Medical Act of 1858 — The Powers of the General Medical Council

THE state of the medical profession in Great Britain and Ireland is at present healthy There are many drawbacks to the medical calling to which attention must be directed at more or less length , there are many places in which reform is needed and a few in which it is urgently needed , but it is unfortunate that some in the ranks of medicine who are most earnest in their desire for the well being of their fellows should be unceasing in representing their profession as having fallen away in recent years from some higher estate This is not the case The story of the medical profession in England, Ireland, and Scotland alike is one of progress During the last 50 years the art of medicine has been entirely revolutionised, every change in it being towards a transformation into an exact science Our fields of knowledge have broadened with our capacity to till them our tools have become more delicate and more precise, and the advances made in many of the provinces of exact learning other than medical have had an influence that cannot be over estimated upon medical views Consequently the scientific equipment of the medical man of to-day differs in countless respects from that of his grandfather

The expansion of knowledge that has taken place in medicine has been going on in all other branches of knowledge, whether nearly allied to medicine or not Where the sciences more directly ancillary to medicine are concerned the old boundaries between them and medicine have been removed No one can say exactly where chemistry stops and where physiology begins, what familiarity with electricity rightly appertains to the medical man s calling, or what knowledge of physics or of statistics should be presupposed in a medical practitioner The significance of all this is very great and is not summed up in the least by saying that the medical student has nowadays much to learn The many sided and vast developments of science have of course, changed the schemes of medical study, but they have done much more than this They have altered the status of the medical man For it has now come about that instead of occupying, as he did, one peak of a tripartite eminence wherefrom the exponents of divinity, medicine, and law— "the learned professions —were wont to survey an unlettered world, he has to submit to being classed with other practical workers who have an equal claim with him to be considered men of science In a very interesting and suggestive book Mr R Brudenell Carter[2] has called attention to this fact and considers it to show that the medical profession does not hold so good a position in the public eye as it did 50 years ago Mr Carter is qualified by exactly the right practical experience to understand what he is talking about and is gifted with the best (because the clearest) literary ability to say what he means But the situation can be read in another way With the spread of knowledge the number has increased of persons who can appreciate the enormous difficulty of medical practice These may not revere the medical calling as something too learned or too mysterious for their comprehension, but they respect it because of its scientific aims Here and there a little learning may betray a man into a shallow criticism which considerably greater—or considerably smaller—information would have saved him from making, but this is a thing which will occur less and less frequently The growing public acquaintance with scientific methods must lead to an improved estimate of medicine as long as medicine progresses And medicine, being inextricably bound up with the ancillary sciences, must progress with them The medical profession has nothing to fear from a more enlightened public, on the contrary, the better acquainted the public become with the teachings of science the more certain are those who follow the calling of medicine to find many and powerful sympathisers

Fifty years ago the medical profession was divided into two classes the consultants—i e , the consulting physician and the operating surgeon—and the general practitioners The division was more marked in England than it was in Scotland and Ireland and had been much stricter in the Regency and the following decades inasmuch as the immediate effect of the passing of the Apothecaries Act in 1815 was to create an inferior order of general practitioners Thackeray with his wonderful accuracy when drawing social types has revealed the situation in one sentence the opening sentence of the second chapter of ' Pendennis "

> Early in the Regency of George the Magnificent there lived in a small town in the heart of England called Clavering a gentleman whose name was Pendennis There [illegible]
> having seen his name upon a bo
> pestle and mortar over the door
> city of Bath whence Mr Pen
> [illegible]
> farmer's
> der and

Old Pendennis was the typical product of the Apothecaries Act and in his person the general practitioner cannot be said to have enjoyed any high social or scientific status It is not meant to imply that old Pendennis was a fair example of the general practitioner up to the modern constitution of the medical profession by the passage of the first Medical Act in 1858 On the contrary for 30 years before the passage of that Act the general practitioners, most of them holding diplomas from a Royal College and some being graduates of a University, had steadily improved their position and won their way to demanding the stability and official recognition which could only be insured by passing a measure of registration It is unnecessary to write at length of the constitutional history of medicine in this country before the passing of the Act of 1858, which by creating the General Medical Council and giving to that body certain disciplinary powers revolutionised the position of affairs entirely The story of the struggles which led to the passing of that Act will be found set out from different points of view in the Carmichael Essays of the late Mr Walter Rivington and Dr E D Mapother, in the late Mr Fernandez Clarke s autobiographical reminiscences and very fully in the columns of THE LANCET It will be sufficient here to indicate the headings of an interesting story In 1827 Mr Henry Warburton, the Member for Bridport, a merchant and a business like man who later made his mark in six consecutive Parliaments as a Free trader presented a petition from the Royal College of Surgeons of England for an inquiry by the House into the management of that wealthy and influential corporation The request of the College was acceded to but no practical reform followed A *fracas* in the College building led to the formation by Thomas Wakley, then editing THE LANCET, and some of his colleagues of an abortive scheme known as the London College of Medicine The scheme was a failure from the beginning, but it contained in it two great ideas—the idea of one central governing body for the medical profession and of one entrance into the medical profession for all candidates The London School of Medicine, instituted to meet the wants of the rank and file of the medical profession who were sorely oppressed by the presence of quacks within their body and by the competition of quacks without, contained the germ of the first Medical Act, while it made the medical profession consider how necessary a central governing body must be to regularise the proceedings of medical education. The possibility of Parliamentary interference began to be apparent to all, Members of Parliament in various constituencies were asked to familiarise themselves with the idea, and in 1839 a Bill was introduced by Mr. Warburton which nearly succeeded in passing the House and which provided for the registration of medical practitioners. At this juncture Richard Carmichael, founder of the Carmichael Essays, President for the third time of the Royal College of Surgeons in Ireland and one of the most practical medical reformers of the day, wrote to Sir Robert Peel urging the necessity of registration and pointing out that uniformity of examination was also required so that the public might feel certain that by whatever portal a man entered the medical profession he could not obtain ingress without a certain equipment. Sir Robert Peel became interested in not allowing a great measure of domestic reform to be shelved and in 1840 a Bill providing for the registration of medical men was introduced by Warburton and Wakley, then a Member of Parliament, but the measure met with no success. It contained a suggestion that registered practitioners should take out an annual licence, a clause which was ill-received by medical men, although, as we know now, the merits of this reform were at least as obvious as its defects. In 1847 Wakley again obtained leave to bring in a measure entitled "A Bill for the Registration of Qualified Medical Practitioners and for Amending the Law relating to the Practice of Medicine in Great Britain and Ireland." This Bill, though it never became law, led to the appointment of a select committee of sound, shrewd, important men, whose deliberations resulted, though not immediately, in the Medical Act of 1858. Macaulay was the first chairman of the committee and representative members of all the qualifying bodies were examined at great length, with the result that in 1849 Mr. Rutherfurd, the Lord Advocate of Scotland, stated in the House that a measure providing for the registration of qualified practitioners in medicine would be laid on the table in a few days. It was found, however, that the various qualifying bodies from different motives of self-interest could not agree to support the Bill. One wanted one thing and one wanted another, and in face of the manifold opposition all attempt at legislation was again dropped. This want of ability in the qualifying bodies to combine for the common good was very mortifying to the medical reformers, and ten years elapsed before another serious attempt was made to pass a measure which all now admitted was wanted in the public behalf. In 1856, however, the Royal Colleges of England, Ireland, and Scotland, and the Faculty of Glasgow had a conference of representatives with the result that these important corporations came to an agreement as to their requirements. This appearance of unanimity led to early results, for in 1858 Mr. William Cowper introduced and secured the passage of the first Medical Act, the Act which, with its various amending measures, controls the medical profession at this day.

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[1] Chapter I was published in THE LANCET of Feb 18th 1905 p 447

[2] Doctors and their Work By R Brudenell Carter, F R C S London Smith Elder, and Co 1904

The Act, which is entitled "An Act to Regulate the Qualifications of Practitioners in Medicine and Surgery," states in the first clause, as the reason for its existence, that "it is expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners." The measure was clearly designed to protect the public, any benefit that might accrue from it to the medical profession being of secondary importance. The General Medical Council was called into being by the Act which settled that certain universities and bodies should be entitled to grant medical qualifications and that representatives of those bodies, together with six nominees of the Crown, should form a central authority for the education of the medical student and the maintaining the official roll of the profession. The constitution of the Council has since been altered in two respects, notably by an amending Act in 1886. Additions have been made to the number of recognised qualifying institutions, while the members of the medical profession have been allowed to elect five of their number as Direct Representatives, three for England and one each for Scotland and Ireland. To appraise the scope of the Council's work is practically to define what has been done by the Medical Acts. The Council, then, is authorised to keep a medical register, intended to enable the public to distinguish qualified from unqualified practitioners and containing the names of all persons who are legally qualified medical practitioners and who, by virtue of their registration, are entitled to recover their professional charges in a court of law, to give valid medical certificates, to appear as medical witnesses, and to hold various offices or appointments. The Council cannot prevent the public inviting medical aid from persons not on the Register. Nor can the Council take any proceedings against such persons so long as they do not infringe the Act by pretending to be on the Register. The Council keeps the official roll of the profession but has no discretion with regard to registration. The Registrar is bound to insert the name of all applicants who are provided with the degrees, diplomas, or licences specified in the Medical Acts. The Council is authorised to remove from the Register, and thus to deprive of the above-mentioned legal privileges as practitioners, any persons who are convicted of crime or misdemeanour, or who may be adjudged by the Council itself, after due inquiry, to have been guilty of "infamous conduct in any professional respect." The clause of the Act under which its penal powers are exercised runs:—

> If any registered medical practitioners shall be convicted in England or Ireland of any felony or misdemeanour or in Scotland of any crime or offence or shall after due inquiry be judged by the General Council to have been guilty of infamous conduct in any professional respect the General Council may, if they see fit, direct the Registrar to erase the name of such medical practitioners from the Register.

It will be seen that there is no attempt at defining what constitutes "infamous conduct in a professional respect," and one of the most delicate and responsible of the Council's duties is to decide upon the justice of removing offending persons from the Medical Register. The Council is authorised to require from any of the licensing bodies information with regard to the courses of study and examinations to be gone through in order to obtain their respective registrable qualifications and to visit and to inspect the examinations. In the event of the Council considering the courses of study and the examinations insufficient to guarantee the possession by the persons obtaining the qualifications of due knowledge and skill for the efficient practice of their profession the Council can represent the fact to the Privy Council, the department of State to which it owes allegiance. The Privy Council can take such action as may be necessary. To the General Medical Council, also, is given the duty of preparing and publishing the British Pharmacopœia.

The powers of the Council as the controlling medium of the conduct of medical practitioners are elastic, but the reason of the phraseology of the Act becomes apparent when we remember that the Council exists for the protection of the public and not for the protection of the medical profession. The legislature evidently contemplated the possibility of conduct on the part of a medical practitioner which, while it might be insufficient to bring him within the grasp of the criminal law, would be amply sufficient to show his unfitness to be trusted with professional opportunities and responsibilities. The Council is intrusted with the power of deciding upon the professional behaviour of a medical man and is empowered to erase the name of anyone from the Register who does not behave in a manner befitting his delicate position towards the public. But the effect of removing a medical man from the Register is, of course, to deprive him absolutely of any legalised medical status and of any power of legally earning his living as a medical practitioner. In the case of the criminal this is not of great matter, for it is difficult to conceive any circumstances in which the medical profession and the public alike would not be benefited by the removal of a convict from the official roll, but in the case of the man whose offence is rather a proof of bad taste or bad form than of wickedness the Council shrinks from taking the extreme step of erasure in any but very gross cases. This was particularly the case when erasure from the Register was permanent, as it was in the first instance, and the terrible nature of the punishment now and again led the Council to err on the side of leniency, but an ingenious procedure, suggested to the Council by its solicitors, gave power of restoration to the Register, so that the punishment of an offender can now be made more nearly to fit the crime.

Such, briefly, are the powers and duties of the General Medical Council and for practical purposes to understand what the Council can do and cannot do is to understand the position of the practitioner under the Medical Acts. In describing the state of the medical profession in England, Scotland, and Ireland in the subsequent chapters the various obstacles that beset the path of the practitioner will be detailed. It will be found frequently that although his grievance may be acute the Council is unable to help him owing to the limitations of its powers and the very definite object of its creation—viz., the public weal. But this is not at all generally understood. What is the commonest form that the letters to the medical or lay press of the aggrieved member of the medical profession take? Surely it is to ask "Why does not the General Medical Council put down quackery?" or "Why does not the General Medical Council prevent the holder of a bogus American degree from practising?" The Council does not do these things because it has not the power under the Act and the amendments thereof to which it owes its constitution. The Council can only interfere when the quack pretends to be a properly registered person. Then under the clause of the Act which says that the Register is to be compiled for the instruction of the public, so that the public may be able to discriminate between the properly qualified medical man and the quack, the Council can take legal proceedings. It must be clearly stated that the Council, as at present constituted, cannot defend either the public or the medical profession in the way that it is often invited to do. The remedy for this ineffectiveness is amendment of the Acts.

(To be continued.)

MEDICINE AND THE LAW.

A Mysterious Case.

AT Gravesend recently an inquest which lasted for four hours elicited some curious facts relating to the death of a married woman named Cohen which are stated below in outline without comment. The deceased apparently kept a shop without the assistance of her husband who was absent during the day and who, according to his account, did not exercise any control over his wife's actions either in business or otherwise. On Jan. 13th a man came into the shop to buy a necktie and according to his account given before the coroner Mrs. Cohen, thinking that she recognised him, engaged in conversation with him and on learning that he was a medical man, a stranger to the district, said that she did not like the local medical practitioners. He subsequently had tea with her, was introduced to her husband, and on the following Sunday, Jan. 15th, came to see her again and remained as a lodger. On the Monday she consulted him about her health, when he prescribed for her, believing that she was suffering from general weakness and catarrh. She subsequently became very ill and he diagnosed pneumonia, no other medical man being called in. On the Saturday, Feb. 4th, Mrs. Cohen died and he signed a certificate as the cause of death on a form which he had had in his pocket for nine years. Examined by the coroner and in answer to questions from the jury he seems to have been unable to refer to any regular or continuous practice of recent date in which he had been engaged and he acknowledged that he had never resided at 11, Beaufort-road, Clifton, the address recorded as his in the Medical Register. His name he stated to be Arthur Piercefield Walters. Mr. P. L G Skipworth, who had made a post-mortem examination, gave evidence that the deceased had suffered from pleurisy and pericarditis but not from pneumonia. She also appeared to have had an "accident" within three weeks. The immediate cause of death, in his opinion, was heart-failure following that state which was incomplete. There was nothing to show how it had been caused. The jury, following the direction of the coroner, found a verdict that "Death was due to natural causes, in accordance with the medical evidence," and added a rider, in which the coroner concurred, to the effect that the husband had been neglectful in not calling in another medical man and that Mr. A. P. Walters had been indiscreet in residing in the house while attending on the deceased.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Feb. 24, 1827.

FOREIGN DEPARTMENT.

ANATOMY AND PHYSIOLOGY.

Remarkable case of a Triple Dentition.[*]

THE following curious case has been inserted in Omodei's Journal, communicated by a Dr. Aimonino:

Elizabeth Morelli, who was a well formed woman, had enjoyed good health, and had never suffered any inconvenience, except from a few attacks of tooth-ache, for which she had been now and then bled. During one of these attacks of tooth-ache, which occurred about the middle of March in 1821, she was induced, from the severity of the pain, to have the two left molar teeth pulled out. Toward the end of October in the same year, she felt some very acute pain in the part from which the teeth had been pulled out, and soon after two new teeth made their appearance. In January 1826, the new teeth became loose, and, causing considerable pain, she had them also drawn out These teeth were very white and well shaped, without the least appearance of caries. On the 16th of July in the same year, the patient consulted Signor Aimonino, complaining of intolerable pain in the same part of the jaw as before. General and local antiphlogistic measures were tried without avail, and on the 18th, the patient perceived that two teeth of the same figure and size as the former had again made their appearance; these teeth were seen by Aimonino, so that there can be no doubt of the accuracy of the report of the case.

Although this has been called a case of triple dentition, it might with greater propriety have been called a *quadruple* dentition, since the temporary teeth are not included in the history of the case.

PATHOLOGY.

On the causes of Hernia in Soldiers.

It has been recently reported to the Academy of Medicine, that hernia has been frequently traced to the practice, existing among infantry soldiers, of firing in triple ranks. Kempfer, surgeon of a Swiss regiment of the Royal Guard, has affirmed that many cases of hernia have been produced by the sudden manner in which the privates are taught to descend on one knee after having discharged their muskets, so that their comrades in the rear may fire over their heads.

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[*] Annali Univers. di Medicina di Milano.

HOSPITALS AND MEDICAL SCHOOLS.

WE have received from the honorary secretaries of King Edward's Hospital Fund for London a copy of the report of the committee appointed by the Fund to inquire into the financial relations between hospitals and medical schools. The committee, it may be remembered, consisted of Sir Edward Fry, the Bishop of Stepney, and Lord Welby, and their report is as follows:—

To H.R.H. THE PRINCE OF WALES, K.G.

SIR,—1.—In October last your Royal Highness, as President of King Edward's Hospital Fund, was pleased to request us to undertake the inquiries indicated in the following terms of reference and instruction:—

"To consider and report—

1. Whether any, and if any how much, money given or subscribed for the relief of the sick poor to the 12 London hospitals having medical schools is contributed, directly or indirectly, by those hospitals, or any of them, for the maintenance of medical education.
2. Whether any direct or indirect return for such contributions (if any) is received by the hospitals from their medical schools and if so whether such return is equivalent to the amount of the contributions.
3. Whether, in the event of the committee finding that any hospital contributes to its medical school a sum in excess of the return it receives from the medical school, there are any special considerations advanced in justification of such expenditure, or any general considerations which would apply to all hospitals having medical schools.

It is an instruction to the committee to deal with the subject on [illegible] 's and to accept from the [illegible] such as they may advise [illegible] Jan. 1st, 1905."

2.—We have the honour respectfully to submit the following report *of our proceedings and of the result of our inquiries under the foregoing reference.*

3.—At our first meeting, on Nov. 4th, 1904, we settled a form of return, which we addressed to the 12 London hospitals which have schools in connexion with them. A copy of this form will be found in the first appendix to this our report.

4.—On Dec. 7th, 8th, and 10th, 1904, and Jan. 17th, 1905, we heard the oral statements of witnesses, a shorthand note of whose evidence appears in the second appendix to this our report. Furthermore, we have also met on Dec. 9th, 1904, and received and considered the replies of the 12 hospitals to the forms of return, a statement laid before us by the Hon. Stephen Coleridge, and a summary which has been prepared of the reports of the ordinary expenditure of the 16 largest London general hospitals for the year 1903.

5.—The replies of the hospitals to the forms of return have undergone a close examination and have been the subject of interviews between certain of the authorities of the hospitals and the committee and of correspondence between our honorary secretary and some of these authorities, and the original replies have in several cases been modified. The best results of this examination which we are able to supply will be found in the third appendix to this our report.

6.—We find it impossible to answer the first head of inquiry in the terms in which it is addressed to us for the following reasons:—That in the case of several of the hospitals (as St. Mary's) the hospital and school were founded together and the school as well as the hospital appears to have been an object of bounty in the minds of the founders; that in some cases (as University College Hospital) the hospital was founded as an aid to the school; that in some cases (as Charing Cross and Westminster Hospitals) the school buildings were provided or partly provided by money subscribed for the specific purpose or for a joint purpose of which the provision of school buildings formed a part; that in other cases sums have been contributed to hospitals, subsequent to the foundation, of which, to the knowledge of the donors, a portion was applied to the school, as, e.g., in the case of the London Hospital, where a contribution to the school has been made yearly under resolutions passed at meetings of the subscribers entitled to vote under the rules; and that where the hospital and school form a single conjoint institution (as in the case of the Middlesex Hospital) and contributions have been made to that institution it is obviously impossible to say how much was given for the relief of the sick poor and how much for the promotion of medical education.

7.—In our investigation of the matters arising under the first inquiry we have therefore, but of course merely for purposes of convenience, treated the question as if modified by the deletion of the words "for the relief of the sick poor" and as if all the moneys contributed to the hospitals were properly applicable to the hospital only and not to any extent to the school.

8.—But, even after eliminating this difficulty, we have found that the very intimate and complex relations which have grown up between the hospitals and the schools present insuperable difficulties to the prep[illegible] the actual cash value of the balance betw[illegible] kind made by the hospitals to the scho[illegible]ospitals; and this altogether apart from [illegible]f the work done by the schools for the [illegible]nd on which the school buildings stan[illegible]pital but the buildings have been erected by the school. In some cases parts of the buildings of the hospital are used conjointly for the purposes of hospital and school, especially in the case o[illegible]boratories, and the apportionment of [illegible] the single institution would be a [illegible]f experts. Another difficulty aris[illegible]xpenditure by the hospitals on account of the schools. In the case of St. Bartholomew's Hospital records of considerable debts, said to have been incurred by the school as far back as 1843, and still remaining undischarged, are extant, and it must be obvious that the yearly cost to the hospital of such debts, which appear to have borne no interest, could only be accurately estimated after an elaborate inquiry involving questions as to the constitution of the body it is sought to make liable and the admission of any liability by such body, if it actually exists, whether legal or otherwise. The question of the value of land is also important and can only be satisfactorily dealt with by competent surveyors, as we find that the rateable value in the case of hospitals is an untrustworthy guide, even if the school buildings were capable of being separately rated, which in some instances is scarcely the case.

9.—We have therefore thought it better to confine ourselves to statements of fact in regard to each hospital, and these will be found in the Third Appendix, which we adopt as part of our report. We believe the facts fairly cover the ground of inquiry, but the assessments of the money values which should be set against considerations which do not take the form of money payments must be left to professional valuers should it be thought desirable to further prosecute these inquiries.

10.—We have, however, no hesitation in reporting that in the cases of King's College Hospital and University College Hospital it may fairly be said that no money given or subscribed to those hospitals was in the year 1903 *(the last year for which the accounts are complete)* contributed directly or indirectly by the hospitals for the maintenance of medical education.

11.—In the cases of Guy's Hospital and the Royal Free Hospital we doubt whether, on consideration of all the circumstances (and especially in the case of Guy's Hospital to the facts stated by the Dean of the Medical School, see Appendix III.), the schools can be considered as deriving any pecuniary benefit from the hospitals.

12.—In the case of all the other hospitals—namely, Charing Cross, the London, the Middlesex, St. Bartholomew's, St. George's, St. Mary's, St. Thomas's and the Westminster, we report that, in our judgment, contributions, either direct or indirect, or both, were made in the year 1903, to the schools out of the funds of the hospitals.

13.—With reference to the first part of the second head of inquiry—viz., whether any direct or indirect return for the contributions made by the hospitals to the schools is received by the hospitals from the medical schools—we have come to the following conclusions:—

14.—(A) We find that, in some cases, the fact that a large body of students and of medical men are being, or have been, educated in a hospital, diffuses a wide interest in that institution and thus tends to aid the finances of the hospital.

15.—(B) We find that the presence of a body of eager young men watching the *proceedings of their teacher* has the tendency to keep the medical man on the alert and to counteract the effects of the daily routine of duties; and that the opportunity for teaching a large number of pupils attracts to hospitals with schools the gratuitous services of the most eminent men in the profession.

16.—(C) We think that the publicity which attends the work of a hospital where there is a body of young men in attendance also tends to maintan at a high level the whole work of the institution.

17.—(D) It has been urged before us that the great amount of work done without payment, or with inadequate payment, by students in the character of medical clerks and dressers and in connexion with the outpatients and the casualty cases constitutes a pecuniary advantage received by the hospital from the school; but the evidence satisfies us that the expenses incurred in hospitals with schools are generally in excess of those in hospitals without schools and we are of opinion that no saving of expense can be *attributed to the presence* of medical students. On the contrary, some of the evidence before us, together with a study of the accounts of the various hospitals, has brought to our attention remarkable variations in the expenses incurred by the several hospitals, and raises the important question whether, in the case of some of the hospitals to [illegible] there is not considerable [illegible]

18.—(E) With re[illegible] so largely on the ch[illegible] medical men and nurses concerned with eac[illegible] to draw any line between the two classes of hospitals. Probably, in cases of great obscurity and difficulty, the presence of a large number of students may at times be useful; but, on the other hand, we think that the quiet of a hospital without students must often be a comfort to patients and, on the whole, we do not th[illegible]h schools can substantiate any superiority in [illegible]spitals.

19.—(F) As regards the [illegible] science and the consequent benefit to the public the existence of a medical school is, in our opinion, of the highest value. [illegible] the greatest facilities of any city in the world [illegible] for surgical and medical research and we reg[illegible] importance that the greatest use should be [illegible] In making this statement, however, we feel bound to call attention to what we have said in a subsequent paragraph of our report (paragraph 25).

20.—We cannot doubt that the presence of a medical school has a tendency to give to t[illegible] hospital a progressive character as well as an [illegible] tending to the advancement of medical and [illegible] it seems to follow, as a consequence in such cases, that the real administration of the hospital will be placed mainly under the control of the medical staff and that the expenditure of the hospital will *thereby tend to increase.* On the other hand, though the absence of a school may have a *tendency* to give to the management of the hospital a stationary character and to leave the administration mainly in the hands of a lay body of managers, the evidence before us shows that some hospitals without schools are excellently conducted and can compare favourably with some hospitals with schools.

21.—By the second part of the second head of reference we are asked to ascertain in each case whether the direct and *indirect* return received by the hospital from its medical school is equivalent to the amount of the contribution made by the hospital to the school. Inasmuch as the returns, whether direct or indirect, are of a general kind and cannot be reduced to definite figures in money value, we find it impossible to give a categorical reply to this inquiry. But the general conclusion at which we have arrived is the following. The schools confer certain considerable benefits on the hospitals, and the hospitals, by opening their doors to the students, provide a clinical laboratory and allow the students of the school to work there. This confers on them a very great benefit because without the admission to the hospital the students could obtain little or no clinical teaching. These mutual benefits may, we think, be fairly set off the one against the other.

22.—If that be done, as we think it fairly may be, it follows that, in the case of the schools which last year received benefits in money or money's worth from the hospitals over and above the benefits last alluded to, there is no return made by the schools to the hospitals which can be treated as recouping this expenditure of the hospitals [illegible] ragraph 7) the the pecuniary [illegible] saying that, we do not find justification of [illegible] general con- [illegible] dical schools [illegible] red to us, but we desire to add that, [illegible] with a view to [illegible] so closely connected [illegible] to lay minds [illegible] distinction ought to be drawn between the studies of the first three years of a [illegible] the last two years—or, intermediate studies on [illegible] r, and that whilst the [illegible] age within the walls of [illegible] versity character, and, further, [illegible] hospitals to associate with themselves schools teaching the preliminary [illegible] source of the [illegible] s and the con [illegible] al [illegible] find that the [illegible] ect the Senate [illegible] secure such [illegible]

Edw Fry,
O G. Stepney,
Welby

J. Danvers Power, Hon Secretary, 8th February, 1905.

THE AUTOMOBILE EXHIBITION AT OLYMPIA.

Automobiles have never been displayed in England to better advantage than at the exhibition at Olympia at West Kensington, which came to an end on Monday evening last. The vast building is an ideal one for such a purpose, but it was none too big for the demands made upon its space. All the exhibits were excellently staged and must have been an object lesson to the uninitiated on the vast industry which has grown up more or less in our midst in the course of a very few years—an industry which is fast becoming "all British," and therefore the more pleasing viewed in the light of our so called insular prejudices

The automobiles included every form of ordinary car, from the smallest "runabout" and "buckboard" to the stately and luxurious De Dietrich 40 h.p. touring car, "fitted up as a miniature hotel, with easy chairs for the day time, beds for night travelling, and all conveniences, including cooking-stove, linen cupboard, pantry," &c, as the catalogue puts it. There were also several specimens of luxurious motor-boats, a 40-feet Napier river cruising launch, with its four cylinder ten h.p motor in a glazed case and its fittings all silver plated, well entitling it to its designation of *modèle de luxe*. A formidable-looking craft, in contrast, was the 40 feet steel torpedo boat shown by Messrs Thornycroft, with its torpedo slung over the side, carried in toggle lever jaws, and developing 108 h p with its four cylinder petrol engine

In the "heavy" or "commercial" section was to be found perhaps the greatest development of the motor industry—that development which is to revolutionise the road traffic of this and all other civilised countries. And in this connexion the excellent specimens of motor omnibuses on exhibition attracted much attention. Messrs. Thornycroft had a 36 seated double-deck petrol omnibus, the Milnes-Daimler Co. a similar vehicle and Messrs Straker and Squire one built to the order of the London Road Car Co. to carry 34 passengers. Of parcels and delivery vans, wagons, and such-like vehicles there were many on view, including a seven-ton wagon built for the War Office and a five-ton railway company's wagon. Agricultural motors by the Ivel Co, for attaching to ploughs, reapers, binders, and mowers, and for driving all kinds of farm machinery; an armoured motor, by the same company, for hauling guns into the firing lines, which is protected by a bullet proof cover, a motor lawn mower by Messrs. Ransome, and several other developments, all bore witness to the more than partial eclipse of the horse in the very near future

To turn to the class of vehicles in which the readers of The Lancet may be said to be more particularly interested, it cannot be claimed that there is any material departure from the designs of last season; rather have the makers turned their attention to perfecting those minor details which add so much to the trustworthiness of the motor-car and to the comfort of those using it A point which was particularly in evidence was the greater attention which is being paid to the coach-work and upholstering—a feature to be attributed to the fact that some of the best known carriage-building firms are now awaking to a due appreciation of the great strides being made by the motor industry, and are working accordingly

To attempt to enumerate or to describe in even the slightest detail the many hundreds of cars on view is an impossibility within the limits of space at our disposal, and therefore it must suffice to say that Humber and Co., the Siddeley Autocar Co, S F. Edge, Limited, the Duryea Co, Panhard and Levassor, E H Lancaster, C. S. Rolls and Co, De Dion Bouton, Limited, the Daimler Motor Co, Minerva Motors, Limited Sir W G Armstrong Co, Charles Jarratt and Letts, Limited, the Hozier Engineering Co, Limited, the Ariel Motor Co, the Vauxhall Ironworks Co, Limited, J E Hutton, Limited, A Darracq and Co, John Marston Limited, Orleans Motor Co., and Clement Talbot, Limited, had on view cars which especially attracted our attention, though it is quite possible—indeed, almost a certainty—that several equally meritorious vehicles of other firms escaped our attention altogether. Many, of course, were of the distinctly "luxurious" class, altogether beyond the means of the average general practitioner, but there were many at prices ranging between £300 and £500 which would be found quite suitable cars for the hard daily work required in the practice of the medical man, and which would also be calculated to give a satisfactory return for the capital invested

In the gallery were to be seen the hundred and-one details commonly termed "accessories," which may be broadly held to include everything other than the framework and body of the car, and to include also the clothing of its occupants The accessories generally do not call for any comment at present, but the question of tyres is an all-important one To the medical man especially this may be said to be the point upon which hinges his decision in the question of motor *versus* horse There is no room for doubt now that, so far as the motor itself is concerned, the experimental stage has been passed: it has become a perfectly trustworthy instrument in the hands of the man of average intelligence But no such hall-mark can be set upon the tyres. they have a far more severe duty to perform in the hands of the experienced and inexperienced alike Makers are no doubt doing their best, and that best has been successful up to a certain point; but the ideal is far from having been reached at present If the judgment of the majority is to be accepted on this point, Dunlop tyres are easily first, with Michelin and Continental following closely behind; but we are inclined to to the belief that for the medical practitioner, to whom freedom from punctures is of the utmost moment, some such tyre as that known as the Palmer cord tyre is likely to be the best investment Collier tyres, too, are worthy of note in that they are spoken of very highly on account of their non-puncturing qualities. That makers are alive to the drawbacks connected with pneumatics is patent from the efforts which are being made in connexion with solid tyres, notably so with the De Nevers grooved solid tyre, the Goodrich, the double arch, and the Sirdar buffer tyres. We do not suggest that the present-day solid tyre is suitable for the medical man who is constantly using his car; the vibration set up, especially on bad roads, would become unbearable and harmful.

To sum up the result of our observations, we are convinced that the day of the cheap and trustworthy motor is not yet, and we are prepared to proffer the opinion that it never will be. Cheapness and "reliability" in motor construction do not synchronise: the former is ever throttling the latter. No motor-car to stand constant work, the sort of work that the general practitioner would want to extract from it, can yet be put upon the market at less than from £300 to £400, though many excellent little cars suitable for occasional and week-end uses can be had for much less.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8809 births and 5189 deaths were registered during the week ending Feb. 18th. The annual rate of mortality in these towns, which had been 18·4, 18·0, and 17·4 per 1000 in the three preceding weeks, further declined to 17·3 per 1000 last week. In London the rate was 16·8 per 1000, while it averaged 17·6 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 7·1 in Aston Manor, 7·5 in King's Norton, 7·6 in Handsworth (Staffs), 8·3 in Coventry, 9·3 in Hornsey, 10·5 in Leyton, 10·8 in Smethwick, 11·0 in East Ham, and 11·2 in Walthamstow; the highest rates were 24·1 in West Hartlepool, 24·7 in Merthyr Tydfil, 25·8 in Ipswich, 25·9 in Stockton-on-Tees, 26·1 in Preston, 28·2 in Hanley, 30·5 in Portsmouth, and 35·0 in Rhondda. The 5189 deaths in these towns last week included 410 which were referred to the principal infectious diseases, against 376, 368, and 401 in the three preceding weeks; of these 410 deaths, 129 resulted from measles, 118 from whooping-cough, 67 from diphtheria, 44 from scarlet fever, 28 from diarrhœa, 22 from "fever" (principally enteric), and two from small-pox. No death was registered from any of the principal infectious diseases in Hastings, Brighton, Bournemouth, Great Yarmouth, Walsall, Handsworth (Staffs), Smethwick, Aston Manor, or Barrow-in-Furness; while they caused the highest death-rates in Portsmouth, Reading, Hanley, Nottingham, Preston, Stockton-on-Tees, South Shields, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Leyton, Portsmouth, Southampton, Reading, Nottingham, Stockton-on-Tees, Gateshead, Cardiff, and Merthyr Tydfil; from scarlet fever in Merthyr Tydfil; from diphtheria in Coventry, Salford, and Swansea; from whooping-cough in Hanley, Wigan, Preston, Halifax, Rotherham, Hull, South Shields, and Rhondda; and from diarrhœa in Bury. The mortality from "fever" showed no marked excess in any of the 76 towns. Of the two fatal cases of small-pox registered in these towns last week one belonged to London and one to Bradford. The number of small-pox patients under treatment in the Metropolitan Asylums Hospitals, which had been 15, 13, and 9 at the end of the three preceding weeks, had further declined to eight at the end of last week; three new cases were admitted during the week, against one in each of the two preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital on Saturday, Feb. 18th, was 2016, against 2096, 2070, and 2077 on the three preceding Saturdays; 241 new cases were admitted during the week, against 251, 229, and 260 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory organs, which had been 478, 444, and 400 in the three preceding weeks, further declined to 378 last week, but were 29 above the number in the corresponding period of last year. The causes of 57, or 1·1 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Portsmouth, Bristol, Nottingham, Cardiff, and in 47 other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Warrington, Blackburn, Preston, Sheffield, Sunderland, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 20·3, 19·9, and 18·2 per 1000 in the three preceding weeks, rose again to 18·9 per 1000 during the week ending Feb. 18th, and was 1·6 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 12·8 in Leith and 16·3 in Edinburgh and in Greenock to 22·2 in Dundee and 24·4 in Perth. The 633 deaths in these towns included 25 which were referred to whooping-cough, 13 to diarrhœa, seven to "fever," four to measles, and three to diphtheria, but not any to small-pox or scarlet fever. In all, 52 deaths resulted from these principal infectious diseases last week, against 79, 85, and 49 in the three preceding weeks. These 52 deaths were equal to an annual rate of 1·6 per 1000, which was 0·2 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 46 and 23 in the two preceding weeks, rose again last week to 25, of which 20 occurred in Glasgow and four in Edinburgh. The deaths from diarrhœa, which had been 19 and nine in the two preceding weeks, increased again to 13 last week and included six in Glasgow, three in Leith, and two in Dundee. The fatal cases of "fever," which had been six, four, and five in the three preceding weeks, further rose last week to seven, of which three cases of enteric fever were registered in Glasgow and three of typhus in Aberdeen. The deaths from measles, which had been six, six, and seven in the three preceding weeks, declined to four last week and included three in Glasgow. The deaths referred to diseases of the respiratory organs, which had been 163, 146, and 130 in the three preceding weeks, further declined last week to 119 and were 48 below the number in the corresponding period of last year. The causes of 16, or nearly 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·5, 24·2, and 25·2 per 1000 in the three preceding weeks, declined again to 23·5 per 1000 during the week ending Feb. 18th. During the past four weeks the death-rate has averaged 24·6 per 1000, the rates during the same period being 17·7 in London and 19·5 in Edinburgh. The 171 deaths of persons belonging to Dublin registered during the week under notice were 12 below the number in the preceding week and included eight which were referred to the principal infectious diseases, against 18, 9, and seven in the three preceding weeks; of these, three resulted from "fever," two from measles, one from diphtheria, one from whooping cough, and one from diarrhœa, but not any from small-pox or scarlet fever. These eight deaths were equal to an annual rate of 1·1 per 1000, the death-rates last week from the principal infectious diseases being 1·1 in London and 0·9 in Edinburgh. The fatal cases of measles, which had been 13, five, and none in the three preceding weeks, numbered two last week. The three deaths from "fever" were slightly in excess of the number in the preceding week. The 171 deaths in Dublin last week included 27 among children under one year of age and 39 among persons aged 60 years and upwards; the deaths of infants corresponded with the number in the preceding week, while those of elderly persons showed a small decline. One death from violence and six inquest cases were registered; and 64, or more than a third, of the deaths occurred in public institutions. The causes of seven, or more than 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: H. J. Haddon to the *Renown* on commissioning with nucleus crew; H. Elliott to the *Hannibal*; J. McElwee to the *Empress of India*; and F. J. Burns to the *Bacchante*. Staff Surgeon R. F. Bate to the *President* for three months' hospital course. Surgeons: F. C. B. Gittings to the *Hannibal*; M. Cameron to the *Pembroke*, lent to Chatham Hospital; T. W. Myles to the *Vivid*, lent to R.M. Infirmary, Plymouth; A. D. Spalding to the *Vernon*, additional for the *Niger*; E. Arkwright to the *Flora*; J. A. L. Campbell to the *President*, additional, for three months' hospital course; and K. H. Jones to Hong-Kong Hospital.

ROYAL ARMY MEDICAL CORPS

Lieutenant Colonel J Magill C B to be Colonel vice A H Anthonisz retired (dated Dec 22nd 1904) Lieutenant-Colonel H R Whitehead to be Colonel vice J M Beamish retired (dated Jan 26th 1905)

The undermentioned Lieutenants are confirmed in that rank —D D Paton J A Longley N E Dunkerton S C Bowle G S C Hayes C Ryley P Dwyer P C T Davy W H Hill J T C Mackenzie, H T Wilson R C *Hallowes J Campbell G A D Harvey, H O Wrackworth* H W Russell F J H Luxmoore H C Sidgwick M Sinclair, G R Painton N Low A H Fraser R H L Cordner A T Frost K A C Doig P A Jones H O M Beadnell O R Millar G H Richards and J St A Maughan

The undermentioned gentlemen to be Lieutenants on probation (dated Jan 31st 1905) —Charles Pinkerton Thomson George Wykeham Heron Robert John Bertram Buchanan George Brooke Forbes Churchill William Steward Nealor James Edward Hoar Richard Grave Meredith Frederic Emilius Roberts George Smith Wallace Wilfred Parsons Arthur Anderson McNeight Ernest Brabazon Booth Thomas Holroyd Gillen Richard James Campbell Thompson Ernest George Robert Lithgow Pierce Lower Charles William O Brien Ryder Percival Nash James Sydney Pascoe Cecil Dacre More Holbrooke John Maurice Bride Rahilly George Grant Tabuteau Richard Edmond Humfrey William George Maydon and Garfield Ormrod

The undermentioned Lieutenants are seconded under the provisions of Article 349 Royal Warrant for Pay and Promotion Oct 26th 1900 (dated Jan 31st 1905) —G W Heron J M B Rahilly and R J C Thompson

INDIAN MEDICAL SERVICE

The King has approved of the following admissions to the Indian Medical Service —To be Lieutenants (dated Sept 1st 1904) Horace Sidney Matson Donald Steel Francis Hugh Stewart Hampton Atkinson Dougan Alexander Cameron Alfred Henry Proctor Robert Tait Wells Ian Macpherson Macrae Charles Cecil Connock Shaw Roderick Dear MacGregor James Wilson Herbert Babington Alexander Spalding Mackie Peebles and Francis Broughton Shettle

The King has also approved of the retirement from the service of the undermentioned officer —Surgeon General Sir Benjamin Franklin K C I E K H P (dated Jan 1st 1905)

IMPERIAL YEOMANRY

Royal North Devon (Hussars) Surgeon Lieutenant *W F L A Holcroft is seconded for service under the* Colonial Office (dated Jan 21st 1905) Lanarkshire (Queen s Own Royal Glasgow) Surgeon Captain H Kelly to be Surgeon Major (dated Feb 18th 1905)

VOLUNTEER CORPS

Royal Garrison Artillery (Volunteers) 1st Gloucestershire Surgeon Lieutenant Colonel D S Davies resigns his commission and is granted the honorary rank of Surgeon Colonel with permission to wear the prescribed uniform (dated Jan 4th 1905)

Rifle 2nd Volunteer Battalion the King s (Liverpool Regi [illegible] G Westby (Brigade Medical Officer Liver [illegible] granted the honorary rank of Surgeon Colonel (dated Feb 18th 1905) 1st Roxburgh and Selkirk (The Border) Surgeon Lieutenant Colonel J S Muir resigns his commission and is granted the honorary rank of Surgeon Colonel, with permission to to wear the prescribed uniform (dated Feb 18th 1905) [illegible] Clark [illegible] Officer [illegible] urgeon Lieutenant Colonel (dated August 23rd 1893) 5th (Ardwick) Volunteer Battalion the Manchester Regiment Surgeon Captain S Nesfield to be Surgeon Major (dated Feb 18th 1905) 1st Sutherland (The Sutherland Highland) Surgeon Lieutenant J MacLennan resigns his commission (dated Feb 18th 1905)

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS)

The Edinburgh Company William Darling to be Lieutenant (dated Feb 18th 1905)

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS)

DISTRIBUTION OF PRIZES

On Feb 18th, at the headquarters of the Royal Army Medical Corps (Volunteers) London Companies Calthorpe street W C Mrs Keogh presented the prizes won during the year Lieutenant Colonel Valentine Matthews the commanding officer said he regretted that the strength of the companies had decreased from 380 in 1900 to 332 in 1904 The efforts made to obtain recruits had been very [illegible] d that if the authorities would [illegible] ip clause for a year or two as an [illegible] be more satisfactory In reply to a vote of thanks to Mrs Keogh proposed by Colonel J Cantlie Surgeon General A H Keogh the Director General of the Army Medical Service said that he had formed a very high opinion of the Volunteer Medical Corps in the Boer war and he knew no reason why the volunteer medical companies should not be as efficient in the field as the regulars of the Royal Army Medical Corp The duty of the medical corps was not merely to look after the sick and wounded in war but to prevent disease and to maintain the fighting strength of the army in the field In the event of any future war he would have no hesitation in calling on the Volunteer Medical Corps He would not send them out as individuals as in the last war but as a unit to be employed with the Army Medical Corps and he was sure that if he called on them they would do their work as well as those of the regular army The distribution of the prizes was followed by a dance

DEATHS IN THE SERVICES

Lieutenant Colonel *Edward Denham Tomlinson* A M D (retired) and late of the York and Lancaster Regiment on Feb 17th at Folkestone in his sixty ninth year He entered the army in 1860 as an assistant surgeon served in the New Zealand war and was present at the capture of the redoubt of Katikara and of the Pahs at Manutahi Matai tawa Te Arei and Waikoukou the action of Poutoko, the attack on Sentry Hill the ambuscades at Tapuie and Wairau and the destruction of Pahs and villages in the neighbourhood of W rea He retired in 1880

THE ARMY AND PARLIAMENT

There can be no doubt that army matters will form one of the earliest and most important subjects for the consideration of the present Parliament and there are already indications that such will be the case First and foremost Mr Arnold Forster s radical and bold army reorganisation scheme has to be put *on its trial and there are* a number of other questions connected with the defence of India and the Indian army recruiting the colonies and the newly proposed educational tests for the competitive examination of army candidates which will also surely *claim attention The position of the* medical services and the inadequacy and imperfect organisation of the means at our disposal for the relief of the sick and wounded in case of our unhappily having to take part in any big war have also to be faced and settled on some workable basis adapted to modern war methods

THE INDIAN MEDICAL SERVICE AND CIVIL EMPLOYMENT

In reply to a question by Mr *Hemphill in the House of* Commons last week Mr Brodrick stated that officers of the Indian Medical Service in civil employ in Burma were placed upon the same footing as officers in other departments in respect of local allowances in December 1903

THE WAR IN THE FAR EAST

The events which have recently been taking place in Manchuria have not so far been favourable to the Russian force The attempt to turn the Japanese left ended in failure and the latest news is to the effect that a division of the Japanese force is now in the rear of General Kuropatkin s army and threatening its communications As having some bearing upon hospital supplies it may be mentioned that a general strike has been declared at all the pharmacies in Moscow 14 of the largest pharmacies have been compelled to cease operations Among them is the celebrated Ferrein pharmacy of V K Ferrein in the Nikols kaya the largest dispensing establishment in the world There are only 50 pharmacies altogether in Moscow, the number being strictly regulated by law

The committee for procuring assistance for medical men and their families who may suffer from the war consisting of members elected by delegates from all medical societies in Russia has decided to organise an all Russia fund admitting however a certain local autonomy to the various cooperating funds The *Novosti* says that a central elected bureau is to be formed and regular monthly subscriptions are to be solicited which will not exclude independent gifts; thus the Society of Russian Physicians has subscribed £50 and other similar contributions have been received.

The gold medal founded by the late Sir Gilbert Blane, Bart., to be given biennially has been awarded by the Director-General of the Royal Navy Medical Service and the Presidents of the Royal College of Physicians of London and the Royal College of Surgeons of England, to Staff Surgeon S. T. Reid, R.N., for his journal of H.M.S. *Vestal* for 1901-02 and to Surgeon R. W. G. Stewart, R.N., for his journals of H.M. ships *Latona* and *Thames* for 1903.

Correspondence.

"Audi alteram partem."

MEDICAL TEACHING IN THE METROPOLIS.

To the Editors of THE LANCET.

SIRS,—As senior physician to one of our teaching hospitals in London I feel compelled to say something in answer to the letter of Dr. Harry Campbell in THE LANCET of Feb. 18th on medical teaching in the metropolis. He says that it cannot be said that clinical medicine is well taught in London and that few of our London physicians are experts in the art of imparting the knowledge and skill which he allows they possess. He states that this is mainly owing to the fact that in the election of physicians to teaching hospitals due regard is not had to their teaching capabilities and his remedy is that all who are subsequently found incapable should be dismissed and, further, that certain gentlemen attached to hospitals unconnected with schools should be appointed to assist. This charge of incompetence, which is brought against the large number of 91 physicians and assistant physicians connected with the 12 teaching hospitals, besides medical tutors and registrars, is unsupported by a single statement of fact. He says *few* are capable of teaching. What is Dr. Campbell's definition of few? Is it 10, or 20, or 30 per cent.? Does Dr. Campbell's knowledge of London clinical teaching justify him in saying that 70 per cent., or even one-half of these gentlemen—and these would amount to 50—are incapable of teaching?

Now I am not concerned at present to do more than defend the hospital with which I am connected from its share of this charge. I have no doubt that other teaching hospitals will have an answer ready. But I am quite sure that as long as I have been connected with Guy's Hospital it is few of the physicians who have *not* been good teachers and that the clinical teaching has been, and is, carried out earnestly, thoroughly, and effectively, day after day by all concerned. With regard to the alleged cause I think I can safely say that no assistant physician during the last 40 years has been elected to the staff of Guy's Hospital who has not had experience in teaching and whose capacity to teach has not been taken into consideration as a factor in his election. The experience in teaching has been generally acquired in some probationary appointment requiring re-appointment every one or two years, such as that of demonstrator or registrar. Dr. Campbell's suggestion that we might pick up some worthy persons from the non-teaching hospitals presents this difficulty: How are we to know that they can teach? I am, Sirs, yours faithfully,

Wimpole-street, W., Feb. 18th, 1905. FREDERICK TAYLOR.

To the Editors of THE LANCET.

SIRS,—Obvious perils beset the path of any writer who attempts to argue from the known to the unknown or who ventures to generalise upon the assumption that his major premiss will meet with universal acceptance; these perils and this assumption are to be found in painful prominence in the letter under the above heading which appeared in THE LANCET of Feb. 18th, p. 458, in which the writer assumes that all will agree that clinical surgery is well taught in the London schools but that the like cannot be said of clinical medicine. He proceeds to deplore the assumed dearth of good clinical teachers of medicine as though all were equally agreed about that point. As one of the clinical teachers of medicine recognised by the University of London I feel that a protest should be made against the sweeping assertions of the writer of the letter. It is possible that he may be mistaken both as to the general agreement of the excellence of surgical teaching and as to the weakness of that of clinical medicine. He surely cannot pretend to be personally acquainted with the teaching of every school. He can only speak with a semblance of authority of the teaching of his own school, and it may be well to leave that school to deal with his criticisms. On the other hand, I venture to think that the suggested superiority of surgical teaching might be submitted to a truer test than that of average attendances—viz., the test of results. The records of the examinations of the Conjoint Board show that a larger percentage of men are rejected in surgery than in medicine, in spite of the suggested excellence of the teaching of surgery and the greater average attendance of students in the surgical wards. That it is more difficult to impart a knowledge of medicine is self-evident since students have to be taught to observe, and though it may be easy to tell them what should be heard with their stethoscopes they must take personal trouble to educate their special senses.

That there are "not a few capable men in London connected with non-teaching hospitals" it would not be wise to question, but surely they have at one time had their opportunity of being chosen to fill vacancies in the ranks. Having been passed over when their merits and their teaching powers were freshly within the recollection of the electing body of their own school it is scarcely to be expected that they should be called back to supersede those who have been continuously engaged in promoting the interests of the medical school. I am, Sirs, yours faithfully,

Harley-street, W., Feb. 20th, 1905. NESTOR TIRARD.

To the Editors of THE LANCET.

SIRS,—The letter from Dr. Harry Campbell in your last issue deplores the system of election at the medical schools and its suggested influence upon the teaching of medicine. The writer states, and we must take his word for the accuracy of the statement, that "there are not a few capable men in London connected with non-teaching hospitals." The adaptation of sundry remarks by the immortal Captain Cuttle and his friend Jack Bunsby may be of service. "A man's thoughts is like the winds, and nobody can't answer for 'em for certain, any length of time together." "Overhaul the ... (Medical Directory) and when found make a note of." "For why? Which way? If so, why not? Therefore." "The bearings of this observation lays in the application on it."

I am, Sirs, yours faithfully,

Feb. 18th, 1905. A STUDENT OF "BOZ."

To the Editors of THE LANCET.

SIRS,—I have read with much interest Dr. Harry Campbell's letter upon this subject and as it is one of wide-reaching public and professional interest I venture to make a remark upon it and to put forward a practicable suggestion. It is hardly possible to get all the governors of the London teaching hospitals into one way of thinking as to the methods of selecting their physicians and surgeons nor, perhaps, would the staff agree to losing a comrade through his failure to come up to Dr. Campbell's test. Medical teaching might be very much improved, not only in London but elsewhere, if it became compulsory to spend the last two years of the five years' curriculum in centres where there are large numbers of teachers to choose from and if one uniform fee allowed a student to attend any teacher he chose. Suppose all the teachers in London formed themselves into a body and freely admitted anyone possessing such qualifications as are now required for teachers and for clinical teaching all who had a requisite number of beds or out-patients from which to teach. An annual fee of £25 or £30 might be charged to each student and distributed *pro rata* to each teacher, school, or hospital, according to the numbers attending. This would enable men to attend several hospitals at one time, to choose their teachers, and not be compelled as they are at present (on account of the composition fee) to attend such teachers as the hospital board appoints to teach them.

It must be granted that some hospitals and schools have advantages over others and doubtless every one of them has some special advantage which a student may reap, but can it be said that every hospital and school are perfect in every particular? Whatever defect in the teaching there is it is reflected upon the student, and though he may be unusually well armed at one part his armour has serious weaknesses. Such a scheme would relieve the strain of maintaining a staff for the primary and scientific work and allow the universities and university colleges to fulfil their proper duties to the profession. Dublin, Glasgow, and Edinburgh might be similar centres and work upon similar lines. This project I respectfully submit is feasible, cannot injure anyone, and only requires the support of the General Medical Council to effect the reform. Your space is too valuable to dilate upon other obvious advantages.—I am, Sirs, yours faithfully,

Feb. 18th, 1905. R. C. H.

EFFECTS OF ANÆSTHETICS UPON PLANTS.

To the Editors of THE LANCET.

SIRS,—Besides the effect upon the sensibility of "mimosa pudica" noticed by your correspondent Dr. R. Macdonald and the enhancing of rest to which you refer several other effects of anæsthetics upon vegetable life have now been observed. It may interest Dr. Macdonald to be referred to some of these. The streaming of protoplasm, cell division, and cellular respiration are all affected in the direction of paralysis by solutions or vapours of ether and of chloroform. Elfving and Lauren[1] state that respiration in the higher plants is increased by ether and by chloroform but this is denied by other authorities. Claude Bernard showed that fermentation can be inhibited by chloroform. Again photosynthesis (the manufacture of sugar and starch from CO_2 and H_2O in chlorophyll-containing cells) is stopped by placing plants in an atmosphere which contains quantities of ether not enough to stop respiration. It would seem indeed, generally speaking, that vegetable life is as susceptible as animal life to the peculiar action of anæsthetic drugs but these are not so easily brought to bear upon the vegetable tissues as in the case of animals.

I am, Sirs, yours faithfully,

eb. 20th, 1905. J. BLUMFELD.

THE TREATMENT OF FRACTURES BY EARLY STRAPPING, EARLY MASSAGE, AND EARLY MOVEMENT.

To the Editors of THE LANCET.

SIRS,—Having for the last 20 years treated sprains, fractures, and dislocations upon the system described by Mr. J. Stafford Mellish in THE LANCET of Feb. 11th, p. 350, and having applied such treatment to my own fractured leg some years ago, I am in a position to write with considerable personal knowledge of the results. My own case of Pott's fracture of the leg I brought before the Medical Society of London and it was reported in the *British Medical Journal* of Feb. 15th, 1896. It was also referred to in an article in THE LANCET on Feb. 5th, 1898. A few of my personal experiences may be of interest now. My surgical friends were at first very much opposed to my using plaster strapping, but having applied it myself within half an hour of the accident it entirely prevented swelling of the injured part and gave me great comfort

Throughout the treatment I realised all the advantages which have been claimed for this system and I began to walk 21 days after the accident. It is always advisable to shave and to cleanse carefully the injured limb before applying the plaster. The plaster should be cut in strips from one to two inches wide, long enough to surround the limb and [illegible] It should be just laid on [illegible] o produce pressure. The [illegible] does not require artificial [illegible] rubber plasters are apt to irritate the skin. Oxide of zinc plasters suit some skins but the best kind is one called Eccles' plaster. Gentle massage cannot be commenced too early and Mr. Mellish's suggestion of applying the strapping from above down so as to facilitate this rubbing is much to be commended. The effect of massage in my own case was absolutely delightful.

While early movement is being carried out the bones may be steadied by the hands of the surgeon or by a temporary clamp located to the injured part. The whole treatment by strapping, early movement, and massage not only gives immediate comfort to the patient but also prevents wasting of muscles and enables the patient to get about much earlier than under the old-fashioned plan of fixation for weeks. Moreover, it prevents the occurrence of that stiffness of joint which so often comes before the surgeon after fractures that have been treated by the ordinary plan.

I am, Sirs, yours faithfully,
E. NOBLE SMITH.

Queen Anne-street, London, W., Feb. 19th, 1905.

DUODENAL ULCER.

To the Editors of THE LANCET.

SIRS,—With reference to "flushing" in the treatment of perforated duodenal ulcers might I refer Mr. W. Bruce Clarke to the series of nine cases of perforated gastric ulcer, eight of whom recovered, published in THE LANCET of July 16th, 1904, p. 145? Seven of these cases were under my care and two were under the care of Mr. T. Crisp English. Since then three cases of perforated duodenal ulcer, two of which recovered, have been treated by the same method of flushing at St. George's Hospital by Mr. English and myself. I feel very strongly from my experience of this flushing or irrigation method combined with suprapubic incision that it is a most efficient method of dealing with perforated ulcers, whether of the stomach or the duodenum.

I am, Sirs, yours faithfully,

Half Moon-street, Piccadilly, Feb. 19th, 1905. G. R. TURNER.

To the Editors of THE LANCET.

SIRS,—In reference to the questions of Mr. W. Bruce Clarke I desire to say:—

Firstly. The difficulty of diagnosis between the perforation of a duodenal ulcer and the perforation of the appendix is sometimes very great; so great, indeed, as to have misled surgeons of unquestioned aptitude in the recognition of these conditions. In my original paper in THE LANCET I showed that in approximately 40 per cent. of the cases of perforating duodenal ulcer that had been submitted to operation the incision had been made over the appendix. In my own expe- [illegible] the patients [illegible] appendicitis. [illegible] ter the lapse of a few hours; after the time, that is, during which the area of pain, rigidity, and tenderness has ceased to be local. After the first few hours the peritoneum along the outer side of the "hillock" and down the ascending colon becomes infected. It may be seen covered with plastic lymph when all other parts of the peritoneum are unharmed. In this stage a confusion of diagnosis is not improbable, for the localisation of the signs mentioned reproduces the circumstances of a case of appendicitis—the "mimicry," in fact, is complete. In the last stage of all, when the peritoneal infection is universal, the discovery of the point of origin of a general peritonitis is virtually impossible. Mr. Bruce Clarke's question may therefore be answered by the statement that in the early hours after a perforation diagnosis should be easy, after a few hours appendicitis may be mimicked, in the last stage of all an accurate diagnosis is extremely unlikely. Nowadays the cases are seen early and [illegible], the difficulty in diagnosis [illegible] es are "earlier recognised [illegible] ing and drainage of the peritoneum is determined entirely by the conditions found. In the first few hours it is not necessary (it is probably harmful) to do either; in the stage of general infection it is my practice to drain freely and, generally, to flush the peritoneum with hot saline solution. The last case in my list (Series 1) was an exemplary instance of the kind of case that would seem to demand irrigation and drainage. The facts that Mr. Bruce Clarke has not, except in the one case mentioned, felt any difficulty in making a correct diagnosis and that he regards the flushing of the peritoneum as unnecessary are both eloquent in proof of the earlier recognition of the cases in his own experience. There are, however, cases, unfortunately still too many, in which the recognition of the disease is tardy; in them difficulties of diagnosis are not unlikely to be encountered and measures necessary for the cleansing of the greatly damaged peritoneum must still be practised. I am, Sirs, yours faithfully.

Leeds, Feb. 20th, 1905. B. G. A. MOYNIHAN.

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[1] Botanischer Jahresbericht, 1892, p. 92.

COFFEE AND SEWAGE.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Feb. 18th, p. 460, Mr. R. J. Friswell complains of your comment of Feb. 4th on the above as being unfair. In this connexion I should like to point out that, according to Dr. J. W. H. Eyre's examination, each berry acted as a nutritive medium for bacillus coli communis, bacillus enteritidis sporogenes, and sewage streptococci. If the presence of these does not show sewage contamination I should like to know what does. Why is sewage itself dangerous? Because it contains these very organisms and may contain many others more generally recognised as pathogenic. Even were the quantity of sewage small it might be very deleterious because the berries from the way in which they were packed—viz., in bags—acted as a kind of filter bed, freeing the water which passed through them of a large amount both of organic and inorganic filth which became deposited on the surface of the berries. The evidence of the sanitary officials was given on the assumption (uncontradicted) that the coffee during roasting attained a temperature of from 300° to 400° Centigrade, but Mr. Friswell in his letter now states this ought to have been Fahrenheit. Had we understood that 180° C. was the highest temperature we should not have admitted that all organisms were destroyed by roasting, since it is quite conceivable that certain spores may have escaped, not to mention the various cellular toxins. In view of the fact that caffein itself is not destroyed at this temperature I consider it quite an open question whether the products of the various bacteria which infested the berries were rendered harmless.

I am, Sirs, yours faithfully,
R. K. BROWN, M.D. R.U.I.

The Town Hall, Spa-road, S E , Feb. 20th, 1905.

HIGH BAROMETRIC PRESSURE AND CEREBRAL HÆMORRHAGE.

To the Editors of THE LANCET.

SIRS,—I have only just seen the issue of THE LANCET of Jan. 28th in which Dr. James W. Russell of Birmingham has an article on the Relation between Various Atmospheric Conditions and the Occurrence of Cerebral Hæmorrhage. In this he refers to Dr. R Hensleigh Walter as having suggested that there is a relation between a high barometric pressure and an attack of cerebral hæmorrhage. Now, so far as I know, I was the first to suggest the influence of a high barometric pressure upon hæmorrhages generally, including, of course, cerebral. This I did in an article which appeared in 1896,[1] entitled "Hæmorrhages: their Relation to Barometric Pressure." I have drawn your attention to the above article as in recent literature the fact that the relation between high barometric pressures and hæmorrhages had been observed and commented on nearly ten years ago has been entirely ignored.

I am, Sirs, yours faithfully,
Edinburgh, Feb. 18th, 1905 THOS. WHITELAW, M.D. Edin.

SANTA CRUZ, TENERIFFE, AS A HEALTH RESORT.

To the Editors of THE LANCET.

SIRS,—I wish to draw attention to the claims of Santa Cruz, Teneriffe, as a health resort. I refer more particularly to the new suburbs above the English church (from 200 to 300 feet above sea level), where there are now a number of good hotels and pleasant gardens amidst salubrious and picturesque surroundings. The average mean temperature of the winter and spring months is about 65° F., relative humidity 65, and rainfall 11·50 inches per annum. There is an abundance of bright sunshine, the nights are warm, and there is a very slight dewfall. There is generally a pleasant breeze from the sea and altogether it may be considered one of the best climates in the world for invalids or people wishing to spend their winters abroad. The electric tramway from Santa Cruz to La Laguna and on to Tacoronte (a rise of nearly 2000 feet) is a great boon to visitors and during the summer Santa Cruz, which is the capital of the Canary Islands, is a most interesting old city and the most lively in the archipelago. If desired I shall be glad to give any further information.—I am, Sirs, yours faithfully,

A. W. W. DOWDING, M.D. Durh.

Santa Cruz, Teneriffe, Feb. 10th, 1905.

HUNTERIAN ORATORS.

To the Editors of THE LANCET.

SIRS,—It is generally agreed that Mr. J. Tweedy's Hunterian Oration marks a new departure in point of originality and your favourable notice of it will be endorsed by all who heard it. Not only did he offer his audience an unhackneyed appreciation of the work and methods of John Hunter but he had the courage to analyse one of the tiresome rhetorical commonplaces copied from one another by indolent orators half a century ago, according to which Hunter is likened to Bacon. The orator showed that Francis Bacon, great as he was, was the last of the mediæval philosophers, while John Hunter was a pioneer entirely on a higher plane, because more careful of the truth than the Lord Chancellor who is supposed to have written the plays of Shakespeare. Orators have in the past been cruelly hampered by the necessity of always speaking about the same man. In their desire to say something new about John Hunter they have too often unconsciously repeated the veriest platitudes. Sometimes the task has been too much for them. In 1841, for instance, Thomas Callaway failed conspicuously in his oration. He could not decipher his own writing and though more wax candles were brought by Clift, his speech was described as a "most miserable failure." John Flint South in 1844 was original at John Hunter's expense. He omitted to mention him in his oration. Lawrence lost his temper and made a famous attack on the general practitioners who had crowded to hear him (1846). Asked to apologise, he indulged in ferocious repartee and called his audience geese. Luke's oration in 1852 was very poor and Bransby Cooper's "a great failure." The oration of Honoratus Leigh Thomas is described as "a most modest production" in 1827, while Sir Anthony Carlisle simply delivered a lecture on oysters. Hence, his nickname in the pages of THE LANCET[1] of the time, "Sir Anthony Oyster." Similar in kind though far different in degree was Joseph Henry Green's famous oration on "Mental Dynamics," while in recent years Mr. Macnamara lectured very ably on anthropology and but little on John Hunter. Mr. Tweedy's oration is in some sort a return to the typical exercises in which John Hunter has been kept in view as a text, new and appropriate lessons being drawn from his work and his character. As such it will rank among the classics of the College. I am, Sirs, yours faithfully,

P. V.

Feb 20th, 1905

ADVANCED PLUMBING.

(FROM A CORRESPONDENT.)

AN examination of the sanitary fittings and plumbers' work now nearing completion at the new wing of St. Mary's Hospital, Paddington, is encouraging, indicating as it does that the hitherto slow march of the plumber is being brought into time with the quick-step of modern surgery. At St. Mary's Hospital the greatest attention has been given to every detail and the result reveals a unity of purpose in conception and construction which reflects the greatest credit on all concerned. A special feature throughout all the internal fittings is simplicity in form, there being a complete absence of any attempt at ornamentation. Sharp angles are avoided, all necessary mouldings or projections being rounded or hollowed, thus avoiding corners in which dirt and germs could accumulate. Each part of the several fittings is accessible for cleansing, while all unavoidable jointings are flush. There are several deviations from existing work of the kind that are well worth special attention.

Closets.—The closets are of white enamelled fire clay, on the cantilever principle, carefully formed with roomy shallow pans to avoid fouling, and are fitted with a specially constructed flushing rim that insures thorough cleansing.

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[1] Brit. Med. Jour., May 30th, 1896.

[1] See THE LANCET, Feb. 18th, 1826: "Hunterian Oration read by Sir Anthony Oyster . . His speech was a fine sample, on the whole, of rhetoric, which the learn'd call *rigmarole*."

These closets are built into the wall clear of the ground and the seat is at a lower level than usual. The low level is considered to have certain physiological advantages and it certainly offers a more natural position than the ordinary 17½ inch high seat. The safe beneath in place of lead or the usual more or less absorbent tile is a heavy cast iron tray coated with porcelain enamel and provided with a grating and waste pipe. The lead service and the anti [illegible] ected with adjustable [illegible] y cisterns are of cast [illegible] which form together with the use of a special valve renders them as nearly as possible silent in action. The cisterns are also coated with white porcelain enamel while the lever chains are of a non corrosive metal with celluloid handles.

Commode cupboards.—One very important provision is that of the white porcelain cupboards for the storage of bedpans and urine bottles containing samples awaiting inspection. These are supplied with a novel system of ventilation both inlet and exhaust. The fresh air inlet which is carried through the external wall is fitted with a fine wire gauze moveable panel or fly trap. Thorough ventilation takes place each time the adjacent bedpan sink is used some 200 or 300 cubic feet of air being drawn through the cupboards automatically. This is accomplished thus the water supply to the flushing cistern of the sink is utilised to operate a ventilating fan in its passage to charge the cistern. By this means any extra waste of water is avoided. Where these cupboards are not in the immediate vicinity of the bedpan sinks shafts have been carried up from them fitted with copper exhaust ventilators which are kept in constant action by means of a small Bunsen burner fixed in the shaft.

Scalding sinks.—The bedpan sinks are of one piece of enamelled porcelain with ascending jets for scalding the pans and a special arrangement for urine bottles. The jets are controlled by self closing non concussive gun metal valves. The basins or hoppers of these sinks are flushed by three gallon cisterns similar to those used for the water closets. Porcelain corrugated slabs are supplied in connexion with these sinks provided with hose and hand sprays for scouring mackintosh sheets.

Surgical sinks.—The surgical sinks have naturally received most careful attention. The adoption of a toe action combined hot and cold valve would seem to be a considerable improvement on the pedal valves previously in use as the slightest tap of the toe instantly controls both the quantity and the temperature of the flow while there is no necessity for maintaining a regular pressure as with the pedal, necessarily by doing away with the pedal, the fitting is rendered less complicated. The sinks themselves are of white porcelain with rolled edges and fitted with recessed accessible wastes which last are removeable for sterilising. The sinks are in pairs and between each is fixed a polished gun metal wringer for use when cleansing sponges &c. The hot and cold supply is delivered through overhead swing brackets having a spray and douche attached. In connexion with these sinks are porcelain draining trays for cleaning instruments. Glass shelves for the disinfectant bottles are also provided which last have vulcanite valve stoppers.

Lavatories.—Adjoining the operating room is the surgeons room in which are three large plain porcelain lavatories each one being fitted in all respects like the surgical sinks only the wastes are governed by a slide arrangement and can be opened or closed by a touch of the elbow the wringers of course excepted. The whole of the metal used is non corrosive. The baths sinks and other plumbers work throughout the building are all of a proportionately high standard. The nurses sinks are fitted with specially porcelain enamelled Berkefeld filters. Water storage is provided for two days supply and a small auxiliary electric motor has been fixed in order to insure their being charged in the event of the pressure failing in the water company's main.

Great credit is due to the architect Sir William Emerson and the hospital staff for the foresight and care shown in the details as also to Messrs Davis and Bennett the contractors who have carried out the work. It may be added that only registered plumbers have been employed.

TORBAY HOSPITAL, TORQUAY.—£1800 have been received by the governors of the Torbay Hospital Torquay, in response to their appeal for £2000 for the purpose of providing a children's ward and a new operating theatre.

SMALL POX AND SLUMS AT PITTSBURG AND ALLEGHENY.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

IN visiting what I was informed were considered to be the slums of Boston I only found one small group of houses which were inhabited by organ grinders and which might be qualified as really bad. At Pittsburg and Allegheny there was no difficulty in discovering slums well worthy of comparison with the lowest quarters of large English industrial centres. The towns which have developed very rapidly in consequence of some newly created industry do not seem to be administered so well as the more ancient and historic towns and cities where the growth in size and trade has been more slow and more deliberate. Then there is one marked difference. In the older towns or cities the great difficulty is to find land to build upon in the newer towns the difficulty is to find land that has been built upon. At Pittsburg there are vast stretches of elevated land outside the city where a large district of villadom is fast springing into existence. The result is that whole streets of more closely packed houses built near the centre of the city which served as residences for the well to do before electric trams came into existence are now handed over to the poorer sections of the community. These in some instances have degenerated into slums. Of course the land in the business centre of the city has become extremely valuable and there the houses consist of offices with but very few inhabitants. Indeed to make still more use of the land sky scrapers have been built one of these being no less than 28 storeys high. It is to be hoped that measures will be taken here as at Boston to limit this style of building for though a skyscraper or two may not do much harm except it be by reason of its ugliness a large number would so shut out the air and light from the streets as to constitute a considerable danger to the public health. What the town may become may be inferred by the bargain made by one of the churches. The length of this church ran parallel with the street and thus it occupied a good deal of frontage. The church thereupon sold half the frontage to a skyscraper building company. Besides paying a considerable sum of money this company pulled down the church at its own expense and then rebuilt it the other way round—namely at right angles with the street instead of parallel. Thus only the narrow end of the church faces the street and on the frontage space vacated a huge 'skyscraper containing many hundred offices and business premises towers above the church and its steeple. Instead of driving the money changers out of the temple the land on which the temple stood has been sold to the money changers.

It has already been explained that in spite of the immense wealth accumulated at Pittsburg there is no proper water supply and typhoid fever prevails in an endemic condition which occasionally bursts out into an epidemic.[1] An administration [illegible] nated water to [illegible] ticular care on t[illegible] sewage. There is no sewage disposal scheme before the municip[illegible] the least likely to save the city. A [illegible] water now drunk is [illegible] ers is to be met by introducing meters and making a charge in proportion to the quantity consumed a method which will not encourage poor people to take baths. But there are legal difficulties in the way of this scheme that could well supply pretexts for indefinite postponement. Yet there have been many warnings as to the general insanitary condition of Pittsburg. As soon as the temperature rises to about 80° F there is an abnormal prevalence of infantile diarrhoea. The sanitary department does a good deal of work in endeavouring to cope with existing evils. On the receipt of a message from a medical practitioner municipal inspectors examine the plumbing the drains and the water supply of any house which is considered to be in an insalubrious condition. It often happens that the inhabitants are found to be drinking contaminated water from a private well and they are then given the contaminated public water supply by way of change. When there is a case of infectious disease in a house the authorities affix a "plague card" on the door and prevent any unnecessary visiting. If it is a case of small-pox the watch kept is more strict. The isolation enforced lasts three weeks.

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[1] See Typhoid Fever and the Water-supply at Washington Pittsburg and Allegheny THE LANCET Nov 19th 1904 p. 1451

It has been noted that foreigners do not suffer from small-pox because they have all been vaccinated on board ship or just before crossing the Atlantic. But their children, born in America and under the school age, are very liable to this disease. At school they are vaccinated and then the danger ceases. After a death from small-pox or the removal of the patient to the hospital the method of isolation imposed on those who have been in attendance or have lived in the house is modified. After thorough disinfection those who have been vaccinated successfully and who are now revaccinated are allowed to go out and their movements are not restricted though they are watched. For 20 years Pittsburg had been almost free from small-pox, then an epidemic began in 1898, assumed a severe type in 1902, and the last fresh case was notified in June, 1904. Vaccination was very generally neglected except by foreigners and school children as explained above. Before any child can be admitted to school a fully qualified practitioner must certify that he or she has been successfully vaccinated; thus above the age of six years all children are vaccinated. The sanitary authorities as a result of their inquiries came to the conclusion that previously to the outbreak of small-pox only about half the population of the city had been properly vaccinated. Thereupon visits were paid and persons known not to be vaccinated were constantly disturbed by the authorities and by bringing various forms of pressure to bear the majority ultimately consented to be vaccinated. Nevertheless, it is estimated that there are still some 70,000 persons at Pittsburg who have not been vaccinated out of nearly half a million people. Though there had been a good many cases of small-pox previously only three deaths had occurred from that disease since it first appeared in 1898 up to the commencement of 1903. By that time a much more severe type prevailed and altogether there have been some 450 deaths from small-pox. Fortunately an isolation hospital had been built in 1876 and there is now a newer and better fever hospital, consisting of two separate pavilions—one for small-pox and the other for diphtheria. From this municipal hospital diphtheritic antitoxin is gratuitously distributed and at the bacteriological laboratory sputum and other material in regard to diphtheria, typhoid fever, &c., are examined for the medical profession. The authorities also notify schools whenever they ascertain that there is a case of infectious disease in the home of any of the pupils. This precaution is taken in regard to measles as well as for scarlet fever, diphtheria, &c. The children are not only prevented from going to school but they are not allowed to frequent libraries or other places of public resort.

In order to cope with infectious disease and to prevent nuisances the staff of the sanitary department is certainly undermanned. There are but two inspectors, for instance, for the tenement houses. The boarding houses are notoriously overcrowded. There are not, however, many coloured people at Pittsburg. The negroes do not number more than about 5 per cent. of the total population but their death-rate is nearly twice as high as that of the white people. The white population should live in good sanitary surroundings. There is no poverty such as we see in England. Some artisans earn wages that many of the middle classes of England would envy. Not a few workmen's wages amount to £300 a year and some of the more skilful steel plate rollers and workers and foremen, especially if they have a royalty on the output, make from £2 10*s.* to £4 per day. One well known artisan by the royalty system made £10 per day and retired with a fortune. Of course it must be borne in mind that the cost of living is much higher, though the raw materials are not so much more expensive. A family that will do its own cooking and domestic service can live nearly as cheaply as in Europe. Then, from the sanitary point of view, it is not the earnings of the exceptionally well-paid artisans that govern the situation. On the contrary, it is the worst paid who are the more important and interesting. The slums of Pittsburg are not inhabited by the highly skilled American artisan. He very often resides in a villa built in the outskirts of the town. The slums are peopled by the newly arrived foreign labourers who are ready to do the low class of work which the American will not touch. For such work the foreign labourers receive much higher wages than they would obtain in their own country; while their womenfolk generally know better than the Americans how to cook and how to economise their food and fuel. For instance, an American will not work at the building of a sewer for less than 12*s.* a day; but there are Italian labourers and others who will do the same work for 6*s.* a day and save money on this wage. Some of these men are so anxious to economise enough to get back to their own country that they will even seek to save in rent by living in what are called "double-shift dormitories." Here the beds are occupied by a set of day tenants who work at night and by another set of night tenants who work in the day time. This I found to be the case both at Allegheny and at Pittsburg. The one object especially with the Italians, the Hungarians, and the Austrian Slavs is to save their money and to return home, for in America, and especially in Pennsylvania, there is no knowledge of the joys of life, there is no sense of enjoyment, no capacity for pleasure, as these people understand it. So they will live on dry bread and a little sausage, for this they can carry with them and thus avoid the extravagant charges and the bad cooking of American restaurants and eating houses.

The homes of some of these people which I visited both at Pittsburg and at Allegheny were quite as deplorable in appearance and as unfit for human habitation as those which may be seen in the slums of old European towns. At Pittsburg there were the same irregularity of structure, the same narrow passages between dilapidated houses, and the same malodorous inner yards devoid of pavement and of sufficient light and air, as may be seen in the older countries. The people were huddled together. Some kept small shops and slept on shelves in the shops over the goods which they had for sale. The beds were often placed in the centre of the building away from the windows and the possibilities of efficient ventilation. This was especially the case in the Italian quarter of Pittsburg.

The better class of workmen, notably the Germans as well as the Americans, join building societies and through this agency succeed in time in purchasing their own homes. They are also anxious to give their children the full benefit of public school education. But the Hungarians and the Slavs are more desirous to work their children, so that they also may earn a little and thus hasten the happy day when enough money will have been saved to return to Europe. However, there has been a beneficent interference on the part of legislation. The law compels all children to go to school when they are from six to seven years of age and the Factory Law forbids the employment of children under 13 years of age. So now the Slav children go to Croatian schools that have recently been built by the Roman Catholics so as to prevent their receiving an American education while enabling them to comply with the American law. At Allegheny there is a lady inspector of the poor quarters who very courteously gave me information concerning the way in which some of the worst paid workers live. For instance, on one occasion it was found that ten different families were lodging together in a house that consisted of only seven rooms. There were often four beds in a room and two men sleeping in one bed. Cellars are yet to be found under dwellings that are packed with living poultry and pigs. These are done away with as soon as they are discovered. On the whole, the agents who represent the owners of the houses are ready to comply with the demands made by the sanitary authorities and to carry out the improvements suggested. Some of the worst houses were even pulled down and rebuilt and a very sharp watch is kept to prevent the accumulation of rags, refuse, and dirt in unoccupied cellars. The rent generally charged is from £1 8*s.* to £1 12*s.* per month for a tenement of two rooms. Many of the houses thus let in tenements at Allegheny are only three storeys high and the stairs are outside the walls so they do not serve to convey foul air from one tenement to the other tenements. Accompanied by one of the sanitary inspectors I visited some of the poorer quarters of Allegheny and found a single room near a sweetstuff shop tenanted by no less than eight Greek men. Then in the basement there were 16 men. In a tenement of two rooms I found ten people and they paid between them £1 5*s.* per month. Here a tame rabbit was playing about and there was a very filthy closet. As these people earn at least 4*s.* a day when in work they could surely pay a higher rent.

change. When there is a case of infectious disease in a house the authorities affix a "plague card" on the door and prevent any unnecessary visiting. If it is a case of small-pox the watch kept is more strict. The isolation enforced lasts three weeks.

It has been noted that foreigners do not suffer from small-pox because they have all been vaccinated on board ship or just before crossing the Atlantic. But their children, born in America and under the school age, are very liable to this disease. At school they are vaccinated and then the danger ceases. After a death from small-pox or the removal of the patient to the hospital the method of isolation imposed on those who have been in attendance or have lived in the house is modified. After thorough disinfection those who have been vaccinated successfully and who are now revaccinated are allowed to go out and their movements are not restricted though they are watched. For 20 years Pittsburg had been almost free from small-pox, then an epidemic began in 1898, assumed a severe type in 1902, and the last fresh case was notified in June, 1904. Vaccination was very generally neglected except by foreigners and school children as explained above. Before any child can be admitted to school a fully qualified practitioner must certify that he or she has been successfully vaccinated; thus above the age of six years all children are vaccinated. The sanitary authorities as a result of their inquiries came to the conclusion that previously to the outbreak of small-pox only about half the population of the city had been properly vaccinated. Thereupon visits were paid and persons known not to be vaccinated were constantly disturbed by the authorities and by bringing various forms of pressure to bear the majority ultimately consented to be vaccinated. Nevertheless, it is estimated that there are still some 70,000 persons at Pittsburg who have not been vaccinated out of nearly half a million people. Though there had been a good many cases of small-pox previously only three deaths had occurred from that disease since it first appeared in 1898 up to the commencement of 1903. By that time a much more severe type prevailed and altogether there have been some 450 deaths from small-pox. Fortunately an isolation hospital had been built in 1876 and there is now a newer and better fever hospital, consisting of two separate pavilions—one for small-pox and the other for diphtheria. From this municipal hospital diphtheritic antitoxin is gratuitously distributed and at the bacteriological laboratory sputum and other material in regard to diphtheria, typhoid fever, &c., are examined for the medical profession. The authorities also notify schools whenever they ascertain that there is a case of infectious disease in the home of any of the pupils. This precaution is taken in regard to measles as well as for scarlet fever, diphtheria, &c. The children are not only prevented from going to school but they are not allowed to frequent libraries or other places of public resort.

In order to cope with infectious disease and to prevent nuisances the staff of the sanitary department is certainly undermanned. There are but two inspectors, for instance, for the tenement houses. The boarding houses are notoriously overcrowded. There are not, however, many coloured people at Pittsburg. The negroes do not number more than about 5 per cent. of the total population but their death-rate is nearly twice as high as that of the white people. The white population should live in good sanitary surroundings. There is no poverty such as we see in England. Some artisans earn wages that many of the middle classes of England would envy. Not a few workmen's wages amount to £300 a year and some of the more skilful steel plate rollers and workers and foremen, especially if they have a royalty on the output, make from £2 10*s*. to £4 per day. One well known artisan by the royalty system made £10 per day and retired with a fortune. Of course it must be borne in mind that the cost of living is much higher, though the raw materials are not so much more expensive. A family that will do its own cooking and domestic service can live nearly as cheaply as in Europe. Then, from the sanitary point of view, it is not the earnings of the exceptionally well-paid artisans that govern the situation. On the contrary, it is the worst paid who are the more important and interesting. The slums of Pittsburg are not inhabited by the highly skilled American artisan. He very often resides in a villa built in the outskirts of the town. The slums are peopled by the newly arrived foreign labourers who are ready to do the low class of work which the American will not touch. For such work the foreign labourers receive much higher wages than they would obtain in their own country; while their womenfolk generally know better than the Americans how to cook and how to economise their food and fuel. For instance, an American will not work at the building of a sewer for less than 12*s*. a day; but there are Italian labourers and others who will do the same work for 6*s*. a day and save money on this wage. Some of these men are so anxious to economise enough to get back to their own country that they will even seek to save in rent by living in what are called "double-shift dormitories." Here the beds are occupied by a set of day tenants who work at night and by another set of night tenants who work in the day time. This I found to be the case both at Allegheny and at Pittsburg. The one object especially with the Italians, the Hungarians, and the Austrian Slavs is to save their money and to return home, for in America, and especially in Pennsylvania, there is no knowledge of the joys of life, there is no sense of enjoyment, no capacity for pleasure, as these people understand it. So they will live on dry bread and a little sausage, for this they can carry with them and thus avoid the extravagant charges and the bad cooking of American restaurants and eating houses.

The homes of some of these people which I visited both at Pittsburg and at Allegheny were quite as deplorable in appearance and as unfit for human habitation as those which may be seen in the slums of old European towns. At Pittsburg there were the same irregularity of structure, the same narrow passages between dilapidated houses, and the same malodorous inner yards devoid of pavement and of sufficient light and air, as may be seen in the older countries. The people were huddled together. Some kept small shops and slept on shelves in the shops over the goods which they had for sale. The beds were often placed in the centre of the building away from the windows and the possibilities of efficient ventilation. This was especially the case in the Italian quarter of Pittsburg.

The better class of workmen, notably the Germans as well as the Americans, join building societies and through this agency succeed in time in purchasing their own homes. They are also anxious to give their children the full benefit of public school education. But the Hungarians and the Slavs are more desirous to work their children, so that they also may earn a little and thus hasten the happy day when enough money will have been saved to return to Europe. However, there has been a beneficent interference on the part of legislation. The law compels all children to go to school when they are from six to seven years of age and the Factory Law forbids the employment of children under 13 years of age. So now the Slav children go to Croatian schools that have recently been built by the Roman Catholics so as to prevent their receiving an American education while enabling them to comply with the American law. At Allegheny there is a lady inspector of the poor quarters who very courteously gave me information concerning the way in which some of the worst paid workers live. For instance, on one occasion it was found that ten different families were lodging together in a house that consisted of only seven rooms. There were often four beds in a room and two men sleeping in one bed. Cellars are yet to be found under dwellings that are packed with living poultry and pigs. These are done away with as soon as they are discovered. On the whole, the agents who represent the owners of the houses are ready to comply with the demands made by the sanitary authorities and to carry out the improvements suggested. Some of the worst houses were even pulled down and rebuilt and a very sharp watch is kept to prevent the accumulation of rags, refuse, and dirt in unoccupied cellars. The rent generally charged is from £1 8*s*. to £1 12*s*. per month for a tenement of two rooms. Many of the houses thus let in tenements at Allegheny are only three storeys high and the stairs are outside the walls so they do not serve to convey foul air from one tenement to the other tenements. Accompanied by one of the sanitary inspectors I visited some of the poorer quarters of Allegheny and found a single room near a sweetstuff shop tenanted by no less than eight Greek men. Then in the basement there were 16 men. In a tenement of two rooms I found ten people and they paid between them £1 5*s*. per month. Here a tame rabbit was playing about and there was a very filthy closet. As these people earn at least 4*s*. a day when in work they could surely pay a higher rent.

The inspector assured me that the unskilled workers could earn 6s. a day while the skilled mechanics obtained from 12s. to 14s. a day. Even making some allowance for the tendency to exaggerate the amount of wages paid or to omit the number of days when there is no work whatsoever to be done, the working class can afford a sufficient rent to live in healthy houses. In England the difficulty is that it is often literally impossible for the unskilled to earn enough to pay a rent that will cover the cost of building proper dwellings. With labourers' wages at 18s. and 20s. a week how can they pay enough rent to house themselves and their families? But at 6s. a day or 36s. a week the position would be very different. In England it is often so obvious the *tenants cannot help overcrowding that neither sanitary* inspector nor magistrate has the heart to enforce the law. In America the same excuse does not hold good, at least, to the same extent Much more space is still vacant to build upon and there is more money to pay for the building.

On the other hand, the importance of these problems is not so keenly appreciated—in any case not at Pittsburg or Allegheny. The energy of the sanitary authorities is devoted rather to combating outbreaks of infectious disease than to attempting to remove the predisposing causes. Thus, at Allegheny a considerable amount of money is spent in distributing gratuitously to rich and poor alike anti-diphtheritic toxin. This item alone costs £500 a year out of the public funds. The bacteriological laboratory was established in 1896 and received during the first year of its existence 420 specimens for examination. The fact that in 1903–04 the number of specimens sent amounted to 1004 shows the growing appreciation and usefulness of this institution. If by the examination of the sputum or through any other agency it is found that there are several cases of tuberculosis in a building the sanitary authority sends its staff to disinfect the premises. These are all good points but nevertheless the sanitary department is not what might be expected for a town of such importance and where so much wealth exists. A mere glance at the building occupied by the Bureau of Health shows that both the citizens and the city corporation are without any real appreciation of the importance of the sanitary services. This bureau consists of a miserable little red brick building with the upper part let to some tenant, while the public services below are cramped for want of space. The bacteriological laboratory, for instance, is only separated by a door from the offices frequented by inspectors who visit all the neighbouring fever dens. Yet this bureau stands in the middle of vacant ground where there is plenty of room to build proper municipal offices and laboratories. Not only does the vacant ground remain unutilised but there is no scavenging done. Against the very walls of the sanitary department and in the surrounding vacant space there is an unseemly and dangerous accumulation of rags, old stockings, old boots, waste paper, broken pots and pans, fragments of food, egg shells, rotten fruit, underclothing soiled with fæcal matter, mud, and urine. Such was the sort of refuse which I found had been dumped down against the very walls of the bureau where the municipal officers are expected to watch over the health of the city of Allegheny. Also I noted that in front of all this garbage, which the city scavengers are allowed to neglect and do not trouble themselves to remove, is placed a rough wooden bench where persons who have business at the bureau can sit in the open and wait and breathe the dust blown upon them from the accumulation of refuse that is spread out behind them. All this is in the very heart of the city. Facing the bureau is the principal square where the town-hall and the post-office stand and these, at least, are buildings that have some slight architectural pretensions. Behind the bureau are a few streets where I was surprised to find an extraordinary number of dead rats lying about in the gutters or on the causeway. Then but a few steps beyond is the public park, with its trees, its flowers, its band-stand, and its loiterers who go there to breathe purer air and to rest. Certainly such parks are most necessary as breathing spaces in large towns but it is also necessary to keep the air in the street as pure as possible. This can only be done by careful drainage and prompt energetic scavenging.

VACCINATION GRANT.—Mr. Philip E. Hill has been awarded for the fourteenth time in succession the Government grant for efficient vaccination in the Crickhowell district of the Crickhowell union.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Teaching of Hygiene and Temperance.

AT the last meeting of the Birmingham education committee the report of the subcommittee upon the circular from Sir William H. Broadbent, in which he urged the importance of the compulsory teaching of hygiene in public elementary schools, was considered. The committee was of opinion that, much as it would like to fall in with Sir William Broadbent's suggestion, it was inadvisable to add to the number of subjects already taught in the schools. It drew attention to the fact that in the teaching of the subjects already in the curriculum considerable time was spent in inculcating the principles of hygiene; that it had lately appointed two peripatetic science teachers who were interested in hygiene; and that the Band of Hope Union representatives were allowed to visit the schools. At the University a short course of lectures on ambulance work and hygiene is in process of being delivered by certain members of the staff. Intended primarily for students of mining it has by request been thrown open to all members of the University. The Worcester education committee has appointed Miss Anstey of the Halesowen Physical Training College to give a course of instruction to the female elementary school teachers in physical culture. It was no doubt also an interest in hygiene and a belief in its importance which prompted the West Bromwich Trades Council to write to the West Bromwich education committee urging the advisability of a medical examination of all the children attending the elementary schools.

The Licensing Sessions.

On the first day of the above sessions a deputation waited upon the magistrates and presented the "citizens' memorial," in which, while deploring the increase of drunkenness, the signatories noted with satisfaction the increase in the number of cases in which the responsibility for permitting drunkenness on licensed premises had been brought home to the licensees. They were of opinion that the number of licensed premises was excessive and that many of them were structurally deficient and unsuitable. They wished to express the hope that the magistrates would not sanction the removal of valueless licences from congested areas to uncontaminated districts or grant occasional drink licences to council schools. The deputation was given a very cordial reception and in reply the chairman said that he did not think there had been any increase in drunkenness, that he wished to see not only fewer public-houses but better ones, and that the magistrates attached much importance to the maintenance of the friendly relations already existing between them and the brewers. He further stated that it was the intention of the magistrates to give notice that they wished to put an end to the licences of 36 houses, 21 of which were in the Floodgate-street area. 14 of the houses were fully licensed houses, 20 were beerhouses, and two had beer and wine licences The number of premises licensed for the sale of intoxicants was at the beginning of the sessions 2103 as against 2163 last year. This works out at one licensed house for every 258 inhabitants in the city. In addition to the sale at these houses a very considerable amount of "beer-hawking" takes place; one brewer stated at the sessions that the company in which he was interested sold to more than 15,000 separate families.

Birmingham and Wye Compensation Water.

At the annual meeting of the board of conservators, Wye Fishery District, the proposal of the Birmingham Corporation to reduce the Wye compensation water by 7,000,000 gallons a day was considered and in view of the unanimous opposition to the proposal by the various local councils it was resolved that the Birmingham corporation should be requested to withdraw from its Bill the portion relating to the reduction of the compensation water. To this the Birmingham authorities have agreed.

Asylum News.

At a special meeting of the lunatic asylums committee held a short time ago the question of the provision of separate accommodation for private patients in the city asylums was considered. The committee hopes that on the opening of Hollymoor Asylum it will be possible to place two separate wards at the disposal of the private patient class and it is not unlikely that some such accommodation will also be available at the smaller establishments of "The Leveretts" and "Glenthorne." Representatives of the asylum authorities in the boroughs of Birmingham and Leicester and the counties of Warwick, Worcester, Stafford, Derby, Nottingham, Gloucester, and Leicester met on Friday last at the council house, Birmingham, to consider the ways and means of providing accommodation for juvenile idiots and imbeciles certified under the Lunacy Acts and at present resident in county and borough asylums. It was felt that the present system of detaining idiot and imbecile children in the wards of public asylums was bad in that it had a depressing effect upon adults suffering from curable mental disease and also prevented the proper training and education of those children capable of receiving such. After a long discussion a resolution was passed expressing approval of the principle of separating juvenile idiots and imbeciles from the adults in asylums and undertaking to recommend the respective authorities to adopt some combined scheme, with the object of having one joint institution for the Midlands in order that a saving might be effected in expenditure. A subcommittee was appointed to formulate a scheme in accordance with the resolution.

The Unemployed.

The question of the unemployed is demanding more and more the attention of the public bodies and a conference is shortly to be held between the city council and the various boards of guardians to consider some scheme of providing work for persons requiring relief, both as a temporary employment for respectable men and as a test for doubtful cases. Mr. Fels of Philadelphia has offered to lend land to the guardians for the purpose of forming a labour colony, on the understanding that should it prove successful the guardians will purchase the land at the price given for it. The advantage of such a scheme is that work will be found for unskilled labourers and that it will not result in the displacement of other labour. The general feeling seems to be in favour of the acceptance of Mr. Fels's offer. The success of the scheme is believed to depend upon the labourers being induced to stay long enough on the land to become efficient cultivators. No doubt some conclusion will be arrived at as a result of the conference, for it is felt that something must be done without delay to check the steady increase of expenditure year after year for Poor-law purposes.

Health of Birmingham.

The death-rate for the week ending Feb. 4th was 17·1, the zymotic death-rate for the same period being 1·5. The increased mortality was due to measles, diphtheria, pulmonary tuberculosis, and diseases of the respiratory organs. For the week ending Feb. 11th the death-rate and zymotic death-rate were 16·2 and 1·2 per 1000 respectively. A pavilion at Little Bromwich Hospital has been reserved for cases of diphtheria and now contains 16 patients. Dr. A. Bostock Hill's report upon the health of Castle Bromwich rural district for the year 1904 states that there has not been a single death registered from pulmonary tuberculosis.

Feb. 21st.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Fatal Case of Plague in the Mersey: Prosecution of the Master of the "Crewe Hall."

THE master of the s.s. *Crewe Hall* was summoned at the Liverpool police court on Feb. 15th before Mr. W. J. Stewart, the stipendiary magistrate, charged with having contravened Section 23 of the Public Health Act, 1896, by neglecting to answer truly questions put to him by a Customs officer as to the health of all on board during the voyage of the vessel. Mr. Cripps, the prosecuting solicitor, said that the officer boarded the vessel and asked the usual question of the master as to the state of health of all on board, who, in reply, said "All is well." The vessel then docked and afterwards a dying lascar was found on board. From the log it appeared that the man had been ill for some days in his bunk and that his temperature varied between 105° and 101° F., so that he must have been seriously ill. The defendant's excuse was that he thought the man was suffering from a cold, but in any case the answer that all was well was certainly wrong and he ought to have told the port sanitary authority that he had a man with a high temperature lying ill in his bunk. The defence was that the master had no suspicion that the lascar was suffering from an infectious disease. Mr. Stewart interposed by saying that he was not prepared to say that there was no responsibility thrown on the captain or that he could get rid of it by saying that the illness was trivial. That would leave it entirely at the discretion of the master to disclose it or not. The position of the medical officer was this: "I do not care what the illness is, or what you thought it was; tell me of it and I will say whether it is safe for the Port of Liverpool to allow you to land." The captain very unwisely took upon himself to state that there was no illness on board his ship; there were facts in his mind which he ought to have disclosed and which were certainly material. The stipendiary came to the conclusion that there had not been a deliberate suppression of facts in order that the vessel might get into dock to discharge passengers and cargo without any trouble; but it was important that the master of a ship should not take the responsibility of being the judge himself. The defendant was fined £10 and costs. Dr. W. Hanna, the assistant port medical officer, in his evidence stated that the lascar died from plague pneumonia, the presence of plague bacilli having been ascertained (on post-mortem examination) microscopically and bacteriologically, as stated in THE LANCET of Feb. 18th, p. 444.

The Housing Problem in Liverpool.

Colonel Slacke, R.E., conducted an inquiry on Jan. 26th on behalf of the Local Government Board in reference to an application by the Liverpool corporation to borrow £35,000 for the purchase and demolition of insanitary property under the powers of the Liverpool Sanitary Amendment Act, 1864. Mr. Cripps, the assistant town clerk, in stating the case, said that under that Act it was the duty of the medical officer of health to report to the council on any houses in the city which he considered to be unfit for habitation. Up to the present the council had always ordered the houses to be demolished and under that Act it had already spent £400,000 in purchasing property for demolition. Between 7000 and 8000 houses had been demolished and there were still left to be dealt with 8000 or 9000 dwellings of a similar type. The corporation had given a pledge to rehouse 50 per cent. of the people dispossessed, and since 1899 some 4313 persons had been provided for, leaving 158 still to be dealt with. In order that the inspector might arrive at an opinion as to whether that pledge was to be continued, increased, or diminished he mentioned that a return of the head constable showed that the number of vacant houses with a rental of 5*s.* per week and under was 1143 and of £20 a year and under 3150, a total of 4293. Since 1901 the corporation had demolished about 1500 houses. The reason for the large number of vacant houses in the centre of the city was because the corporation had perfected its electric tramway system and there had been a large amount of building on the outskirts of the city. Houses of all classes were being erected at the rate of 2000 a year. The inspector observed that he had been very much interested in hearing what the corporation was doing. Knowing that it had done more than had been undertaken by any other municipality that he knew of and had dealt satisfactorily with this great problem, he intended to make himself thoroughly acquainted with the nature of the accommodation which it was providing for the people. Colonel Slacke subsequently visited several of the demolition areas and some of the corporation dwellings.

Treatment of Epileptics and Imbeciles in the Liverpool and West Derby Unions.

At a meeting of the West Derby guardians the clerk presented a memorandum of agreement entered into between the representatives of the Liverpool and West Derby guardians with regard to the treatment of imbeciles and epileptics in the two unions. By this agreement the epileptics are to be dealt with by the Liverpool select vestry to the extent of 250 cases and the imbeciles to the same number will be treated by the West Derby union, the effect of this arrangement being that each union will not now be compelled to provide separate accommodation for each class of patients.

Liverpool Hospitals and Corporate Help.

At the annual meeting of the supporters of the Royal Southern Hospital held on Feb. 13th in the town-hall, the treasurer reported that there was a balance due to the bank of £6387, which was an increased deficit for the year of £1100 Need was expressed for a new out-patient department and the Lord Mayor, who presided at the meeting advised the committee to appoint a deputation to wait upon the finance committee of the city council with the object of securing financial assistance for the hospital —At the annual meeting of the subscribers to the Cancer and Skin Hospital held on the same day, an urgent appeal was made for increased funds and the opinion was expressed that in view of the large number of patients received from outlying districts it would be most acceptable if some of the district councils or other local bodies would arrange to vote an annual grant in aid of the funds of the hospital

Feb 22nd

WALES AND WESTERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENTS)

Barry Health Report

THE annual report of the medical officer of health of Barry is of interest because the town is of recent growth and has been built up under the supervision of a sanitary authority the members of which have endeavoured to insist upon modern requirements being complied with The population of the town—if town it could then be called—in 1881 was 494 ten years later it was 13 278 and in 1901 it was 27 030 The vast majority of the houses are of the type usually occupied by artisans, they are built in rows and are let at weekly rentals varying from 4*s* to 10*s* Each house has a separate drain and a secondary means of access at the rear Barry has been provided since 1900 with a destructor capable of destroying 30 tons of refuse daily, though at present only about half this quantity is dealt with There are no private slaughter houses but in the public abattoir over 10,000 animals were slaughtered during 1904 and no seizures of meat unfit for human consumption were made The hospital, which was erected for the isolation of cases of infectious disease other than small pox has been held in readiness for patients suffering from that disease and has never been put to its proper use but the medical officer of health (Mr George Neale) states that the district council has under consideration the erection of a small pox hospital The death rate from all causes in Barry during 1904 was 11 4 per 1000 In the previous ten years the average death rate was 14 2 per 1000 In calculating these rates no account has been taken of persons resident in Barry who died in public institutions outside the district such as the county asylum, the Cardiff Infirmary or the workhouse Mr Neale draws attention to the large number of complaints regarding the want of systematic cleaning and painting of the forecastles in vessels arriving at Barry, no less than 431 of the 2966 vessels inspected during 1904 having to be dealt with by the port sanitary inspectors There appears he says, to be an increasing disposition amongst many of the mixed crews that now man so many British vessels not to do more than the most superficial work as regards cleaning and painting their berths Samples of drinking water collected on board 20 vessels were examined during the year at the Cardiff and county public health laboratory and only two were reported to be good Five were fairly satisfactory, 12 were unsatisfactory, and one was bad

Somerset and Bath Lunatic Asylum at Wells

There were 45 applications for the position of medical superintendent to the Somerset and Bath Lunatic Asylum at Wells, rendered vacant through the death of Dr C F Laing who was recently drowned at sea and who had held the superintendency for nearly four years The joint committee on Feb 17th elected Mr George S Pope L R C P, L R C S Edin, L F P S Glasg, who has been for the past seven years superintendent of the Middlesbrough Borough Asylum at Cleveland The salary attached to the appointment is £600 per annum with furnished house and other emoluments

Cookery in Elementary Schools

The Somerset county education committee has instructed a subcommittee to prepare a scheme for the provision of suitable instruction in cookery and the hygiene of food in the upper standards of the public elementary schools in the county

Death of Mr Horace Vavasour Sandford, L R C P Lond

Mr H V Sandford, who died on Feb 5th at the age of 78 years was one of the first medical officers of health to be appointed to a combined sanitary district having been elected medical officer of health of the city of Hereford and for several urban and rural districts in 1874 Owing to failing health he resigned all his appointments in 1899 As a pioneer he carried out much useful public health work and his series of annual reports which were printed from the first, contain a great deal of valuable statistical information

Pontypool Hospital

The first year of the Pontypool Hospital appears to have been a very satisfactory one The 19 beds were occupied by 148 patients and the cost per bed was £61 4*s* As might be expected in a colliery district such as that surrounding Pontypool operative treatment was necessary in nearly one half of the cases admitted The income for the year amounted to £1595 and the expenditure was £1211

Newport and Monmouthshire Hospital

The additional expenditure entailed in the administration of the new hospital buildings at Newport (Mon) has resulted in the presentation of a less favourable balance sheet than was the rule in former years The expenditure during 1904 was £5218 and the year's working resulted in a balance on the wrong side of £232 making a total adverse balance of £560 Towards the income of the institution the workmen of the town and neighbourhood subscribed the large sum of £1600 or £123 more than in 1903 The in patients numbered 960 and the average stay in hospital of each patient was 29 days so that those who are responsible for the management of the hospital cannot be accused of extravagance There were also treated during the year 3483 out patients and 1231 casualty patients

Royal Devon and Exeter Hospital

The 168th report of this institution which has just been issued states that 1420 in patients were admitted during 1904 as compared with 1317 in 1903 The out patients numbered 5568, an increase of 598 over the figures for the previous year The financial statement shows that the total receipts for the year amounted to £8448 the expenditure being £9696 During the year Mrs Nosworthy of Dawlish gave £1000 to reconstruct and to furnish the operating theatre in accordance with modern requirements Last April a collector was appointed to solicit donations for the hospital and by his exertions the sum of £449 has been raised

Feb 21st

SCOTLAND

(FROM OUR OWN CORRESPONDENTS)

The Annual Dinner of the Royal Medical Society Edinburgh

THIS dinner which is an annual gathering of considerable medical interest was held on Feb 14th The invitations to guests are issued by the presidents of the society, of whom there are four The senior president occupies the chair while the other three act as croupiers The presidents are all young graduates who as students, have been active members of the society The special interest of these dinners depends, however on the fact that there is always a guest of the evening selected because of his eminent position in the domain of medicine The guest this year was Professor Ronald Ross C B, F R S After the usual loyal and patriotic toasts the chairman, Dr H N Fletcher proposed the toast of the evening He sketched the great work which Professor Ross had done in connecting malaria with the mosquito and the skill and persistence which he had displayed in his investigations Professor Ross made a long and interesting speech in reply He referred to the number of young men at present engaged in the study of tropical diseases and to the admirable work that they were doing In connexion with malaria he spoke warmly and earnestly of the great difficulty in getting the authorities in this country or in the colonies to take the measures necessary for improving local hygienic conditions He was of opinion that we should think less and act more, and referred approvingly to the prompt action of the Americans in Havana when it was shown that yellow fever was communicated by mosquitoes, the result of their action being that yellow fever was banished forthwith. He also referred to the action of the French in Ismailia, action which had almost banished malaria from that town. The dinner was altogether most successful and the presidents are to be congratulated. Among other guests present were the Lord Provost of the city, the Lord Justice Clerk, and the Bishop of the Episcopal Church.

Vacancies at the Edinburgh Royal Infirmary.

Owing to the death of Dr. A. L. Gillespie there is a vacancy in the medical registrarship at the Royal Infirmary, and Dr. A. Goodall, Dr. C. M. Pearson, and Dr. A. Dingwall Fordyce are all candidates for the post. Dr. J. M. Beattie, one of the assistant pathologists to the Royal Infirmary, who is also senior assistant in the pathological department of the University, has resigned his post in the infirmary and it is being sought for by Dr. G. Lyon, a University assistant, and by Dr. W. T. Ritchie.

The University of Glasgow.

There are among those upon whom the Senate at its meeting on Feb. 16th resolved to confer the honorary degree of Doctor of Laws (LL.D.) two in whom the medical profession are specially interested. These are Alexander Crum Brown, M.D. Edin., D.Sc. Lond., F.R.S., professor of chemistry in the University of Edinburgh, a position which he has held since 1869; and Sir William Whitla, M.D. R.U.I., L.R.C.P. & S. Edin., professor of materia medica and therapeutics, Queen's College, Belfast.

The Outbreak of Typhus Fever in Aberdeen.

In his monthly report Dr. Matthew Hay states that from the commencement of the outbreak to the end of December there were 34 cases with nine deaths; during January 32 cases with five deaths; and in the first half of February 34 cases with one death; making a total of 100 cases with 15 deaths. The mortality has greatly decreased though the cases are increasing and fewer cases under middle age are dying as the epidemic progresses. Up to the end of December the ages of the fatal cases ranged from 18 to 62 years, three being below and six above 40 years; while during January they ranged from 44 years to 62 years. The age of the one person dying during the first half of the present month was 41 years. Of the 100 cases six were children of five years and under, and in 41 cases the ages ranged from five to 15 years. Of the 23 cases in which the ages were from 15 to 25 years there were two deaths, and there was also a death among the 13 cases in which the ages were from 25 to 40 years. The death-roll was heaviest between 40 and 60 years, 10 of the 15 cases dying. Two persons over 60 years were attacked and succumbed. Regarding these figures, Dr. Hay remarks that the most distressing feature is the very high mortality among persons above 40 years of age. Of the 17 persons above this age 12 have died. This is in striking contrast with the low mortality among persons below this age—83 cases with three deaths. If typhus fever, like measles or whooping-cough, were confined—by the immunity of older persons through previous attacks—to young persons it would be considerably less dangerous than almost any of the common zymotics. It is the very high mortality among older persons which invests it with its popular and traditional terrors. As to the distribution of the cases among households it is of interest to note that 75 of the 100 cases were confined to 15 families, ranging from three cases in each of five families to eight cases in one family and nine in another. For three months the disease remained undiscovered in the city, no means whatever being taken to isolate the sick and to prevent the spread of the infection, and yet only 34 cases are known to have occurred during this period. In no case during this period has the disease, so far as is known, been communicated through contact with an intermediary. No clue has yet been obtained as to the primary source of the infection.

University of Aberdeen Medical Society.

The last meeting for the session of this society was held on Feb. 17th. Dr. James Clark having read an interesting paper on Visceral Pain, the reports of the secretaries and the treasurer were read and adopted. These showed the society to be in a flourishing condition. The following office-bearers were then elected:—Honorary president: Professor J. T. Cash. Presidents: Mr. A. S. Leslie and Mr. W. M'Kerrow. Secretaries: Mr. J. F. Gill and Mr. T. Chalmers. Treasurer: Mr. E. K. M'Kenzie. Committee: Mr. J. Donaldson, Mr. R. J. Duthie, Mr. A. J. Pirie, Mr. G. Mitchell, Mr. W. G. MacDonald, and Mr. J. Mitchell.

University of Aberdeen Anatomical and Anthropological Society.

A meeting of the above society was held on Feb. 18th in Marischal College, Professor R. W. Reid being in the chair. Dr. Clark exhibited and described a pair of Distorted Feet of a female Chinese subject presented to the museum by Dr. W. R. C. Middleton, medical officer of health of Singapore. Owing to a peculiar superstition among the Chinese these specimens are very difficult to obtain and the society felt deeply indebted to Dr. Middleton for his gift. Together with the feet were shown the shoes that had been worn during life. Dr. Clark, having carefully dissected one of the feet, described in detail the soft parts and the bones. A series of excellent x ray photographs proved that the muscles were all fully developed but showed fatty degeneration of the muscular fibres and also that the individual bones were all quite normal in shape. The only difference was an alteration in the relative position of the various bones. Dr. Clark explained the method of producing the deformity and the probable reason of its being practised. Several anatomical variations which had been found in the dissecting room were also described and shown by members.

Death of Dr. James Alexander Innes.

Dr. James Alexander Innes, for about 40 years a medical practitioner in Dufftown, died on Feb. 14th after a short illness. The deceased was a native of the district, his father, the late Mr. John Innes, being a farmer in Auchindoun. Dr. Innes had a large practice in the neighbourhood and was also consulted by many people from the adjoining shires. About 25 years ago a large sum of money was collected in the district to present him with a testimonial, but when the movement was brought to his notice he requested that the money should be returned to the donors, stating that many had contributed who required the money themselves. He read and studied much and always kept up to date in regard to his professional work. Dr. Innes was in his sixty-sixth year and had continued in practice until a few months ago.

Honours to Scottish Practitioners in Spain.

Dr. W. A. Mackay and Dr. Ian Macdonald, both of whom practise in Huelva, Andalusia, Spain, have been elected honorary members of the Academy of Medicine and Surgery of Seville and the latter in an open concours has been awarded the prize of the Academy of Medicine and Surgery of Saragossa for an essay on Gastro-enterostomy, the clinical material being furnished by the Huelva Hospital and the clinic of Dr. Mackay and Dr. Macdonald.

Feb 22nd.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Royal College of Surgeons in Ireland.

THE annual Charter dinner of the Royal College of Surgeons in Ireland has now been fixed to take place on Saturday, Feb. 25th. Owing to this fact the Leinster branch of the British Medical Association has issued a circular to its members stating that it has been deemed necessary to abandon, at all events for the present, the branch annual dinner. The business of the annual meeting of the association will be transacted on Feb. 25th at the Royal College of Physicians of Ireland, Kildare-street, Dublin.

A Public Health Museum

At a meeting of the Medical Faculty of the Catholic University School of Medicine held on Feb. 16th the following motion was carried unanimously:—

> That this faculty is of opinion that th[illegible]ment of a public health museum by the Department of [illegible] *Instruction of Ireland* would be of great [illegible] public as well as to many professions and trades.

Feb. 21st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

A New Chloroform Inhaler.

AT a meeting of the Academy of Medicine held on Jan. 24th M. Reynier showed a new inhaler devised by M. Dupont and M. Thurneyssen by means of which a mixture of air and chloroform vapour in definite proportions could be obtained for the production of anæsthesia. He criticised the ordinary method in which the personal qualifications of the anæsthetist assumed undue importance and in which it was impossible to determine relative proportions of chloroform and air in the mixture inhaled under the compress. He then gave a historical outline of the various inhalers by means of which the proportion of chloroform vapour could be regulated at will; they were far safer than the above-mentioned method. He had examined the inhalers of Paul Bert, Raphael Dubois, and others. He disapproved of the patterns which contained valves, for valves were liable to derangement and, as the experiments of Richet and Langlois have shown, the force of the breath in expiration was not always sufficient to make them act properly. The inhaler of M. Dupont and M. Thurneyssen had no valves; it consisted essentially of a horizontal tube conveying air and having a vertical tube containing chloroform connected to it at right angles. Air drawn through the first tube carried with it chloroform vapour the proportion of which might be adjusted by a graduated regulator. It has been found practically that the expired air, loaded with water vapour, could not make its way into the chloroform tube. The inhaler was provided with a thermometer which served an important purpose, for the proportion of chloroform vapour rose rapidly with a rise of temperature. M. Reynier has made practical use of the inhaler 125 times for the performance of surgical operations varying from gastro-enterostomy to simple curettage. He was impressed by the facility with which the patients became unconscious without struggling and almost without vomiting. M. Reynier recommended the general adoption of this inhaler which was very simple, was not expensive, and gave the surgeon complete security. At the meeting of the Academy held on Jan. 31st the topic was resumed by M. Lucas-Championnière whose opinions differed in many respects from those of M. Reynier. He said that physiological experiments on dogs, a method on which M. Reynier relied, gave results which were not strictly applicable to the human subject. Paul Bert had determined limits within which the chloroforming of dogs was practicable but for the human subject these limits could not be defined because no one would venture to expose a fellow creature to the risks of an experiment pushed to the point of danger. In recorded fatal cases the doses were often very small. It was necessary to pay great attention to the susceptibility of the individual patient and for that reason a competent anæsthetist who supplied drops according to the requirements of the moment would always be preferable to inhalers, even the most perfect, all of which required to be managed by a competent person. In a general way M. Lucas-Championnière distrusted inhalers which worked at constant pressure. Not even the purest samples of chloroform always yielded the same quantity of vapour at the same temperature. Nothing was therefore, in his opinion, equal to the intelligent control of an experienced anæsthetist, for the human factor, although in some respects an unquestionable source of danger, was, on the whole, the best guarantee of safety. If absolutely compelled to use an inhaler he would give the preference to the one
oxygen and chloroform vapour
of M. Roth and M. Guglielminett
could be constantly and easily controlled by the operator. Since it has been employed in the hospitals it has always answered perfectly, so far as M. Lucas-Championnière has seen. Insensibility was produced readily, and without struggling and was maintained with a very small quantity of chloroform; recovery was easy and owing to the presence of undiluted oxygen this stage was soon completed. There were few, if any, troublesome after-effects of the inhalation. M. Reynier replied that the arguments of M. Lucas-Championnière could not alter the facts and that facts had demonstrated that the inhaler which he had described was not only free from danger but possessed other advantages as well. The human factor was a source of great danger; expert anæsthetists might extricate themselves from difficult positions but almost all fatalities were due to the unskilfulness of the anæsthetist. It was quite true that all samples of chloroform did not give the same quantity of vapour at the same temperature, but M. Reynier took as his standard of comparison the chloroform used in the hospitals which was of uniform quality. With respect to the inhaler of Roth
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not without risk of producing pulmonary congestion. To these observations M. Lucas-Championnière replied that *oxygen was not dangerous in this respect and that in the hospitals it was given every day to patients* suffering from asystole, a condition which increased the liability of a person to congestion.

A New Surgical Knot.

At a recent meeting of the Société de l'Internat des Hôpitaux de Paris M. Dartigues showed a new double knot for securing vascular pedicles. Passing a ligature under the pedicle he tied it tightly and then without cutting the ends he passed them again under the pedicle at a distance of a centimetre from the previous constriction and finally tied them together. In this way the pedicle was secured by two circular ligatures a centimetre apart and also by the lateral parts passing obliquely between them.

Microbicidal Action of Magnesium.

At a recent meeting of the Academy of Sciences M. F. Diénert stated that on adding metallic magnesium to cultures of the bacillus coli communis and Eberth's bacillus he had found that all the organisms died after two or three days. The addition of magnesia to the cultures did not kill the organisms but only retarded their development. The organisms were, however, killed in two or three days by magnesia in presence of hydrogen, which acted by removing the oxygen.

Gigantism and Goitre.

At a recent meeting of the Neurological Society M. G. Ballet reported the case of a young woman, aged 19 years, who was manifestly the subject of gigantism but who in addition showed all the classical symptoms of exophthalmic goitre. The hypothesis of connecting the relation which exists between gigantism and exophthalmic goitre to hyperthyroidisation is a natural one in this case. It is well known that ablation of the thyroid body with consequent hypothyroidisation brings about arrest of the development of the skeleton and it is therefore rational to suppose that hyperthyroidisation would produce the opposite effect. But in that case the association of gigantism with exophthalmic goitre should be frequent at least in young subjects, which, however, is not the case. It would be more logical to suppose in the case cited by M. Ballet that there coexisted a double lesion of the thyroid body and of the pituitary body.

Poisoning by Violet Ink.

M. Halle recently reported to the Pediatric Society, a case in which an infant, aged 16 months, had swallowed about one cubic centimetre of the violet aniline ink which is in common use. One hour after swallowing the ink the mother made the child vomit several times by putting her finger down the throat. The vomited matter was not coloured but it contained some black powder similar to that which is seen at the bottom of a dried-up inkpot. Some hours later the child had shivering, vomiting, and a raised temperature which mounted rapidly to 39° C. There were also facies abdominalis, choleraic diarrhœa, with very fœtid rice-water stools, and for a whole day the child's condition was very grave. On the following day the child was better but the extremities were cyanosed and œdematous. For the next few days troublesome laryngeal spasms occurred but eventually the child recovered.

Miners' Anæmia.

At a recent meeting of the Academy of Medicine M. Brehan, medical officer of the Bethune[1] mines, read a paper upon the above-mentioned subject in which he said that although he believed that the ankylostoma duodenale was in part the cause of the condition, yet it was very rarely found in the stools of miners in the North. Of 6000 miners employed by the Bethune Company 4737 work underground and are distributed among eight shafts. Only one shaft appeared to be infected. Of 1193 miners examined by M. Brehan extremely few were found to be affected with ankylostoma, but on the other hand 603 men were found affected with [illegible] 118 with ascaris. The reason for the ra[illegible] in M. Brehan's opinion lies in the fact that mines of the North do not show underground water-soakage or stagnant pools, and finally that the temperature of the mines is generally below 23° C. In the coal basin of Liège and St. Etienne where ankylostoma is frequently found there is water-soakage and the temperature of the galleries varies from 25° to 30° C., two facts which are very favourable to the hatching of the eggs of the parasite. Prophylaxis consists in the use of boiled water, a strict medical examination of newcomers, and a refusal to employ those coming from a suspected district. Such methods, however, are a serious matter and microscopic examination of the stools would be more satisfactory than a systematic refusal of miners coming from an infected district. Such examination would be a guarantee of safety and would permit non-infected men to be employed.

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[1] Bethune is a mining town in the department of the Pas-de-Calais not far from Arras.

Feb. 20th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

University Intelligence.

THE number of medical students at the five Swiss Universities for the winter term 1904-05 amounts to 1724. There are 958 female students enrolled in the lists and only 766 men. The number of female students goes on increasing rapidly, especially at the universities of Bern and Lausanne. The numbers stand thus :—

	Males.	Females.	Total.
Basle	123	6	129
Geneva	144	144	288
Lausanne	103	223	326
Bern	187	407	594
Zurich	209	178	387

If the increase of female students goes on at the same rate in the next five years as in the last five years the medical faculties at Bern and Lausanne will be almost monopolised by the fair sex.

Institute for Physical Therapeutics at the University of Zurich.

At a well-attended recent meeting of the Cantonal Medical Society the committee appointed at the previous meeting to consider the question of an institute for physical therapeutics[1] submitted its report. After a discussion of three hours' duration the report was agreed to with some fundamental modifications. The urgent necessity of the institute having its own out-patient department and being independent of the other cliniques was mentioned and obtained favour. The report finally agreed on is to be transmitted to the cantonal authorities, together with the expression of a hope that this institute with a capable director at its head may soon be established and that it may do valuable service both to the public and to science.

Wage Limits for Club Members at Zurich.

The "Krankenpflege" at Zürich is a very large provident society, having at the present time 6000 members. At a meeting of the medical officers held on Feb. 2nd some motions, proposed by the President, Dr. Haeberlin, caused a lively discussion. The proposal to increase the number of members by admitting persons with incomes of £60, £80, £108, £132, and £160, divided into five classes who were to pay monthly instalments of 10*d.*, 1*s.*, 1*s.* 1½*d.*, 1*s.* 3½*d.*, and 1*s.* 6*d.* per head, met with opposition from several quarters and at last an amendment, proposed by Dr. T. Zangger, was accepted limiting the right of admission to the three first classes and to persons with incomes under £120 per annum. Thus the scheme of municipalisation of medical service in Zürich, described at length in THE LANCET of Oct. 29th, 1904, p. 1246, will for the present still be limited to the working classes.

Zürich, Feb. 20th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Suez Hospital.

A NEW hospital, designed to meet the varying wants of a seaport town, was opened by the Egyptian Government last summer. It is well placed just outside the town, being surrounded by miles of desert and provided with a good view of the harbour and adjacent mountains; it is also conveniently near the Hospital for Infectious Diseases. It is of course provided with all modern requirements, electric lighting, hot-water supply, operating theatre, steriliser, laboratories, an excellent house for the English superintendent, and nursing quarters presided over by an English sister. There are separate rooms for private patients and a total of 58 beds, of which 40 were occupied at the time of my visit. Most of the patients were suffering from medical diseases, some from the malignant tertian form of malaria, which is commoner in Suez than other parts of Egypt, and there were four natives recovering from appendicitis, though this has usually been considered a rare disease in this country. The old hospital in the town is still utilised for out-patients and for the treatment of prostitutes.

Neurasthenia.

This complaint is rare among the natives of this country, who are not given to nervous strain, but cases are met with among the Red Sea lighthouse-keepers who are mostly Englishmen. They suffer from sleeplessness, emotional symptoms, tremors, and exaggerated reflexes which the men themselves put down to their lonely life and the monotony of their existence and their food. The tinned food causes dyspepsia and consequent loss of weight but not scurvy. There are always three men in each lighthouse, while the fourth is absent on leave, and they are only visited every three months when they get letters and newspapers. Two men lately committed suicide after leaving Egypt and a third developed delusions.

Sleeping Sickness.

Captain E. D. W. Greig, I.M.S., was one of those sent by the Royal Society with Colonel Bruce, R.A.M.C., and Dr. D. N. Nabarro, in 1903 to Uganda and as he is now passing through Cairo on his way to London he very kindly consented to deliver a lecture on Sleeping Sickness at the Medical School. About 100 interested people besides the students attended the lecture which was delivered in the Pathological Museum and was illustrated by maps, temperature charts from man and monkey, and beautiful diagrams of the tsetse fly and the trypanosome prepared by Dr. Looss. Only 100 years ago the disease was first described as a separate complaint and until 1901 it was thought to be confined to West Africa between the Congo and the Senegal and its cause was shrouded in mystery. Its introduction into Uganda can be accounted for by the opening up of trade routes from West Africa. The total loss from this cause since 1901 in the Uganda Protectorate is 100,000 and the monthly death-rate is still at least 1000, so that if sleeping sickness continues unchecked the whole population will shortly cease to exist. The disease is limited almost entirely to the northern shores of the Victoria Nyanza Lake and to the various islands in the lake. Two maps, exhibiting the distribution of the disease and the prevalence of the glossina palpalis, showed the exact co-incidence of the tsetse fly and the endemic. Fortunately imported cases in inland villages do not cause spread from man to man but the disease in the endemic area has already destroyed all the natives of some districts. Captain Greig insists that the name of the disease is misleading, because sleepiness only occurs in the latest stage which may last three or four months; this may be replaced by mania and morbid elevation of the mental powers. The most important early sign of the disease is enlargement of lymphatic glands, especially those of the cervical region. This has been known for years to the slave dealers who in the old days refused to let a slave with these glands enlarged join the caravan because he was almost certain to die on the journey. Captain Greig has discovered that by puncturing the cervical glands with an ordinary syringe trypanosomes can be seen under the microscope long before the fever and other symptoms occur. He calculates that about 70 per cent. of the general population of areas in which sleeping sickness is endemic are in this early stage which may terminate in one of three ways: (1) by extension of the trypanosome to the lymph spaces of the brain and the spinal cord, constituting sleeping sickness proper; (2) by death from intercurrent disease, of which the most common is pneumonia; and (3) by the disease becoming very chronic and possibly ending in recovery. With regard to this last point the lecturer told me that there are several cases of individuals still alive who certainly had the disease in 1902 and 1903. There is therefore a probability that many of the inhabitants may become immune or "salted," as is the case in many diseases of animals. So long as the trypanosome is confined to the lymphatic glands the temperature is normal and there are no obvious symptoms except the glandular swellings. But when the parasite gets into the blood irregular fever begins, varying from 100° to 103° F., emaciation and nervous tremors are seen, till in the final stage the temperature gradually sinks till it remains for days as low as 92°, when the trypanosome has invaded the brain and the spinal cord and set up a *meningo-myelitis*. It is now proved that the trypanosome exists in every case of sleeping sickness and it is a near relation of the parasite which causes surra or nagana in cattle. Inoculation of monkeys with the blood and cerebro-spinal fluid of patients suffering from sleeping sickness produces the same disease in these animals. One fact new to most of the audience is that the glossina palpalis belongs to the pupipara group of insects which produce one larva instead of myriads of eggs. The fly by means of its long proboscis can fill its stomach by sucking infected blood for half a minute and is then ready charged at any time during the next five days to infect any healthy person. Experiments on monkeys lead to the belief that it is not dangerous after five days have elapsed. The fly is most active during the day, which is, of course, the time when the natives are working in the fly belts. The fly seems to require for its life forests of trees granting shade and dense undergrowth in proximity to water. These conditions invariably exist in areas where sleeping sickness and glossina palpalis prevail but as one descends the Nile it is found that 30 miles north of Gondokoro the character of the country changes; there are large open spaces without much undergrowth and the tsetse fly is absent. It is therefore probable that sleeping sickness will not spread to the Sudan and Egypt, though the forest conditions of the Bahr-el-Gazzal are said to be quite favourable to the habits of this special tsetse fly. South of the Victoria Nyanza the country again changes to open ground and this fly is absent. A synopsis distributed to the audience enabled them more easily to understand the lecture.

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[1] THE LANCET, Jan. 28th, p. 266.

Cairo, Feb. 5th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Bubonic Plague.

AN outbreak of bubonic plague has occurred in the Grafton district, New South Wales. The deaths of five persons are stated to have been due to the disease. Rats have been dying in large numbers on the farms where the affected persons lived but plague was not suspected at first. These farms have now been quarantined and a staff, consisting of a medical officer, a sanitary inspector, and a rat-catcher, has gone to Grafton. The last previous evidence of plague was on Dec. 3rd, 1904, when a plague-infected mouse was found in Sydney.

Preservatives in Milk.

The question of the use of preservatives in milk continues to be disputed in the law courts and to occasion differences of expert evidence. On Dec. 22nd, 1904, the *Bacchus Marsh Concentrated Milk Company was prosecuted for selling* concentrated milk containing 219 grains of boric acid to the gallon. Dr. W. P. Norris, medical inspector to the Board of Health of Victoria, said that the amount of boric acid in the sample was unnecessary and harmful and in great excess of the amount said to be necessary by the advocates of the use of preservatives in milk. In his opinion refrigeration would keep the milk as long as the Bacchus Marsh Company said its milk should be kept. For the defence Dr. J. W. Springthorpe, lecturer on hygiene at the University of Melbourne, said that he had used boric acid in doses of 30 grains per day in over 300 cases of typhoid fever, also in epilepsy and other diseases, and had never seen any injurious effects. It would be impossible to keep concentrated milk more than a day without preservatives. He considered that stale sterilised milk was worse than milk with preservatives. Mr. A. H. Jackson, B.Sc., president of the Institute of Analysts, said that preservatives were not injurious when used in the manner *stated in the case in dispute*. The bench fined the defendant company and said that the law did not recognise the use of preservatives.

Treatment of Inebriates in New South Wales.

Some two years ago the New South Wales Parliament passed an Inebriates Act under the provisions of which the Government sanctioned the erection of two State institutions for the treatment of inebriates without means. One of these for females, situated on Rabbit Island on the Hawkesbury river, has been partly erected and will accommodate 72 patients. It consists of two pavilions for sleeping accommodation, dining room, kitchen, laundry, workroom, reception house, officers' quarters, and matron's cottage. An abundant supply of good water has been obtained. The institution was inspected recently by the Minister of Works who will probably advise the Cabinet to utilise the buildings early in the year.

Hospital Affairs.

The Kronheimer wing at the Austin Hospital, Melbourne, still remains unopened owing to the action of the Premier. At a recent meeting of the executive committee of the Society for the Prevention of Tuberculosis it was decided to bring the matter officially under the notice of the respective medical societies with the view of inducing them to take united action to secure the withdrawal of the opposition of the Premier.—Some feeling has been roused by the refusal of the directors of the Sydney Hospital to appoint a woman as resident medical officer. It has been customary annually to appoint six members of the resident staff of the Sydney Hospital and the Royal Prince Alfred Hospital from the best students who have just passed their final examinations at the University of Sydney. Among *these at the last election was Miss Susie O'Reilly*. The selection is usually made by a conjoint board consisting of the presidents and professional delegates from the hospitals concerned. On this occasion, however, the board selected six men for the Prince Alfred Hospital and five men for the Sydney Hospital and left the sixth appointment an open question for the directors of the latter institution. This body decided not to appoint Miss O'Reilly but a male graduate.—The fourth annual meeting of the Sydney Medical Mission was held recently. The medical report showed that 3216 visits were paid to the homes of 720 patients and that the total number of patients treated was 2256.

The Board of Public Health of Victoria.

The Government has appointed Dr. William P. Norris to the position of chairman and chief medical inspector of the Board of Public Health of Victoria, rendered vacant by the [illegible] native of [illegible] Melbourne, [illegible] B. in 1888 and M.D. in 1892. After some years in private practice he went to England and [illegible] diploma in public healt[illegible] the appointment of ass[illegible] of Health, which he has [illegible]

The Death-rate of Sydney.

The death-rate of the city of Sydney during the first 11 months of 1904 equalled 12 per 1000 of the population, being the lowest experienced in the city during the past seven years at least. *Calculated on the number of births* the infantile mortality rate for the first 11 months of 1904 was equal to 118 deaths per 1000.

Instruction in Dentistry at the University of Sydney.

[illegible] ty of Sydney at its last monthly [illegible] curriculum for the department [illegible] ie degree of Bachelor of Dental Surgery. [illegible] of the University Dental Hospital and the Sydney Dental Hospital is now satisfactorily completed and working well.

Jan. 10th.

VACANT CHAIRS AT THE UNIVERSITY OF KAZAN.—There are, *says the Meditr. Obosrenie, seven* vacant chairs in the University of Kazan: anatomy, operative surgery, psychiatry, diagnosis, special pathology, therapeutics, and forensic medicine and pharmacy.

Obituary.

ROBERT STEVENSON THOMSON, M.D., D.Sc. Glasg., F.F.P.S. Glasg.

By the death of Dr. R. S. Thomson, professor of the practice of medicine in Anderson's College Medical School, Glasgow has lost one of its most distinguished and respected members of the profession as well as one of the most successful of extra-mural teachers. Dr. Thomson became seriously ill at the beginning of September last but after two or three weeks of great anxiety on the part of his friends he rallied and hopes were entertained of his ultimate recovery. These hopes were to some extent confirmed by his progress up to the new year and for a short time afterwards but a more serious phase of his illness set in about a month ago which brought about the fatal termination. Dr. Thomson was born in Southampton 47 years ago. He spent his earlier years in St. Petersburg, his father being an engineer in that city. He received his education, however, in Glasgow, attending first the Glasgow Academy and subsequently the University of Glasgow. He devoted himself to science as well as medicine, taking the degree of B.Sc. in 1880 and those of M.B., C.M. in 1882. Subsequently he was resident physician in the Western Infirmary under Dr. J. Finlayson; later he held a similar position in Belvidere Fever Hospital and then proceeded to Vienna to supplement his studies there.

For the last 21 years he has been in medical practice in Glasgow but much of his time was devoted to hospital work and to teaching. Among the more important of the various appointments which he has held were those of dispensary physician and then assistant physician to the Western Infirmary, clinical assistant to Dr. Finlayson at the same institution, extra-honorary physician to the Royal Hospital for Sick Children, visiting physician in charge of the Small-pox Hospital, Belvidere, and professor of medicine at Anderson's College Medical School. The latter position he has held since 1899; his success there was immediate, the students numbering last year 120. He has contributed largely to medical literature, chiefly of late in connexion with small-pox and vaccination. He received the degree of M.D. with honours in 1897 and the degree of D.Sc. in 1901. His death will be mourned alike by his friends, the medical profession generally of Glasgow, by whom he was held in high esteem, and by his numerous students past and present. Much sympathy is felt for his widow and relatives.

WILLIAM COBDEN ROWLANDS, M.B., C.M. Edin.

Dr. William Cobden Rowlands died on Jan. 19th at his residence, Maesteg, Glamorganshire, from pneumonia and pleurisy following an attack of influenza. He was the eldest son of Principal Rowlands of the Memorial College, Brecon, and took part of his medical curriculum at University College, Cardiff, where he was president of the debating society of the college and captain of the cricket eleven. He then proceeded to the University of Edinburgh, where he graduated as M.B. and C.M. with honours in 1897. He was president of the University of Edinburgh Welsh Students' Union and a member of the students' representative council. On becoming qualified he held an appointment as assistant at Aberaman and in 1897 went to Maesteg, where two years later, on the retirement of Dr. John Davies, he took over that gentleman's practice in conjunction with Dr. John Harris Jones. The deceased, who was only 39 years of age, by his kind and gentle manners endeared himself to the hearts of his numerous patients and the news of his early death came as a sad blow to them all. He has left a widow and a little girl. The funeral, which was attended by a very large number of sympathetic friends and representatives of various public bodies, took place at Brecon on Jan. 23rd.

SAMUEL HOLLINGSWORTH AGAR, L.R.C.P. Irel., L.R.C.S. Irel.

The death of Mr. Samuel Hollingsworth Agar at his residence at Henley-in-Arden, Birmingham, on Feb. 11th, has removed a familiar and useful member of the profession from the Midland counties, in which he was well known and much respected. Mr. Agar was in his seventy-fourth year. He was a native of county Wicklow and after taking the Licence of the Royal College of Surgeons in Ireland went to Henley-in-Arden in 1854. After a time he gave up general practice and devoted his attention to the care of the insane. He became proprietor of a large private asylum—Glendossill, Henley-in-Arden—and his conduct of this establishment and his care and attention to the patients obtained him a wide reputation and caused his opinions to be valued highly. Mr. Agar was a man of much public spirit and was practically impressed with the obligations of civic and political duties. He was a valuable member of the Warwickshire county council and also a justice of the peace for the county. At one time he was president of the Birmingham branch of the British Medical Association, his genial manners and suave address gaining him many friends. Mr. Agar gathered round him a wide circle of friends who became endeared to him through his many virtues. With his deep sympathies, warm heart, and ready help he became a recognised and valued power in the locality in which his life's work was done and his death is much deplored. He was buried at Beaudesert Church, Henley-in-Arden, on Feb. 16th, amid many manifestations of regret. Mr. Agar leaves two sons, one of whom is a member of the medical profession.

Medical News.

University of London.—At the Preliminary Scientific Examination for internal and external students held in January the following candidates were successful:—

Inorganic Chemistry, Experimental Physics, and Biology.—John Leo Atkinson, Guy's Hospital; Ardeshir Pestonji Bacha, University Tutorial College; Bertie Blackwood, University of Leeds; Karl Bremer, St. Bartholomew's Hospital, Cornell University, and Victoria College, South Africa; William Gidley Emmett, Nottingham High School; Edith Croft Goodison, London (Royal Free Hospital) School of Medicine for [illegible] ynes Lovell, St. Mary's Hospital an [illegible] lege; Arthur Griffith William Owen, [illegible] and University of Liverpool; and Edw[illegible] mas's Hospital.

Inorganic Chemistry and Experimental Physics.—Maurice Beddow Bayly, private tuition and study; *Christopher Francis Sayles Broom, Merchant Venturers' Technical College, Bristol; *Basil William Brown, Birkbeck College; *Monamy A. C. Buckell, Uni- [illegible] ifred Finnimore Buckley, Newnham [illegible] on Cockrem, Guy's Hospital; *Ethel [illegible] Free Hospital) School of Medicine [illegible] Cotton, University Tutorial College; *Isaac Marcus Edis, London Hospital and University of Liverpool; *Roger Bellis Edwards, University of Liverpool; *Thomas Charles Cann Evans, St. Mary's Hospital and Epsom College; *Alexander L. Fitzmaurice, Guy's Hospital; *Henry James Hacker, St. Bar- [illegible] Caroline Holland, University Tutorial [illegible], University College, Bangor; *David [illegible] *Gladys Muriel Macaskie, London [illegible] l of Medicine for Women; Kenneth D. Marriner, University of Leeds; Frederick Willoughby Penny, Malvern College; *William Dallas Ross, University Tutorial College and private study; *Henry Gordon Smith, St. Bartholomew's Hospital; *Thomas Auger F. Tyrrell, St. Mary's Hospital; and *Violet Katharine Maria Wilde, London (Royal Free Hospital) School of Medicine for Women

Inorganic Chemistry and [illegible] Lopez, University College, Bristol; [illegible] St. Bartholomew's Hospital; †William [illegible] n Hospital; †Edward Austen Penny, Guy's Hospital; †Norbert Leo M. Reader, University of Leeds; †Harold Ferdinand Renton, University of Leeds; and Harold Herbert Tanner, St. Mary's Hospital and private tuition.

[illegible] *y.*—William Henry Talfourd Jones, [illegible] Montgomery, University of Leeds; [illegible] s Hospital; John Bailey Tackaberry, Middlesex Hospital; and ‡G. A. Williams, B.A., University College, Cardiff.

Inorg [illegible] Herbert Archer, Guy's Hospital;
*†B[illegible] University and Manchester Municipal
Sch[illegible] Capell, St. Bartholomew's Hospital;
*†C[illegible] Hospital; *†William Chalmers Dale,
St. [illegible] *†Edgar Lionel Elliott, Guy's Hos-
pital; [illegible] *†Violet
Evangeline Fox, University [illegible] study;
*†Augustin Pownall Fr[illegible] *†Alan
Waites [illegible] Guy's
Hospit[illegible] Bristol;
*†Hen[illegible] and private study;
*†Phil[illegible] Stanley Hopwood,
St. Th[illegible] ewis Hugo, Charing
Cross [illegible] Guy's Hospital and
St. Pe[illegible] Lewis Jones, Guy's
Hospit[illegible] ollege and London
(Royal [illegible] cine for Women;
*†John [illegible] Leeds: *†Hubert
O'Mea[illegible] *†Helen Lawson

el Woodsend, University

*Arthur William Havard, University College, Cardiff; *‡Maurice
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§ These candidates have already passed in inorganic chemistry

At the Special Examination in Organic Chemistry for internal and external students held in January (in lieu of Part II. of the Preliminary Scientific Examination) the following candidates were successful :—

Charles Ernest Anderson, King's College; James Alexander Bateman, Victoria University;
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UNIVERSITY OF CAMBRIDGE.—The Huddersfield lectureship in special pathology is vacant. Applications are to be made to the Vice-Chancellor by March 7th.—The degree of Doctor of Science, *honoris causâ*, is to be conferred on Dr. E. B. Tylor, professor of anthropology in the University of Oxford.—Professor D. J. Cunningham of Edinburgh has been appointed an elector to the chair of Anatomy, Dr. J. Mitchell Bruce an elector to the Downing chair of Medicine, Professor T. Clifford Allbutt an elector to the chair of Surgery, and Dr. D. MacAlister an elector to the chair of Pathology.—The following degrees were conferred on Feb. 16th :—

St. John's;

larvey, St.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in February the following candidates passed in the subjects indicated :—

Surgery.—H. H. R. Bayley (Section II.), Charing Cross Hospital, A. Feeley (Section I.), Leeds; J. A. Davies (Section I.), Manchester; L. Sells (Section I.), St. Thomas's Hospital; R. W. Taylor (Sections

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A. R.
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and

J. H. Wolfe, London Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—H. H. R. Bayley, R. W. Taylor, and J. H. Wolfe.

TRINITY COLLEGE, DUBLIN.—At examinations held in Hilary term the following candidates were successful :—

FINAL IN MIDWIFERY.

Robert Magill, Michael J. M'Auliffe, George E. Nesbitt, Cecil Scaife, Edward G. Scroope, John A. Pringle, John W. Burns, Joseph W. Houston, Richard Kelly, and Robert A. Askins.

THE AMBIDEXTRAL CULTURE SOCIETY.—The opening lecture of this society for the session 1905 was delivered at the Guildhall School of Music, Thames Embankment, E.C., by Professor W. H. Cummings, Mus.D., on Feb. 15th, his subject being Ambidexterity in Music. The second, third, and fourth lectures of the series will be delivered at the rooms of the Royal Statistical Society, *Adelphi-terrace, Strand, London, W.C.* On *March 2nd*, at 8.15 P.M., Sir James Sawyer will take for his subject Ambidexterity from some Points of View of a Physician; on March 16th, at 8 P.M., Sir W. B. Richmond, K.C.B., will deal with Ambidexterity in Art; and on April 13th, at 5 P.M., Mr. E. Noble Smith will discourse on Ambidexterity in Surgery.

THE EDUCATION AND TRAINING OF NURSES.—A meeting convened by the Matrons' Council of Great Britain and Ireland and the Society for the State Registration of Trained Nurses was held at 20, Hanover-square on Feb. 22nd to protest against the terms of the memorandum of association of the Incorporated Society for Promoting the Higher Education and Training of Nurses. Lady Helen Munro Ferguson presided and there was
motions were unanimously
the protest for which the
; that "no powers can be
except by a body composed
of professional persons upon which trained nurses have direct and sufficient representation"; the second supporting the Bill for the registration of trained nurses introduced into the House of Commons by Mr. Munro Ferguson, M.P.; and the third stating that a deputation should be sent to the Board of Trade to present to the president of that body the first two resolutions.

THE QUEEN'S JUBILEE HOSPITAL.—We have been requested to publish the following resolutions which were put forward and agreed to at a meeting of members of the medical staff which was held on Feb. 6th :—

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2. That the undersigned
the management of the hospital during some years think that there

(Signed)

A. M. WARE, M.D.
W. E. MILES, F.R.C.S.
J. MORRISON, M.D.
MILSOM REES, F.R.C.S.
R. P. BROOKS, F.R.C.S.
C. N. BARTON, M.R.C.S.

LADS' DRILL ASSOCIATION.—The annual report of the Lads' Drill Association shows that continuous and steady progress has been made during the year 1904 in the systematic physical and military training of British lads. Conscription is an unpopular word and the system which it denotes is hardly likely to be tolerated by this country except under dire necessity. It is nevertheless desirable that every Englishman should be able to handle a rifle effectively should he be called upon to defend his country. The training necessary to produce this result is one of the objects of this association and it is therefore one deserving of support. To train youths to arms during the educative period of their lives would probably have a useful moral effect upon the hooligan and loafing element of the population, always, of course, provided that the lads were properly fed. Lord Meath is the chairman of the association and the secretary is Colonel W. Elliott, whose address is 44, Harrington-gardens, London, S.W.

A lecture will be delivered to-day (Saturday, Feb. 25th), at 3 P.M., by Sir William J. Collins, chairman of the education committee, London County Council, on "The Man *v.* the Microbe," in the Marlborough Room at the Polytechnic Institute. Dr. Allan Macfadyen will occupy the chair.

University College Hospital.—At a meeting held on Feb. 14th of Sir Donald Currie's Donation Committee Mr. Paul Waterhouse was appointed architect for the erection of the school of advanced medical studies, students' house, and the nurses' home in connexion with University College Hospital.

Exeter Dispensary.—The annual meeting of the subscribers to the Exeter Dispensary was held on Feb. 15th. The report stated that 5329 patients had been treated during 1904, as compared with 5440 in 1903. The financial statement showed that the total expenditure for the year was £1699 and that an adverse balance of £72 remained.

Donations and Bequests.—By the will of Mrs. Mary Worthington of Sale, Chester, vice-president of the Union of Manchester University Women Students, a sum of £1000 is bequeathed to the Owens College, Manchester, and a like sum to the Manchester and Salford Sick Poor and Private Nursing Institution.—The late Miss Ellen Peel of Dorking bequeathed £500 to Dorking Cottage Hospital and the same amount to Tamworth Cottage Hospital.—Under the will of Mr. Augustus George Hubbuck of Rotherfield, Sussex, the East London Hospital for Women and Dispensary at Shadwell receives £2000, and the Chelsea Hospital for Women £1000.

The Association for Promoting the Training and Supply of Midwives.—The annual meeting of this association was held at Caxton Hall, Westminster, S.W., on Feb. 14th, under the chairmanship of Mr. H. Cosmo Bonsor. One of the main objects of the association as stated in the report, which was unanimously adopted, "is to become a centre or bureau of information for the public, relative to the requirements of the Midwives Act, and its working all over the country." The council hopes that the education committee of the London County Council will include lectures to midwives in its technical courses, provided audiences can be insured, and with this object in view the various districts of London are being canvassed by the association. The preliminary result of this canvass points to a successful result. The financial committee appeals for help to defray the liabilities of the year.

Extensions at the Medical School, Newcastle-on-Tyne.—We have received plans and drawings showing the proposed extensions at the present Medical School at Newcastle-on-Tyne. The new wing, which will extend along the west side of the present building, will be 119 feet in length, with a caretaker's house at the south end. The whole of the ground floor is given up for the use of the students and will contain a gymnasium, 40 feet by 30 feet by 18 feet high, with bath-room, lockers, &c., attached to the same; also reading, dining, and smoking rooms, kitchen, larders, &c. The first floor will contain a laboratory, 40 feet by 30 feet; histology room, 40 feet by 30 feet, with research and professors' rooms attached to same; also a dark and optical room. On the second floor there will be a lecture theatre, 40 feet by 30 feet by 16 feet high, to accommodate 100 students, a bacteriological room, 40 feet by 30 feet, with research room, professors' private rooms, and a dark and optical room. The new wing has been designed to harmonise with the present building and will be built of bricks, stone sills and mullions, and terra-cotta strings and cornices, and the roof will be covered with green Westmorland slates. Special attention has been paid with regard to the light required for the microscopical work. The windows in the bacteriological and histology rooms contain no transoms or mullions. All the floors will be fireproof and the surface will be finished with granolithic cement. A newellite dado, four feet six inches high, will go round the bacteriological and histology rooms, and the laboratory, and the walls will be finished with adamant and ripolin. All the corners will be rounded, so that there will be no crevices for dust or dirt to lodge and the doors will be flush-panelled on the inside. The building will be lighted throughout by electricity and will be heated on the hot-water low-pressure system and will be ventilated by extraction flues with electric fan in the roof. The building has been designed by the firm of Messrs. Dunn, Hansom, and Fenwicke, architects, 23, Eldon-square, Newcastle-on-Tyne.

Weston-super-Mare Hospital.—At the annual meeting of the subscribers to this institution held on Feb. 17th it was reported that 436 patients had been treated during 1904, an increase of 106 as compared with the previous year. The daily average number of in-patients was 26·5. The financial statement showed that a favourable balance of £101 remained.

Association of Medical Diplomates of Scotland.—The inaugural dinner of the Association of Medical Diplomates of Scotland was held at the Trocadéro Restaurant, London, on Feb. 14th, Mr. C. St. Aubyn-Farrer being in the chair. After the usual loyal toasts had been duly honoured Mr. E. Noble Smith proposed the toast of "The Navy, Army, and Auxiliary Forces." Sir J. A. Clark, in replying, urged upon the members of the medical profession the duty of preparing for the time of war so that should the necessity arise they could render efficient help more quickly than was the case in the South African war. This toast was also replied to by Colonel J. Anderson, I.M.S., and Brigade-Surgeon-Lieutenant-Colonel E. J. Hunter. Mr. St. Aubyn-Farrer then proposed the toast of "The Association of the Medical Diplomates of Scotland" and gave a glowing account of the progress and success of the association. He was himself attired in the new gown granted by the Royal College of Surgeons of Edinburgh to its Licentiates. This gown was the first tangible result of the labours of the association. Dr. Euphemia Stoker replied and was followed by Dr. David Walsh, the secretary of the association, who announced that at the end of December, 1904, 124 members had been elected and up to the present date 14 more, making a total of 138 members. This included 48 London and 90 provincial members. The association included amongst its ranks six lady members. Dr. H. W. Fitzgerald Powell proposed "The Visitors" which was acknowledged by Dr. E. A. Snape and Dr. F. J. Waldo. Dr. C. O. Hawthorne proposed the toast of "The Council and Officers of the Association" which was suitably replied to by Mr. S. Stephenson.

Central Midwives Board.—The members of the Central Midwives Board met on Feb. 16th at 6, Suffolk-street, Pall-mall, Dr. F. H. Champneys being in the chair. The Board considered the subject of the recognition of Poor-law infirmaries as training schools for midwives. Miss J. Wilson said that the Local Government Board some years ago, when Sir Walter Foster was Parliamentary Secretary to the Local Government Board, issued a circular letter to boards of guardians stating that the Local Govenment Board did not recognise midwives in Poor-law infirmaries but considered them as midwifery nurses. Miss Wilson suggested that the Central Midwives Board should apply to the Local Government Board for copies of all circulars that it had issued dealing with midwifery nurses or midwives. Mr. E. Parker Young pointed out that the Local Government Board knew the rules of the Central Midwives Board and was aware that the Central Midwives Board had to carry out the Midwives Act and was not bound by the circulars issued by the Local Government Board. After Mr. Young had fully stated his views Miss Wilson withdrew her suggestion. The Central Midwives Board then decided that no Poor-law infirmary should be approved as a training school for midwives unless the average number of births reached not less than 75 per annum—i.e., sufficient to insure the necessary number of cases for the training of at least three pupils. It was also agreed that no application from a Poor-law institution to be approved as a training school for midwives should be entertained unless it was in the form of an official communication from the board of guardians concerned, signed by the clerk of the board.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Private Members' Bills.

A LARGE number of private Members' Bills now appear on the order paper of the House of Commons. Those Members who had hoped to secure good places in the first ballot for Bills more or less directly affecting the public health have been disappointed. All the good places for early days have been secured by other would-be legislators and consequently the prospects of obtaining a serious and adequate discussion of the pharmacy and other kindred measures, of which notice has been given, are not particularly bright.

Amendment of the Pharmacy Acts.

In the course of the session the Government may legislate upon the recommendations of the committee on the sale of poisons. It was expected that it would do so last session, but apparently, whatever be the intentions of Ministers, the efforts of private Members to secure some reform will not be relaxed. Mr. THOMAS LOUGH has already brought in a Bill "to provide for the further regulation of the sale of poisons and the compounding of medical prescriptions and to amend the Pharmacy Acts, 1852 and 1886." The Bill has the support of Sir MANCHERJEE BHOWNAGGREE, Mr. HENNIKER HEATON, Mr. CROOKS, Mr. OSMOND WILLIAMS, Mr. ELLIS GRIFFITHS, Mr. JAMES REID, Mr. MUNRO-FERGUSON, Mr. MARSHALL HALL, Mr. REMNANT, and Mr. ERNEST GRAY—a group of Members drawn from both sides. The second reading has been put down provisionally for March 24th.

Municipal Milk Depôts.

The agitation for a greater control over the milk-supply of London has led to the introduction of a Bill to allow metropolitan borough councils to establish and to maintain milk depôts. Mr. THOMAS LOUGH is again the sponsor. Associated with him are Dr. J. G. SHIPMAN, Sir CHARLES DILKE, Mr. WHITELEY, and Dr. MACNAMARA.

Juvenile Smoking.

Apparently the crusade against juvenile smoking is still being carried on with some vigour. Since Parliament opened a number of petitions have been lodged praying for legislation on the subject.

A Public Health Bill.

On March 1st Sir ALFRED HICKMAN will present a Bill to amend the Public Health Acts.

Medical Act (1886) Amendment Bill.

General LAURIE has again brought forward his Bill to amend the Medical Act of 1886. It deals with the position of colonial practitioners coming to this country. He has the support of Sir WALTER FOSTER, Sir JOHN BATTY TUKE, Mr. ROTHSCHILD, Sir HOWARD VINCENT, Mr. MIDDLEMORE, and Sir MANCHERJEE BHOWNAGGREE.

HOUSE OF COMMONS.

FRIDAY, FEB. 17TH.

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Salaries of Irish Dispensary Medical Officers

has not yet been received.

MONDAY, FEB. 20TH.

Complaint against an Irish Dispensary Medical Officer

of the question and the Government has no power to take action in the direction suggested.

Constabulary Medical Officers in Belfast.

Mr. SLOAN asked the Chief Secretary for Ireland to explain why the position of constabulary medical officer recently vacant in one of the divisions of Belfast had not been filled in the usual manner; and to give the name had been allocated.—Mr. necessary to fill the vacai dical men is now done by . Maguire, and Dr. O'Brien.

TUESDAY, FEB. 21ST.

Maintenance of the Insane.

Mr. FLYNN asked the Chief Secretary for Ireland whether he had

introduce such legislation.

Cancer in India.

Answering Mr. WEIR, Mr. BRODRICK said: Medical officers in India are now required to record every case of cancer coming under their observation and to send a copy of the record to the Cancer Research Fund. The reports of the Fund will show the prevalence of the disease in the different provinces so far as this can be ascertained from the data thus collected.

Underfed Children.

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ANSON replied: It is not intended to make any proposal for adding to the existing powers of local authorities in the matter referred to.

Recommendations of the Physical Deterioration Committee.

versial character.

Juvenile Smoking.

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BOOKS, ETC., RECIEVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, W.C.

Bad Kissingen as a Health Resort. With Notes on the Diseases Most Benefited by its Baths and Mineral Waters. By A. Rosenau, M.D. Wurzburg, L.R.C.P. Lond., Member, British Medical Association, &c., Physician at Bad Kissingen. Price not stated.

CHURCHILL, J. AND A., 7, Great Marlborough-street, W.

A

Issued by the Medical Officers of Schools Association. Price 1s.

F. A. DAVIS COMPANY, 1914-16, Cherry street, Philadelphia.

Text-book of Insanity based on Clinical Observations. For Practitioners and Students of Medicine. By Dr. R. von Krafft-Ebing, late Professor of Psychiatry and Nervous Diseases in the University of Vienna. Authorised translation from the last German Edition, by Charles Gilbert Chaddock, M.D., Professor of Diseases of the Nervous System in the Marion-Sims-Beaumont College of

Medicine, Medical Department of St. Louis University, St. Louis, Mo. With an Introduction by Frederick Peterson, M.D., President of the New York State Commission in Lunacy. Price, extra cloth, $4.00 net; half-russia, $5.00 net.

FIFIELD, ARTHUR C., 44, Fleet-street, E.C.

Richard Jefferies: His Life and His Ideals. By Henry S. Salt, Author of "The Life of Henry David Thoreau," &c. New and cheaper edition. Price 1s. 6*d*. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BLETSOE, J. H., M.B., B.S. Lond., has been appointed House Surgeon to Out-patients at St. Thomas's Hospital.

BRADFORD, A. B., M.B., B.S. Durh., has been appointed Senior Ophthalmic House Surgeon at St. Thomas's Hospital.

BRODRIBB, F. A., M.R.C.S., L.R.C.P., has been appointed Resident House Physician at St. Thomas's Hospital.

CARPMAEL, N., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed to the Skin Department at St. Thomas's Hospital.

CARVER, N. C., B.C. Cantab., M.R.C.S., L.R.C.P. Lond., has been appointed Junior Obstetric House Physician at St. Thomas's Hospital.

CHAPMAN, WALTER, M.B., B.Ch. Birm., L.R.C.P. Lond., M.R.C.S., has been appointed Public Vaccinator for the Fourth District of the Totnes (Devon) Union.

COOK, HERBERT G. G., M.D. Lond., F.R.C.S. Eng., D.P.H. Camb., has been appointed Medical Officer to H.M. Prison at Cardiff.

COUTTS, D. K., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to Out-patients at St. Thomas's Hospital.

DEAN, H. R., M.B., B.Ch. Oxon., has been appointed House Physician to Out-patients at St. Thomas's Hospital.

DOUGLAS-CRAWFORD, DOUGLAS, M.B. Edin., F.R.C.S. Eng., has been appointed Honorary Consulting Surgeon to the Liverpool Dental Hospital.

DREW, J. H., M.R.C.S., L.R.C.P. Lond., has been appointed to the Ear Department at St. Thomas's Hospital.

EVANS, H. W., M.R.C.S. Eng., L.R.C.P. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Littleport District of the county of Cambridge.

FOOTNER, G. R., M.R.C.S., L.R.C.P. Lond., has been appointed Resident House Surgeon at St. Thomas's Hospital.

FOWLER, F., M.R.C.S., L.R.C.P. Lond., L.S.A., has been appointed to the Electrical Department at St. Thomas's Hospital.

GIBSON, A. G., M.B., B.Ch. Oxon., B.Sc. Lond., has been appointed Resident House Physician at St. Thomas's Hospital.

GRAY, R. E. G., M.R.C.S., L.R.C.P. Lond., has been appointed Resident House Surgeon at St. Thomas's Hospital.

HAWARD, W., M.B., B.S. Durh., has been appointed to the Skin Department at St. Thomas's Hospital.

HAWES, G. C. B., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Pangbourne and Whitchurch District of the counties of Berks and Oxford.

[illegible] R.C.P. Lond., has been appointed to [illegible] Thomas's Hospital.

[illegible], has been appointed House Physician [illegible] s's Hospital.

KENT, PERCY WHEELER, M.R.C.S., L.R.C.P., D.P.H. Camb., has been [illegible] County Police at Barry.

KIS[illegible] has been appointed Resident [illegible] tal.

KNA[illegible], L.R.C.P. Lond., has been [illegible] Surgeon to the Huddersfield Infirmary.

LANGLEY, G. J., M.B., B.S. Lond., has been appointed to the Throat Department at St. Thomas's Hospital.

MILLS, F. A., M.B., B.C. Cantab., has been appointed Assistant Anæsthetist to the Royal National Orthopædic Hospital.

MILSOME, H. B., M.D. St. And., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Chertsey District of the county of Surrey.

[illegible] L.R.C.P. Lond., has been appointed to the [illegible] Thomas's Hospital.

[illegible] R.C.S., L.R.C.P. Lond., has been appointed [illegible]-patients at St. Thomas's Hospital.

[illegible] has been appointed Senior [illegible] mas's Hospital.

[illegible], D.P.H. Camb., has been [illegible] of Guildford.

POPE, GEORGE STEV[illegible] P.S. Glasg., has been appointed M[illegible] nerset and Bath Asylum, Wells.

TAKAKI, K., M.R.C.S., L.R.C.P., has been appointed Resident House [illegible] Hospital.

[illegible] R.C.P., has been appointed to the X-ray [illegible]'s Hospital.

THOMPSON, R. J. C., M.R.C.S., L.R.C.P. Lond., has been appointed [illegible]

VAU[illegible]

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Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BETHNAL GREEN INFIRMARY.—Third Assistant Medical Officer. Salary £100 per annum, with board, lodging, and washing.

BIRKENHEAD BOROUGH HOSPITAL. — Assistant Honorary Medical Officer.

BIRKENHEAD UNION, INFIRMARY, WORKHOUSE, AND SANATORIUM.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

CARLISLE, CUMBERLAND INFIRMARY.—Resident Medical Officer Salary at rate of £80 per annum, with board, lodging, and washing.

CHELTENHAM GENERAL HOSPITAL.—Junior House Surgeon, unmarried. Salary £50 per annum, with board and lodging. Also Surgeon-in-Charge (unmarried) of Branch Dispensary. Salary £90 per annum, with board and lodging.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Resident Medical Officer. Salary £100 per annum, with board, &c. Also Pathologist. Salary 100 guineas per annum Also Two House Physicians for six months. Salary at rate of £30 per annum, with board and residence.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £25 per annum, with board and washing.

DURHAM COUNTY HOSPITAL.—House Surgeon. Salary £120, with board and lodging.

EAST LONDON HOSPITAL [illegible] Women, Shadwell, E.—Medica[illegible] Salary at rate of £100 per annum, [illegible] rgeon for six months. Honorarium £25, with board, residence, &c.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Physician to Out-patients Also Eight Qualified Clinical Assistants, out-patient department.

GLASGOW, ROYAL HOSPITAL FOR SICK CHILDREN.—Resident House Surgeon. Salary £50 per annum, with board and laundry.

GREENOCK INFIRMARY.—Assistant House Surgeon. Salary £40 per annum, with board and residence.

HAMPSTEAD GENERAL HOSPITAL.—Resident Medical Officer for six months, renewable. Salary at rate of £120 per annum and allowance for rooms.

KENSINGTON WORKHOUSE AND INFIRMARY, Marloes-road.—Second Assistant Resident Medical Officer. Salary £80 per annum, with apartments, board, and washing.

LICENSED VICTUALLERS' ASYLUM, Asylum-road, Old Kent road, London, S.E.—Medical Officer. Salary £200 per annum.

LINCOLN COUNTY HOSPITAL.—Senior House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House Surgeon for six months. Salary £30, with board and lodging.

LONDON HOSPITAL, Whitechapel, E.—Assistant Surgeon.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £50 per annum, with board and residence.

MEDICAL DEPARTMENT OF THE NAVY, 18, Victoria street, London, S.W.—Three Dental Surgeons. Salary £1 per diem.

MIDDLESBROUGH, YORKSHIRE, COUNTY BOROUGH ASYLUM.—Medical Superintendent. Salary £450 per annum, with house, rates, taxes, &c.

MIDDLESEX HOSPITAL, W.—Second and Third Assistants to the Director of the Cancer Research Laboratories. Salaries £125 and £100 respectively.

MORTLACH PARISH, Dufftown, Banffshire.—Medical Officer. Salary £35 per annum and fees.

NATIONAL HOSPITAL FOR THE RELIEF AND CURE OF THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—Assistant Physician for Out-patients.

NORFOLK AND NORWICH HOSPITAL.—Second Assistant House Surgeon for six months. Honorarium £20, with board, lodging, and washing.

QUEEN'S JUBILEE HOSPITAL, Earl's Court, S.W.—House Surgeon for six months, renewable. Salary at rate of £52 per annum, with board, residence, and laundry.

READING, ROYAL BERKSHIRE HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with board, lodging, and washing.

ROYAL EAR HOSPITAL, Dean-street, Soho.—Honorary Assistant Anæsthetist.

STOCKPORT INFIRMARY.—Assistant House and Visiting Surgeon. Salary £80 per annum, with board, washing, and residence.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Casualty Medical Officer. Salary £50 per annum.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancie[illegible] the Factory and Workshop Act at [illegible] Carmarthen; at Staveley, in the c[illegible] Gortin, in the county of Tyrone.

Births, Marriages, and Deaths.

BIRTHS.

GOMEZ.—On Feb. 15th, at The Cottage, South Petherton, Somerset, the wife of F. J. Gomez, M.R.C.S., L.R.C.P., of a son.

HARVEY.—On Feb. 17th, at 117a, Queen's-gate, S.W., the wife of Sidney Harvey, of a son.

KNAPP.—On Feb. 13th, at Garth, Broxbourne, Herts, the wife of Captain H. G. Knapp, I.M.S., of twins—son and daughter.

DEATH.

[illegible]-avenue, Folkestone, Lieut.-Col. [illegible] late of the R.A.M.C. and York [illegible] th year.

Notes, Short Comments, and Answers to Correspondents.

THE STERILISATION AND PRESERVATION OF FOODS BY CARBONIC ACID GAS.

[illegible] 50 years ago it was recognised that [illegible] cided antiseptic properties no serious [illegible] lse this gas for the practical purpose of preserving milk or other foods There are obvious objections to the use of certain chemical agents for preserving purposes, but to carbonic acid gas these objections in the main do not apply. Carbonic acid gas may, of course, be easily expelled if need be from the preserved food prior to consumption, while it could do the organism no harm if swallowed with the food Soda-water or water under pressure of carbonic acid gas is not poisonous nor does it have any decided physiological effect comparable with that produced by boric acid, salicylic acid, benzoic acid, fluorides, or formaldehyde The gas, however, can only be successfully employed for preserving purposes after every particle of air in the food has been displaced This is [illegible] Hemming of Kent Cottage, [illegible] a special aerating machine [illegible] a pressure of carbonic acid gas in such an effectual way as to exclude air altogether. The result in the case of milk is, according to our observation, to preserve the fluid effectually. We have, at any rate, examined *samples of milk* so treated which had been left in bottle for six weeks At the end of that time the milk showed no signs of decomposition and the fluid was perfectly uniform, no separation of curd having taken place. The taste was sweet and good and indistinguishable from that of fresh milk. Even oysters may be preserved in this way and saccharine fluids and beef juices keep well under a pressure of pure carbonic acid gas The process has the undoubted advantage that the article of food to be preserved is never in contact with metal fittings—the aeration is, in fact, effected in the bottle In this way the method of aeration differs entirely from that generally adopted in the preparation of aerated waters, in which the gas and water are brought intimately together in a carbonator and then [illegible] ne method [illegible] physical [illegible] sterilisa [illegible]

THE REJECTION OF A FELLOW PRACTITIONER'S OPINION

To the Editors of THE LANCET.

SIRS,—My attention has been dr[illegible] above heading. In justice to myself [illegible] ment that I admitted declining to foll[illegible] as to treatment The facts, as I stat[illegible] The woman developed unfavourable [illegible] H W Joyce was [illegible] that the case wa[illegible]

[illegible] Hospital, who, after her return to town early next morning, had the case under her personal supervision until the removal of the patient to the infirmary [illegible]

I am, Sirs, yours faithfully,

CATHERINE CHISHOLM, B.A., M.B., Ch.B. Vict

Albert Bridge road, Battersea, Feb 20th, 1905

*** We have had an interview with Miss Chisholm and as a consequence are happy to publish her letter. The coroner's jury could not have understood the circumstances and Miss Chisholm's attitude has been misinterpreted She did not notify the case as one of [illegible] medical profession and it is particularly hard upon her to receive a public rebuke for self sufficiency on the threshold of her career.—ED L.

THE ADMINISTRATION OF ANÆSTHETICS BY DENTISTS.

WE have received a letter asking us if a registered dentist not necessarily holding any save a dental qualification can legally administer anæsthetics. As far as legality goes in the strict sense of the word anyone can administer anæsthetics so long as his purpose is not [illegible] be given by properly qualified medical practitioners. The registered dentist as such is not in a position to conduct the administration of anæsthetics. We all know that nothing is easier than to produce anæsthesia upon a healthy subject in favourable circumstances but nowadays at least we all recognise that the procedure may be a most difficult and dangerous one, one which should not be undertaken by any save a fully qualified medical man who has experience.

AN EXTRAORDINARY PROPORTION OF FEMALE BIRTHS

To the Editors of THE LANCET.

SIRS,—Of 55 births recorded during last year in Carson City, Nevada, only one was a male The causes underlying the differences in sex (if, in fact, there are any causes other than chance) are not only matters of great interest but of importance as well. Carson City, where this extraordinary proportion of female births occurred, has in its population a much greater proportion of males than almost any other city in the States, it being a western mining town. Can it be that this is an effort of nature to correct the ratio? If so, has this circumstance been observed elsewhere? I am, Sirs, yours faithfully,

Albany, N Y, Feb 9th, 1905 BARRINGTON KING.

EMPIRE LINEN MESH FABRIC.

THIS fabric, formerly known as Kneipp linen mesh, has been improved with respect to its value as a material suitable for underwear In future, we are informed that the York street Flax Spinning Company, Limited, of Belfast, which has a London agency at 2, Milk street, E C, intends to call the material Empire linen mesh. *We have already pointed out the advantages of this interesting* material The Empire linen mesh is a knitted elastic fabric which, while keeping the body warm and comfortable, freely allows of the escape of perspired products To the individual who has been accustomed to wear wool next to the skin the material at first feels relatively cool but after a time this feeling disappears and a woollen material if subsequently worn feels somewhat heavy and oppressive by contrast. The fabric is exceedingly cleanly in use and a proof of its ventilating property is afforded in the fact that unlike woollen garments it is not stained or destroyed by the perspiration at the armpits

FLANNELETTE

To the Editors of THE LANCET.

SIRS,—With respect to Mr S Bradbury's interesting letter I may [illegible] be bought retail [illegible] a yard. I do not [illegible] xcessive, but this [illegible] r varieties than this firm stocks are sold, but if so, where? If flannelette can be satisfactorily and permanently rendered fireproof at the cost of 1*d* a yard let the State buy up and abolish the patent rights and then forbid the sale of the inflammable form I am, Sirs, yours faithfully,

Feb. 17th, 1905 A SURGEON

THE R E D BROTHERHOOD

TH[illegible] ls, sends us a [illegible] if ever a title [illegible] matter of fact, the sanguinary confraternity have only entered into a league to prevent boys under 16 years of age from smoking. Believing that it is unwise and wrong to let small boys make rash promises not to smoke until they are 21, the founder of the society has fixed the age at 16 years In his letter he rightly says "Boys do not want sermons, nor do they need to have harrowing pictures of their internal economy shown to them We [illegible] matter when they see [illegible] book issued by the soci[illegible] make prigs of the boys but to form a good healthy opinion among the boys themselves" These two quotations clearly indicate the lines upon which the Rev B S Low is working and we wish him every success in his undertaking The evils of smoking have been so exaggerated that anti tobacco pronouncements have lost much of their force, their inaccuracy being so obvious. But no boy needs the influences of tobacco and all boys are better without the acquisition of a habit that if indulged in excessively may be very mischievous The title of the brotherhood is explained by the following motto [illegible]

THE KING AND THE DEVONSHIRE HOSPITAL.

IT will be remembered that a few months ago His Majesty the King visited the Devonshire Hospital, Buxton, and promised to give that [illegible] trusted [illegible] ad the [illegible] ts it is [illegible] in our [illegible] al with [illegible] h sli fe [illegible] under the portion of the table upon which the patient lies The top of the table, the head rest, and the foot rests can be set to any angle by pressing a lever which in the case of the two latter portions actuates a locking bolt. The top of the table is fixed by a rachet and pawl. The table itself has four legs, two of which are provided with wheels about four inches in diameter, while the other two are plain and can be adjusted in height by a kind of levelling screw. When standing on the two plain feet and the two wheeled ones the table is practically immoveable, but when it is desired to move it the two plain feet can be lifted off the floor and a single leg provided with a wheel brought into action. The table then standing on three legs can be easily moved. Altogether it is a well-devised piece of apparatus.

AN IMPROVED HAMMOCK FOR INVALID RAILWAY TRAVELLERS.

THE means at present adopted by railway companies for the conveyance of their invalid passengers are greatly in need of improvement and we welcome any attempt which has for its object the comfort and convenience of the sick or infirm traveller. On Feb. 17th Miss M. C. Horne exhibited at the terminus of the Great Central Railway an improved form of hammock which, so far as a stationary carriage allowed it to be tested, would seem to possess certain advantages. The improvements in the hammock, which otherwise differs but little from the ordinary canvas form, consist chiefly in (1) a bolster affixed transversely midway between the head and the foot of the hammock; and in (2) flaps running along either side of the hammock for the purpose o more conveniently covering the occupant and as a means of holding hot-water bottles. In use the hammock is first affixed by means of a brass attachment to one side of a carriage between the door and the window, the canvas being allowed to lie along the seat of the carriage. The invalid is then assisted to the hammock, the bolster serving the purpose of a seat and preventing the patient from slipping out of position. The foot of the hammock is then raised and fixed in position at the opposite side of the carriage. Across the under side of the hammock and parallel with the bolster is a strap which is attached to both sides of the carriage, its object being to prevent lateral movement. It is said that beyond a slight rocking movement in the direction of the length of the body but little vibration is felt by the patient, but we cannot speak from personal experience of actual travelling. It has been suggested by one railway company that the cost of the appliance would work out at four third-class fares, plus 2*s.* 6*d.* for the loan of the hammock. This would be a moderate charge and would enable many invalids to take advantage of the railway as a means of transit who cannot do so now on account of prohibitive fares. Should the new hammock prove on more thorough trial to possess the advantages claimed for it, including, of course, cheapness, one obvious use to which it might be put would be to send hospital patients to convalescent homes sooner than it is possible to do now and thus to set free many beds.

PRESCRIBING AT RANDOM.

To the Editors of THE LANCET.

SIRS,—My attention has been called to a paragraph in your valuable paper wherein you comment somewhat adversely upon the action of the Potters' Insurance Co., Limited, who recently issued to all the certifying surgeons a circular letter calling their attention to two samples of mouth wash specially prepared for the use of workers in lead processes. As the original maker of the first of these mouth washes—which I gave the name "Fo-Mo" to—permit me to say that in order to prevent what you designate as "random prescribing" I shall be delighted to send the formula to any member of the profession on receipt of card. I may say that "Fo-Mo" contains none of the ingredients mentioned in your paragraph and that, with the exception of 2 per cent. acid. carbolic., it is *purely vegetable*, as stated on my label. While admitting the capability of a medical man to prescribe suitable mouth washes I would point out the *in*ability for any chemist to make up the prescriptions at the price we sell "Fo-Mo," and as working men are to use it the price must be within their reach. The gentleman who has so strongly recommended it to the notice of his colleagues was fully aware of the constituents of the preparation and I can only marvel at the lack of confidence in his recommend.

I am, Sirs, yours faithfully,
GEO. SWINNERTON, M.P.S.

Stafford street, Longton, Feb. 17th, 1905.

⁂ We may point out to Mr. Swinnerton that we did not mention the names of the washes. We said that according to our analysis the one contained wintergreen, boric acid, and other ingredients. We continued: "In the other carbolic acid appeared to be the chief constituent." "The other" was Fo-Mo.—ED. L.

MALADVERTISEMENT.

WE have received from the Managing Director of the Capsuloid Company, Limited, a protest in respect of a paragraph published on Jan. 21st under this heading. The managing director says that it is quite untrue that his company has made use of our notice of their wares "to publish or at any rate to hint that THE LANCET has recommended capsuloids for falling out and prematurely grey hair." Our opinion to the contrary was founded on the fact that we have received communications at this office asking, in view of the advertisements of the Capsuloid Company, Limited, whether capsuloids are good for baldness. The error into which the public has fallen has been brought about by the wording of the advertisements and this we now learn from the managing director the company "have not the slightest hesitation in changing."

THE CASE OF DR. A. D. GRIFFITHS.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me to acknowledge the receipt of the following additional contributions?—Amount previously acknowledged, £38 15*s.*; Dr. W. M. Harman, £1 1*s.*; and Mr. Edward L. N. Hopkins, 10*s.* 6*d.*

I am, Sirs, yours faithfully,
ALEXR. P. FIDDIAN, Treasurer.

23, The Walk, Cardiff, Feb. 21st, 1905.

◆

T. B.—Our correspondent is strongly advised not to take the course that he proposes. The amount of carelessness displayed must be a matter of question and we have not heard the version of the locum-tenent, but if the principal makes himself the accuser he will run serious risks. Moreover, in our opinion, whatever he may feel it his duty as principal to say to the locum-tenent he is not justified in exciting public prejudice against him.

T. L.—Our correspondent's question is too vague to answer definitely. As a rule in examining for the thermal death-point of microbes the culture of the organism to be tested is examined at temperatures of between 50° and 65° C., the organism being exposed to such temperatures for a period of ten minutes. Spores, of course, are more resistant than is the organism itself.

Tic.—It seems to us that the matter is one for mutual arrangement. No agreement between principal and assistant would be likely to take such a contingency into consideration so that no definite rule exists on the matter. Our feeling is in favour of the principal receiving the money and defraying the assistant's expenses.

M.R.C.S., L.R.C.P.—1. Our correspondent would not be justified in allowing a layman to treat patients by means unknown to himself; if the means are unknown there can obviously be no medical supervision. 2. Certain details of medical treatment can be, and often are, carried out by laymen under medical supervision.

Poupart.—We agree with our correspondent's views, but it would be a mistake not to recognise the arguments in favour of having the post-mortem examinations occasionally performed by an outsider. We have already noticed the situation.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (1st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (2nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.).

SATURDAY (4th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (27th).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M. Council. 8 P.M. Casual Communications:—Mr. S. P. Mummery: A Reliable Method of Bleaching Teeth —Mr. F. Morley: A Case of Gangrene of the Lung following Tooth Extraction. Paper:—Mr. A. Hopewell Smith: Some Rare Anomalies of the Teeth (illustrated by slides and microscopic preparations).

MEDICAL SOCIETY OF LONDON (11, Chandos street, Cavendish square, W) —8.30 P M Papers:—Dr A. H N Lewers: An Analysis of

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Fi.

Dr McCardie)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c

and Moral Insanity

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen square Bloomsbury, W C) —3 30 P M Dr R Russell Syringo myel a

NORTH EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital N) —3.30 P M Demonstration —Dr H Corner General Paralysis of the Insane at Colney Hatch Asylum, New Southgate, N

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W) —5 P M Prof K Pearson Some Recent Biometric Studies

WEDNESDAY (1st) —MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22 Chenies street W C) —4 P M Mr C Ryall Clinique (Surgical) 5.15 P M Dr L Williams Dyspepsia and its Treatment

POST GRADUATE COLLEGE (West London Hospital, Hammersmith road W)—5 P M Dr Beddard Practical Medicine

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn road, W C) —5 P M Demonstration Dr Abercrombie Nose

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton) —3 P M Dr Wethered The Treatment of Chronic Cardiac

AND POLYCLINIC

inson Clinique

lache, its Causes,

l, Hammersmith

Demonstration

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7 Fitzroy-square, W) —5 P M Lecture Dr T D Lister Bronchial Affections of Children I Primary (Post-Graduate Course.)

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone road, N W) —3 P M Dr Roberts: Cases from the Wards

THE HOSPITAL FOR SICK CHILDREN (Gt Ormond street W C) —4 P M Lecture —Dr Penrose Cardiac Disease in Children

FRIDAY (3rd) —MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies street W C) —4 P M Mr E Clarke Clinique (Eye)

POST GRADUATE COLLEGE (Hanwell Asylum) —3 P M Insanity at the Epochs of Life

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen square, Bloomsbury, W C) —3 30 P M Dr R Russell Cerebellar Disease

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street W) —9 P M Chevalier G Marconi Recent Advances in Wireless Telegraphy

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "To THE EDITORS" and not in any case to any gentleman who may be supposed to be connected with the Editorial staff It is urgently necessary that attention be given to this notice

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor"

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager"*

We cannot undertake to return MSS not used

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol II of 1904, which was completed with the issue of Dec 31st, and the Title page to the Volume, were given in THE LANCET of Jan 7th

VOLUMES AND CASES

VOLUMES for the second half of the year 1904 are now ready Bound in cloth, gilt lettered, price 18*s*, carriage extra

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METEOROLOGICAL READINGS.

(Taken daily at 8 30 a m by Steward's Instruments)

THE LANCET Office, Feb 23rd, 1905.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rain fall	Solar Radia in Vacuo.	Maximum Temp Shade.	Min. Temp.	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Feb 17	30 06	S W		82	53	48	47	49	Overcast
" 18	30 21	W		82	52	39	41	42	Fine
" 19	29 90	N W		58	51	40	38	40	Fine
" 20	29 97	N	0 05	67	41	33	31	34	Fine
" 21	30 33	N E	0 18	70	45	34	37	39	Fine
" 22	30 34	E		74	44	35	35	37	Cloudy
" 23	30 13	N E	0·01	39	39	36	36	37	Overcast

During the week marked copies of the following newspapers have been received —*Guernsey Advertiser and Weekly Chronicle, Westminster Gazette, Engineer, Welsh Coast Pioneer, Richmond Herald, Glasgow Herald Freeman's Journal The Scotsman, Highland News Evening News, Morning Leader Manchester Courier, Sussex Daily News, Dublin Times, Birmingham Post Notts Guardian, Dublin Express, Bradford Observer, Hereford Mercury, Sanitary Record, Local Government Chronicle Mining Journal Bath Weekly Argus, Glasgow Evening Times, Surrey Advertiser, &c*

not occur till after birth and is therefore easily studied, the epithelium lining their conjunctival sac remaining as a single layer until after separation has taken place.

THE MANNER AND DATE OF SEPARATION OF THE EYELIDS IN THE HUMAN FŒTUS.

In looking up the literature of this subject I was at once struck by the number of different dates given by various authors for the separation of the lids, varying from the seventh month till shortly before birth. When we remember that a certain number of living children are born at the seventh month and reflect that these children are not born with closed eyelids like the cat or dog we realise that there must be a fallacy somewhere. The age and length of the fœtuses examined were as follows:—

Length.	Approximate age.	Condition of lids.
24 c.m.	Fifth month.	Lids separated.
21½ c.m.	" "	" "
20 c.m.	" "	" "
11 c.m.	Fourth month.	Lids joined, separation commencing anteriorly, growing-out of eyelashes.
9 c.m.	" "	" "
7 c.m.	Third month.	Firmly united.
4½ c.m.	Tenth week.	Primary union just taking place.

The above fœtuses were examined both macro- and microscopically. The description of the condition of the lids and conjunctiva in the ten weeks' fœtus (four and a half centimetres) I have already given. A fœtus of the third month (seven centimetres) showed the eyelids firmly united together by epithelium, with downgrowth of the epithelium from the junction of the lids commencing to form the Meibomian glands and hair follicles, the former appearing rather before the latter. During the early part of the fourth month (fœtus nine and 11 centimetres) the eyelashes grow out from between the closed lids and materially assist in the separation of the anterior portion of the union, which is the first to yield, the uniformity of the curve of the lashes being produced by the impinging of the growing lash on the opposing eyelid.

I think that cases of congenital trichiasis[3] may be accounted for by irregularity or mal-union of the lids, allowing the lashes to grow out straight without impinging on the opposite eyelid and so altering the direction of the follicle as to produce non-uniformity of the curve. After separation of the anterior part of the junction of the lids there is a degeneration of the epithelial cells of the posterior parts of the union, better seen in the cat about the third day after birth than in the human embryo. Final separation takes place by degeneration of the epithelium in the mesial portion of the junction, which is therefore the last to yield.

It has already been seen in the snake that the portion of the conjunctival sac which is permanently closed is lined by a single layer of epithelium of embryonic character. In the cat (third day after birth) the epithelium over the surface of the bulbar conjunctiva remains as a single layer until separation of the lids has taken place (ninth day), so I think it may be taken that thickening of the bulbar conjunctiva is positive evidence of separation having taken place. This thickening of the conjunctival epithelium I found took place in fœtuses over 20 centimetres in length—viz., at the beginning of the fifth month, the thickening taking place first, and spreading from the epithelial bond of union between the eyelids. Another argument in favour of the thickening of the epithelium being due to the separation of the lids is the fact that when the lids have failed to unite, as occurs in cases of clefts of the lids or in cases where the lids are completely absent (cryptophthalmos), the epithelium is very much thickened, so much so that it resembles skin. Thus I think the comparative frequency of the so-called dermoid patches of the conjunctiva so often associated with deformity of the eyelids is explained. Further evidence that the lids have separated at the fifth month is found in the fact that the Meibomian glands are actively secreting at that date and it is possible to squeeze secretion from them; microscopically this secretion is made up of fatty material with a quantity of epithelial cells.

DESCRIPTION OF THE CONJUNCTIVA AT BIRTH.

The following observations were based on the examination of three healthy fœtuses at full term in a good state of preservation. When the child is born the eyelids are tightly closed, the skin being thrown into numerous wrinkles and covered with a fatty material. The margins of the lids are usually in contact with each other, but occasionally the upper lid is found overlapping the lower.

The epithelium.—Over the lower part of the tarsus this is much thicker than it is in the adult conjunctiva, owing, no doubt, to its close proximity to the margins of the lids, in which thickening first begins. It is here some five cells in thickness and is the only situation in which it is thicker than in the adult, and, like the rest of the epithelium of the conjunctiva, there is an absence of any flattened epithelial cells on the surface, the cells being cuboidal in shape. On the anterior part of the retro-tarsal fold the epithelium is only from two to three cells in thickness, being much thinner than the adult epithelium in that region. That of the bulbar conjunctiva is again not so thick as that of the adult, but next to the epithelium covering the tarsus it is the thickest part of the epithelium of the conjunctiva at birth. In the fornices at the bottom of the folds the cells show signs of mucoid change to such an extent that in the three cases examined the basement membrane was completely bare in places and would have allowed a ready entrance of organisms to the subconjunctival tissues. The corneal epithelium is about three cells in thickness, but to compensate for this there is a great thickening of the substantia propria, both in comparison to the thickness of the sclera and to that of the adult cornea. The subconjunctival tissue in the region of the bulb contains a quantity of elastic fibres which are finer than those in the adult conjunctiva. There does not seem to be any elastic tissue in the sub-epithelial conjunctival tissue covering the tarsus.

In the fornices the subconjunctival tissue is very loose and rich in blood-vessels and lymphatic spaces but there is a complete absence of leucocytes which do not appear until after birth when the fornices become filled with mononuclear leucocytes and a few plasma cells which spread later to the subconjunctival tissue covering the tarsus. In other lymphoid tissue, such as the tonsil, mononuclear leucocytes are present for several weeks before birth and are evidently produced from the cells of those structures. In the conjunctiva, therefore, the lymphoid tissue is probably the result of irritation and is of new formation. This will be discussed in more detail when dealing with the histological changes in inflammatory affections of the subconjunctival tissue.

There is a small point in the anatomy of the fornix to which I wish to draw attention. At the extreme inner end of the upper fornix the loose lymphoid tissue ends in a triangular fold which can only be demonstrated by dividing the eyelids and turning them back; it is seen to be connected with the main fornix by a very narrow band. This is not an uncommon situation for polypoid tumour, which in the case I have examined consisted of lymphoid tissue covered by epithelium. Several of these tumours have been described under different nomenclature, such as supernumerary caruncle. They arise from this triangular piece of lymphoid tissue becoming œdematous and then being nipped between the globe and the eyelid. That this was the case was shown to me in the following way. In examining a number of stillborn children I found one in which during a difficult labour hæmorrhage had taken place into this small mass of loose tissue, with the formation of a red polypoid mass which protruded from between the eyelids; on section it simply consisted of a mass of blood-clot covered by epithelium.

The glands opening on to the surface of the conjunctiva, with the exception of the mucous glands, seem to be inactive. The secretion of tears from the lacrymal gland does not take place until some time after birth. There are no glands of Henle present at the time of birth, these being formed subsequently as the result of irritation.

THE HISTOLOGICAL CHANGES IN THE CONJUNCTIVA AS THE RESULT OF INFLAMMATION.

The epithelium.—The changes in the epithelium depend on whether it is kept moist by the lacrymal secretion or whether it is allowed to become dry. If moist the cells proliferate and undergo greatly increased mucoid changes, being cast off in large numbers in the discharge. The exudation into the subconjunctival tissue causes the surface epithelium to be thrown into folds between papillary formations so that two epithelial surfaces lie in contact with each other, and it is the cells of these surfaces which show the most extensive mucoid change, commencing at the bottom of the folds, causing some irregularity of the basement membrane and giving the appearance of new gland formation. The glands of Henle are of this type, the regularity of their formation along the upper margin of the tarsus being due to this being the situation in which the fixed palpebral conjunctiva joins the loose conjunctiva of the fornix, where folding is more liable to take place; a large gland of this type is often seen at the inner end of the tarsus (E. T. Collins).[4]

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[3] Stephenson: Transactions of the Ophthalmological Society, vol. xiv.

Although this is perhaps the most common way in which the so-called new glands of the conjunctiva are formed there may be observed near the junction of the moist and dry epithelium a somewhat different modification, which occurs in conditions due to exposure and to chronic inflammation, such as ectropion, secondary xerosis, and papillomata of the conjunctiva which have been exposed in the palpebral fissure. As the result of this exposure the epithelium becomes thickened and dips down into the subepithelial tissue in the form of papillæ. Mucoid degeneration of the epithelial cells in the centre of these papillæ takes place with the formation of a flask-shaped mucous gland.

The openings of these new mucous glands are often occluded by epithelial débris, with the result that the lower end becomes distended and forms a cyst. These cysts on the palpebral conjunctiva are extremely common and one conjunctiva may contain many thousands of them. They are lined by more or less flattened epithelium three or four cells deep and contain epithelial débris which is sometimes calcified; on the bulbar conjunctiva they are comparatively rare but when they occur they are usually single and appear as transparent cysts containing clear fluid; they are lined by epithelium having many tuft-like processes, the cells of which are undergoing mucoid change and supply the fluid for the interior of the cyst.

If the epithelium be dry, as in cases of ectropion, the cells proliferating still remain attached to the underlying epithelium and undergo a process of keratinisation with the formation of keratin, keratohyalin, and prickle cells. The basement membrane becomes irregular and processes of epithelium dip down into the subconjunctival tissue, forming papillæ. In fact, the epithelium of the conjunctiva which is exposed resembles very closely in structure the true skin, with the exception of the absence of glands, hair follicles, &c.

Of great interest is the fact that when again moistened, as after an ectropion operation, the epithelium goes back to resemble macroscopically its former state, probably in consequence of softening of the superficial layers, with subsequent mucoid change in the deeper layers. From this it seems that the presence of lacrymal fluid is necessary to the formation of mucin by the epithelial cells. As the condition [illegible] this drying of the epithelium it [illegible]

[illegible] —Xerosis is usually described as divided into epithelial or primary xerosis and essential shrinking of the conjunctiva or secondary xerosis. Pathologically the changes in the epithelium may be looked on as identical, except that those in the essential shrinking form are much more marked and are characterised by the formation of papillæ. Both conditions are due to drying of the epithelium owing to the absence of lacrymal secretion. In epithelial xerosis the lacrymal secretion is deficient owing to general malnutrition, whilst in the essential shrinking form the deficiency is due to chronic inflammation of the subconjunctival tissue, which contracts around the orifices of the lacrymal ducts, or possibly in some cases to primary degeneration of the gland. As a result of the deficiency of lacrymal secretion the epithelial cells seem unable to form mucin, as in ectropion; this fact and the changes resulting from it will be shown in greater detail immediately while describing the two forms of xerosis.

The primary form of epithelial xerosis.—In a paper read before the Ophthalmological Society[5] last year I gave a detailed account of six cases of this disease which I had had the opportunity of examining both clinicallly and histologically. The chief conclusions arrived at were:—1. That the minute bubbles seen on the surface of the plaques were due to the beaten-up Meibomian secretion. 2. That the xerosis bacillus was simply a saprophyte growing in the Meibomian secretion similar to the smegma bacillus growing in the preputial secretion and was not found in the tissue of the conjunctiva. 3. That the change in the epithelium was one of keratinisation, prickle cells, keratohyalin granules, and keratin being found in it. 4. That as a result of keratinisation and absence of mucoid change in the cell the surface tension of the conjunctiva was raised and therefore [illegible] not moisten the surface but [illegible] secretion containing the so- [illegible] e.

[illegible] *or essential shrinking of the conjunctiva.*—It is extremely doubtful if this trouble ever occurs as a primary disease but is always secondary to some form of chronic inflammation which at the time that the disease appears may not be active—as, for instance, in the case of pemphigus when quiescent.[6] Besides pemphigus it follows trachoma, lupus, burns, and cicatrices of the conjunctiva—in fact, any disease leading to drying of the conjunctiva, either by direct invasion of the lacrymal gland or by blocking of its ducts from cicatricial contraction. The change in the epithelium is similar to that previously described in epithelial xerosis but, in addition, papillæ of epithelium are formed by the downward growth of the epithelium into the underlying tissue. A case of this kind has been recorded by E. Treacher Collins,[7] which showed papillæ similar to those formed after the exposure of the epithelium in ectropion. In a case of lupus associated with essential shrinking I found similar changes in the epithelium.

The condition of the underlying subconjunctival tissue depends on the cause of the disease. In trachoma the trachomatous follicle may be present. In lupus typical giant-celled systems with epithelioid cells, &c., are found; in pemphigus, fibrous tissue. The plaques seem especially to pick out the more scarred portions of the conjunctiva. In three cases following on trachoma which I have had the opportunity of examining the changes in the epithelium were exactly similar to those described under epithelial xerosis with the exception that the basement membrane in one case was extremely thick, the keratinised layer being also very thick. Adherent to the surface was a definite membrane formed of Meibomian secretion and epithelial débris. In one case the whole lower palpebral conjunctiva was covered with this membrane which was very adherent and when scraped off re-formed in a few days. To this class I believe belong some of the cases classed as membranous conjunctivitis with persistent membranes.[8]

Before passing to the description of the diseases of the subconjunctival tissue it is necessary to describe in more detail the character of the cells found in the subepithelial layer of the normal conjunctiva.

Description of the cells forming the subepithelial layer.—These consist of three varieties: (1) those of hæmic origin; (2) those derived from the connective tissue; and (3) those of uncertain origin.

CELLS OF HÆMIC ORIGIN.

[The staining reaction and character of the polynuclear leucocytes (neutrophiles) were then described.]

Spider cells.—Spider cells are cells of curious branching shapes which are in reality polynuclear leucocytes fixed in the process of amœboid movement. That this is their origin seems evident because: (1) they are found principally at the edges of sections where immediate fixation of the tissue would result when placed in the fixing agent; (2) when examined carefully their elongated nucleus can be made out; (3) they are found principally in sections of acute inflammatory processes where polynuclear cells are seen; (4) if the tissue is not fixed rapidly these cells are not seen to nearly the same extent; and (5) they are found especially in the denser tissue where they cannot assume their rounded shape.

[The character and origin of the poly-eosinophile and basophile were then discussed.]

Connective tissue cells.—Connective tissue cells in the conjunctiva are of two types: those of the (*a*) *deeper layer*, which are elongated and of a wavy outline and arranged parallel to the surface. With Pappenheim's method the nucleus stains pale blue, with the nucleolus staining bright red. The cytoplasmic tails also stain pale red. In this layer of the normal conjunctiva there are, comparatively speaking, no other cells but these, except perhaps an occasional plasma cell or leucocyte. (*b*) In the *superficial layer* the cells become of a much larger type and stain more darkly. Their shape is oval and the protoplasm is better marked. The nucleus and protoplasm stain blue, with a bright red nucleolus. They have often no tails or only very small ones.

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[4] Private communication.

[5] Transactions of the Ophthalmological Society, 1904.

[6] W. Lang, A. Critchett, and H. Juler: Transactions of the Ophthalmological Society, 1895.

[7] Transactions of the Ophthalmological Society, vol. x., 1890, p. 62.

[8] S. Morton and E. T. Collins: Transactions of the Ophthalmological Society.

The endothelial and perithelial cells of the blood-vessels are flattened in the capillaries of the superficial layers of the connective tissue in the normal conjunctiva. They stain dark green, like some of the connective tissue cells, with red nuclei. Directly any proliferation takes place they become larger and more rounded in shape, either bulging into the lumen of the blood-vessel or protruding externally. Their cytoplasm takes up the pyronine of the Pappenheim stain much more readily. They migrate into the surrounding tissue undergoing mitosis and when in that stage are indistinguishable from a plasma cell from which I believe this cell is derived. Against this it must be remembered, as has been pointed out by Whitfield, that there is no distinctive stain for plasma cells and that any young cell takes on a basic staining reaction and that therefore the recognition of a plasma cell also depends on the characteristic appearance of its nucleus which is destroyed by the mitosis taking place. But this point, I think, shows the possibility of the formation of a plasma cell from the endothelium or perithelium of vessels. These round, darkly staining, migrating endothelial cells seem to be identical with the cells called clasmatocyte by Ranvier and Marchand, which name therefore I shall adopt in speaking of them. The endothelial cells are also strongly phagocytic and often contain cell inclusions.

Cells of doubtful origin.—*Lymphocytes* are divided into large and small, the large cell being the smaller cell in a more highly developed state. Their nucleus stains dark blue with Pappenheim's method whilst the cytoplasm stains pale red. They are formed in the follicles of the lymphatic glands, probably from their endothelial lining, and from there are carried in small numbers into the blood stream, but, unlike the polynuclear leucocytes, they are not increased in the blood in inflammatory conditions (absence of chemiotaxis), although enormous numbers are found at the site of inflammation, so that they must be produced locally by rapid division of the few cells brought by the blood stream as is held by some observers or else from the endothelium of the part which, I think, is most probable.

The relation of the large mononuclear leucocyte to the lymphocyte is at present doubtful. But since they are found together in all situations in which they occur and the staining reaction of their cytoplasm being the same, although the nucleus is of a slightly different shape, I think that they probably belong to the same generic type. The large mononuclear leucocyte is very difficult to recognise in tissue, it being confused, on the one hand, with the clasmatocyte and, on the other, with the large lymphocyte. Even in smear preparations of the fluid taken from serous cavities it is often difficult to distinguish between the wandering endothelial cells and the mononuclear leucocyte, although this difficulty is not admitted by some of the authorities. It is therefore obvious that its recognition in the tissue is so much the more difficult. It is admitted by all pathologists that the lymphocytes and the large mononuclear cells are intimately related to the plasma cell and are always found together, although one may be in excess.

Plasma cells.—Of all the cells found in the body perhaps none has given rise to so much discussion with regard to its origin as the plasma cell. Unna, who brought this cell into so much prominence, holds that it is derived from the connective tissue. Other observers say that it is derived directly or indirectly from the lymphocytes. Although the plasma cell has perhaps been given undue prominence it is without doubt one of the most important cells in conjunctival inflammation. It is found normally in small numbers in the conjunctiva beneath the epithelium, and its numbers are greatly increased in all inflammatory affections, especially of the more chronic type, such as trachoma. Its situation when present in large numbers is chiefly around the vessels and hence its position in the superficial layers of the subepithelial tissue. It seems to be slightly amœboid but not nearly to the same extent as the polynuclear leucocytes. When stained by Pappenheim's method the cytoplasm stains a uniform dark red without granules, whilst the nucleus stains dark blue and is very granular, containing a nucleolus which stains red. There are always to be found cells which pass in staining reaction into the lymphocytes, on the one hand, to which they are very closely allied, and into the endothelial or perithelial cells on the other.

In addition to the above cells which are found in normal conjunctivæ there are two types of cells which are formed only in inflammatory conditions.

Epithelioid cells.—These cells are found in trachoma, tubercle, leprosy, syphilis, &c., and are arranged around the foci of the disease. Outside them there is always a layer of mononuclear leucocytes from which they are most probably derived by the action of the toxins on the mononuclear leucocytes. In structure they are intermediate between the wandering endothelial cells (clasmatocytes) and the large lymphocytes.

Giant cells.—Giant cells in the conjunctiva are of two types: 1. The chorioplaques, which are derived from the plasma cells, most probably by incomplete division of the cytoplasm. These cells are found in all inflammatory conditions of the conjunctiva. 2. Giant cells proper. The giant cells proper are always more or less rounded in the conjunctiva, owing to the laxity of the tissue and are derived from the endothelial cells by division of the nuclei, with imperfect division of the protoplasm. These cells are probably due to the action of the toxins producing cell monstrosities. They occur frequently in all chronic inflammatory conditions of the conjunctiva around foreign bodies, &c., the conjunctiva having a great proclivity to form this cell. Like the endothelial cells they are also phagocytic. These two types of giant cells stand in the same relation to one another as the endothelial and plasma cells from which they are derived.

The Erasmus Wilson Lectures

ON

PERITONITIS, A BACTERIOLOGICAL STUDY.

Delivered before the Royal College of Surgeons of England on Feb. 20th, 22nd, and 24th, 1905,

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LECTURE II.[1]

Delivered on Feb. 22nd.

The Bacteriology of Appendicitis.

Mr. President and Gentlemen,—This subject has been investigated by numerous observers but the most important communications are those by Tavel and Lanz in 1893 and 1904. The valuable contribution to the bacteriology of this subject which they made in 1893 has formed the basis upon which most of the work of the present day rests. It is most unfortunate, however, that so much time has been given to the bacteriology of appendix abscesses as it was hardly probable that the actual cause of appendicitis would be found by examining the contents of an offensive abscess cavity. There is no doubt that the chief interest in this subject centres around the *colon bacillus*. At one time it was thought that this was the most important organism in the etiology of peritonitis, whether due to appendicitis or otherwise. Other observers adopted an entirely different view—namely, that the colon bacillus is an organism which is very easy to cultivate and grows very rapidly and, therefore, the more delicate but more virulent organisms are never isolated. This idea has become widely popular and is the view which is generally accepted at the present day. *In 1898 Veillon and Zuber announced* that they had sufficient evidence to show that certain [illegible] most important part in the [illegible] Tavel and Lanz in their [illegible] give support to the views of Veillon and Zuber. Hewetson published a preliminary paper on the bacteriology of peritonitis and failed to find any evidence to show that anaerobic organisms were of any importance in appendicitis. It has already been stated that many people hold that the colon bacillus outgrows the more delicate micro-organisms which are most concerned in the bacteriology of appendicitis. It is the streptococcus pyogenes, the pu[illegible] which are supposed [illegible] cillus coli.

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[1] Lecture I. was published in The Lancet of Feb. 25th, 1905, p. 473.

The r[illegible] to appendicitis.—Those who have devoted time to the study of this subject must have met with cases which were due to this coccus but no one has been able to do more than suggest that the streptococcus pyogenes is a common organism in this disease. It is true that some of the older writers considered that almost every case of peritonitis was due to the streptococcus pyogenes but a complete bacteriological investigation was seldom made and it is extremely doubtful if there was sufficient evidence to support this idea. It is impossible to be certain of the nature of some of the micro-organisms which have been described in cases of appendicitis as "streptococci," because this does not by any means imply that the organism in question was the streptococcus pyogenes. In all our cases we have made every effort to prove the nature of the organism which we were investigating. Cover-slip preparations and aerobic and anaerobic cultures of the peritoneal exudate were made in the large proportion of cases. In every instance in which we found chains of cocci in film preparations of the pus or peritoneal fluid we also grew the organism on artificial media. It can therefore be said that if there was no evidence of the *streptococcus pyogenes by any of the* methods which we employed it was extremely unlikely that the organism was present.

E. M. Corner appears to be of the same opinion as Harvey Cushing, and many others, who hold that the streptococcus is usually lost in artificial cultures because, he says, "although that (streptococcus) is one of the most widely distributed of organisms it is very easily killed and lost in mixed cultures and may literally vanish before a member of the colon group." It is hardly probable, however, that we should have failed to find a streptococcus in either the film preparations of the pus or in the various cultures employed in each case. Experience does not teach us that the streptococcus pyogenes dies out or cannot be isolated in the presence of the colon bacillus. It is true that in some cases of appendix abscess cocci have been present in cover-slip preparations of the pus, when the organisms have not been cultivated. We do not attach any importance to this fact as the pus in these abscesses may contain numerous micro-organisms which are never cultivated, in fact, the pus in these abscesses sometimes appears to contain enormous numbers of micro-organisms of every shape and size, because we are *merely examining the contents of the intestine.* If, however, diffuse peritonitis supervenes on a case of appendix abscess there is never any difficulty in isolating the micro-organisms which are in the peritoneal cavity, provided, of course, that the bowel contents are not free in the general cavity. If this occurs we have an exactly similar condition to which we have already referred. There is not a single instance among our cases in which the streptococcus pyogenes was obtained from the peritoneal cavity in acute diffuse non-perforative peritonitis due to appendicitis. If the streptococcus pyogenes is the important organism in appendicitis which Cushing, Corner, and others would have us believe, then we ought to have found it in some of the instances of this variety of peritonitis, which we have not been able to do. Here is the direct proof which has long been wanted and it shows that the streptococcus pyogenes is seldom present in the peritoneal exudate in appendicitis. In conclusion, we would like to point out still further that in those cases of peritonitis in which the streptococcus pyogenes is found in the peritoneal cavity the prognosis is practically hopeless. If this organism were, therefore, frequently present in the peritoneal exudate in appendicitis the mortality would be very much higher than it is at present.

The pneumococcus.—Barbacci, Kregius, and others have stated that they considered that the pneumococcus was an important organism in the bacteriology of perityphlitis, while J. H. Bryant has offered the suggestion that the pneumococcus might possibly be found to be a very important organism in this disease, if only a more careful search were made. J. Eyre has found the pneumococcus quite recently in the interior of the appendix from a case of acute appendicitis. Veillon and Zuber and others have obtained *a pure culture of the pneumococcus from* the peritoneal exudate in cases of appendicitis. In one of our instances of appendix abscess we isolated the pneumococcus with the colon bacillus. This is the only case in which we cultivated the pneumococcus either from the pus in the appendix abscess or in the peritoneal exudate in peritonitis associated with appendicitis. There is little doubt that if the pneumococcus was the important organism in appendicitis which it has incorrectly been assumed to be we should have obtained pure cultures of the organism from the peritoneal exudate in some of our cases quite apart from the presence of the coccus in a localised abscess. The usual tendency of the pneumococcus is to produce diffuse peritonitis without any of the changes which are met with in perforative peritonitis. In the case of appendicitis described by Veillon and Zuber there was a large quantity of greenish-white, thick, non-offensive pus present in the peritoneal cavity. We have not seen a single example of appendicitis of this nature.

The pathogenic staphylococci.—Tavel and Lanz were the first to demonstrate clearly that the pathogenic cocci might be the cause of "perityphlitis." It is, however, to Corner that the credit is due of first pointing out their great importance in this disease. In appendicitis, he says, "it seems not improbable that the origin of the acute cases of appendicitis lies with the septic organisms, which injure the tissues and so give the colon bacilli their opportunities." We read throughout the literature of appendicitis and also of peritonitis from other causes the expression "staphylococci" used in the very *widest sense.* It should *not* be necessary to have to mention that it is impossible to obtain any information from such a statement as "staphylococci were present." If all staphylococci were of the same pathogenicity perhaps such a loose terminology might be of little moment, but this is not so. The pathogenic properties of the staphylococcus pyogenes aureus are infinitely greater than those of any of the other staphylococci and even the white staphylococci show all grades of pathogenic virulence. It is unnecessary to produce any further proof to show how incorrect it is to describe various micro-organisms in this manner.

We quite agree with Corner that the "staphylococci" play the most important part in the bacteriology of appendicitis. It has already been shown that the white staphylococci are the most important organisms in many other varieties of peritonitis and we have evidence to show that the same is true of appendicitis. The staphylococcus pyogenes aureus appears to be an organism of much virulence in peritonitis and is thus in direct contrast to the white staphylococcus. There is, however, a still further point to remember, that all cultures of the staphylococcus *pyogenes aureus* do not react in the same manner, as some are very much more virulent than others. It will also be found that a typical culture of the staphylococcus pyogenes aureus may lose all its chromogenic properties when it is subcultured for the first time and Dr. W. Dowson has observed the opposite effect. We have found that the chromogenic properties of this organism and the degree of pathogenicity increase in about the same ratio. There is one fact which appears to be quite certain, that there are many intermediate varieties of staphylococci between the white and the golden coccus.

The results of our experiments with the various white staphylococci obtained from the peritoneal exudate in all cases of peritonitis have been described elsewhere. Although various strains of this coccus were injected into the peritoneal cavity of numerous guinea-pigs we failed to produce suppurative peritonitis in a single instance, and this is exactly what is found to occur in the human peritoneum. It is for this reason that if the white staphylococcus has been isolated from the peritoneal exudate in peritonitis it has usually been considered to be due to "contamination," or that the coccus at least has had an epithelial origin and has had nothing whatever to do with the bacteriology of peritonitis. We, however, have good reason to believe that this view is incorrect. We have found the white staphylococcus in almost every variety of peritonitis; it is by far the most common organism met with in the peritoneal exudate at a distance from the site of origin of the acute lesion and is frequently found in the peritoneal cavity in "the interval cases" of appendicitis. The important bearing which it is found to have on the prognosis of a case of peritonitis, when present in the peritoneal exudate alone or some time previously to the arrival of the colon bacillus, cannot be over-estimated. It does not appear to have any influence in the prognosis of those cases which are due to the streptococcus pyogenes or bacillus pyocyaneus.

We have obtained exactly similar results experimentally. If we injected the white staphylococcus into the peritoneal cavity of a guinea-pig together with the colon bacillus the coccus was found to have effect in preserving the life of the animal in only a few instances. If, however, we injected the coccus into the peritoneum some 20 hours previously to the colon bacillus most striking results were obtained. The guinea-pig which had been inoculated in this way either recovered or lived for several days, finally dying from some cause outside the peritoneal cavity, while control animals inoculated with the same strain of the colon bacillus, the same dose, and in the same manner, died within 24 hours. It is impossible to lay too much stress on these important observations which not only show that this coccus is of the utmost significance in peritonitis but that it has an entirely opposite effect to that which was expected, in fact, we have another illustration of the great service which micro-organisms may render to man and to animals.

We next proceeded to ascertain the action of this white coccus in cases of peritonitis. We used the guinea-pig for this purpose, as we had used it for all our other experiments. We injected definite quantities of a culture of the staphylococcus albus obtained from the peritoneal exudate in a case of appendicitis into the peritoneal cavity of guinea-pigs and examined the exudate at regular intervals. This fluid from the guinea-pigs' peritoneum, which had been injected 15 minutes, one hour, two hours, and 24 hours respectively, was carefully examined. These results are fully described hereafter but it is sufficient to state here that this coccus caused a very large number of leucocytes to appear in the peritoneal cavity of these animals, but while the injections of the colon bacillus carried out in an exactly similar manner also produced similar results the phagocytes were degenerated within one hour from the time of inoculation in the latter case but appeared to be perfectly healthy at the end of 24 hours after injecting the white staphylococcus. There was also much more peritoneal exudate after injecting the coccus than the bacillus. From these data it will be seen that the chief results which arise from injecting the white coccus into the peritoneal cavity of animals are the production of an extensive phagocytosis and also, although we made no attempt to prove this, a selective action of the body fluids. If the colon bacillus and the staphylococcus albus are injected into the peritoneal cavity of an animal at one and the same time it is found that the phagocytes are degenerated just as if the bacillus was injected alone.

The staphylococcus albus, when present in the peritoneal cavity in peritonitis, has, therefore, a definite function to perform and is not a "mere skin contamination" as some would have us believe. The fact that a patient's serum has a marked agglutinative action towards this coccus isolated from the peritoneal cavity in some of these cases of appendicitis is still further proof that the white staphylococcus bears an important relation to peritonitis.

Professor Welch delivered an address before the Congress of the American Physicians and Surgeons in 1892, entitled "Conditions underlying the Infection of Wounds." It was at this address that Professor Welch first drew attention to a white staphylococcus—the staphylococcus epidermidis albus. He directed our attention to the work of Bumm, Garré, Waterhouse, and others who have shown that "large numbers of the pyogenic cocci can be injected into human tissues without effect." These observations are of very great importance in the light of recent work. We have shown similar results from our experiments but with some important distinctions. It is true that there was "no effect" to the naked eye unless a very careful examination was made of the tissues of the inoculated animal or human being, but if an examination of the tissues is made we find that a very decided effect has been produced. Professor Welch clearly shows in his lecture that the white staphylococcus plays a very important part in the healing of an aseptic wound, and still further he refers to a case of peritonitis in which this coccus was found to play an important part. In a fatal case of "hystero-myomectomy" a volvulus of the ileum was found at the necropsy. There was a fibrino-purulent peritonitis present corresponding to the peritoneum covering the ileum, and a pure culture of the white coccus was obtained from the inflamed peritoneum. In concluding his excellent paper Professor Welch expressed the opinion that the white staphylococcus which is found so frequently in aseptic wounds, in stitch abscesses, and in the skin is an attenuated variety of the staphylococcus albus. We have already given our opinion as to whether we consider the white coccus which we have found with such regularity in peritonitis is the same organism as the staphylococcus epidermidis albus of Welch. We should mention here, however, that a stitch abscess is very seldom seen in the wards of St. Thomas's Hospital, although the white coccus has been so frequently isolated from the peritoneal cavity in peritonitis.

Anaerobic micro-organisms and their relation to appendicitis.—Veillon and Zuber published a paper in 1898 on the bacteriological findings of 22 cases of appendicitis. They drew attention to the importance of certain anaerobic organisms which they considered to be the most important organisms concerned in the bacteriology of appendicitis. They described altogether six micro-organisms—namely, the bacillus fragilis, bacillus ramosus, bacillus perfringens, bacillus fusiformis, bacillus furcosus, and the staphylococcus parvulus. All these organisms were found to be strict anaerobes, pathogenic to animals, and constantly present in the pus of appendix abscesses and in the general peritoneal cavity in cases of peritonitis. These observers considered that gangrene of the appendix and the offensive odour of the pus in appendix abscesses were due to these organisms and their toxins gave rise to the toxæmia which was the cause of death in appendicitis. This important communication produced a considerable amount of discussion and many considered that much of the previous work on appendicitis was valueless owing to the investigations of Veillon and Zuber. Tavel and Lanz in their latest communication on the bacteriology of appendicitis appear to have come to a somewhat similar conclusion. They place considerable importance on the presence of the bacillus pseudo-tetanus which is the same organism as the bacillus fragilis of Veillon and Zuber and also to a class of anaerobic bacilli which they describe as the bacilli of malignant œdema. We can state at the outset that we entirely disagree with the results of the investigations to which we have just referred. We employed strict anaerobic precautions in a very large percentage of the cases of appendicitis which we have examined and also in other varieties of peritonitis but failed to find these anaerobic organisms except in one instance. This was an example of appendix abscess in which the appendix was found to be gangrenous. The bacillus coli, a streptococcus, and the bacillus aerogenes capsulatus of Welch were present in the abscess. This anaerobic bacillus was obtained in pure culture from the surface of agar plates incubated under strict anaerobic precautions in Bulloch's jar. The bacillus produced extensive bloody emphysematous œdema when inoculated into the subcutaneous tissues of a guinea-pig and the emphysematous œdema spread very rapidly through the entire subcutaneous tissues of the animal and produced death in 24 hours. The organism was present in pure culture in the subcutaneous tissues of the animal. When it was injected into the vein of a rabbit and the animal was killed two minutes later and then placed in the incubator at 22° C. for 24 hours, certain changes were found which are specifically characteristic of this bacillus. The rabbit was found to be about twice the original size, the eyes were protruding from the animal's head, and there were general subcutaneous emphysema, foaming viscera, free gas in the blood, and emboli of bacilli throughout the various internal organs. Professor Welch considers that the organism is capsulated but we have always failed to demonstrate a capsule to the bacilli obtained directly from the tissues. This bacillus is described by Veillon and Zuber as the bacillus perfringens and is classified as one of the bacilli of malignant œdema by Tavel and Lanz. It is most unfortunate that these investigators should have adopted this classification, as Professor Welch has proved beyond question that the important organism in so-called malignant œdema or emphysematous gangrene is the bacillus aerogenes capsulatus, an entirely different bacillus from the bacillus of malignant œdema, which was considered on the continent to be the cause of emphysematous gangrene until Professor Welch published his important communication. We have dealt with this point more fully in a paper recently brought before the Pathological Society of London on Emphysematous Gangrene of the Extremities.

The case from which we isolated Welch's bacillus made an excellent recovery. The weakest point in the paper by Veillon and Zuber, which appears to have escaped attention, is that if an organism such as the bacillus aerogenes capsulatus was frequently present in the peritoneal cavity in cases of appendicitis, *as they have stated, emphysematous gangrene* of the bowel should be a common lesion instead of an interesting curiosity in pathology, the same condition should be found to occur in the abdominal wall, which is not so, and foaming viscera should be frequently seen at the necropsies on cases of appendicitis, instead of which there has only been one instance of this condition in the post-mortem records of St. Thomas's Hospital for 1904. These few points and our own investigations on the bacteriology of appendicitis are sufficient to show that the work of Veillon and Zuber is only of interest owing to the exceptional results which they obtained. Hewetson, in the communication to which we have already referred, has also failed to confirm the work of Veillon and Zuber.

In almost every case of appendicitis large numbers of cocci, bacilli, and spirilla are present in the film preparations of the appendix abscess which are not cultivated; the contents of these abscesses are simply the intestinal flora in a great many instances.

Bacillus pyocyaneus.—It was originally considered by Koch that this bacillus was non-pathogenic. We now know that it may be extremely pathogenic to man and is often one *of the most virulent of all known micro-organisms to the* small laboratory animals. Cultures of this bacillus do, however, vary considerably in their pathogenic properties. The only question which we wish to discuss here is the relation of this organism to peritonitis. It appears to be extremely virulent when present in the human peritoneal cavity. It does not produce the green pus in the peritoneum such as is often seen in a local abscess. In fact, one is led to believe that virulent cultures of the bacillus which kill patients in a few days do not usually produce any chromogenic staining of the pus although the bacillus may produce large quantities of pigment when grown on artificial media. We have never yet seen green pus in the peritoneal cavity of man or animals even after exposure to the air for some minutes. We consider that the bacillus pyocyaneus will in the large majority of cases cause death when present in the peritoneal cavity and is only less virulent than the streptococcus pyogenes in the fact that it takes a little longer to cause death.

The bacillus coli and its relation to the cause of appendicitis.—In every variety of appendicitis which we have studied the colon bacillus is the most important pathogenic organism in a large proportion of the cases. In nearly every instance, however, we have found *more than one strain of this bacillus* to be present—either in the abscess, peritoneal exudate, or elsewhere. This fact is very important, as the various strains of the bacillus coli isolated in each case have not the same pathogenic virulence. We have found that when this organism is present in the interior of the vermiform appendix in an interval case, although the acute illness may have been some weeks previously, yet the bacillus coli will [illegible] ly as a [illegible] cavity [illegible] om this [illegible] omy in the quiescent period the colon bacillus is allowed to escape into the peritoneal cavity probably fatal peritonitis will ensue in an exactly similar manner as if the operation had been done during the acute attack. In one instance we isolated a virulent strain of the colon bacillus from a very small abscess situated in the wall of the appendix just beneath the peritoneal coat. There had not been any acute symptoms in this case for eight weeks [illegible] yet the peritoneum might e[illegible]

Everyone who has studi[illegible] must have been struck with t[illegible] pyocyaneus has been isolated from a case of appendicitis or, in fact, any case of peritonitis, the colon bacillus has been absent. We have performed a large number of experiments which show that the colon bacillus will not grow in the presence of the bacillus pyocyaneus. If both organisms are inoculated into an animal we only recover the bacillus pyocyaneus. Exactly similar results are obtained when we attempt to isolate the bacillus coli after it has been inoculated into a tube of bacillus pyocyaneus. These experiments are fully described elsewhere, but it is important to refer to them here as it is still further proof that the colon bacillus not only does not outgrow every other organism but that it cannot even exist in the presence of the bacillus pyocyaneus.

The colon bacillus appears to be less virulent than the bacillus pyocyaneus when present in the peritoneal cavity *in peritonitis and is certainly much less virulent than* the streptococcus pyogenes. If present alone in the peritoneal exudate "at a distance" then the prognosis is extremely grave, while if the phagocytes are all degenerated then the prognosis is practically hopeless. If this organism is present together with the staphylococcus albus then the prognosis is less grave, although still very bad; if, however, the staphylococcus albus has been present in the peritoneal exudate some hours before the colon bacillus then a patient suffering from diffuse peritonitis has a far better chance of recovery. We have only given a few of the chief points concerning the relations of the colon bacillus to peritonitis, as a detailed account of our work will be given elsewhere.

POST-OPERATIVE PERITONITIS.

If the literature of the bacteriology of peritonitis as a whole is scanty, that of this particular form is, for obvious reasons, still more so. Excluding most of the cases in which the bacteriological examination has been made post mortem as being of little value, we are reduced to the few instances in which the examination has been made from material *obtained at a second operation.* In 1895 Cullen investigated four cases of fatal post-operative peritonitis but, unfortunately, all post mortem. The operations were all pelvic ones and proved fatal—two on the third day, one on the sixth, and one on the eighth. The organisms isolated were, in one case, the streptococcus pyogenes and the colon bacillus; in another the staphylococcus aureus and the bacillus pyocyaneus; in the third the staphylococcus aureus; and in the fourth the staphylococci aureus and albus. It should be noted that the cases in which the streptococcus pyogenes, the bacillus coli, and the bacillus pyocyaneus were found were the most rapidly fatal. These cases, occurring within a short interval of one another in the practice of one operator, were attributed to defective catgut. It is, however, difficult to believe that catgut which had undergone any sort of cleansing whatsoever could contain all these virulent organisms, and the fact that the material was obtained post mortem detracts from the value of the observation, but we are of opinion that these cases are really of the same class as one of hysterectomy in our series in which the bacillus pyocyaneus was found and which will again be referred to. Manahan in 1903, investigating 19 cases of peritonitis from various causes, examined only one post-operative case ante mortem. This was a case of enterectomy for carcinoma where the abdomen was reopened on the third day for peritonitis. Both films and cultures from the exudate showed the streptococcus pyogenes and the colon bacillus. We have examined seven instances, six from material obtained at a second operation and one within four hours of death. Of these cases, two were local intraperitoneal abscesses and the rest were instances of diffuse peritonitis.

Two cases of appendicectomy during a quiet interval.—The first concerned a man, 31 years of age, *who had had two* attacks of appendicitis, one seven months and one three weeks before admission. The appendix was removed 15 days after admission. *At this time no swelling could be felt,* the pulse and the temperature were normal, and the patient felt in perfect health. There were some vascular adhesions and a little cheesy material about the appendix which was strictured and contained a concretion. The appendix was removed by the clamp method—that is, without opening its lumen—and the abdomen was closed. On the same evening the pulse was 108 and the temperature was 100·2° F. 12 hours later the pulse was 112 and the temperature was 100·4° and at midday on the second day they were respectively 132 and 101°. The abdomen was now rigid [illegible] percussion note over the right [illegible] nited frequently *and looked very* [illegible] operation the abdomen was re-[illegible] universal redness and distension of the intestines was found, whilst turbid odourless fluid bathed them everywhere and flakes of lymph lay amongst the coils. The inflammation was most intense in the cæcal region. There was no leakage from the buried stump. The abdomen was washed out and drained and intravenous saline infusion was performed, but death took place 44 hours after the first operation. Films of the exudate showed enormous numbers of the polynuclear cells, streptococci, and diplococci. Cultures from near the cæcum and at a distance both gave a pure growth of the streptococcus pyogenes; anaerobic cultures remained sterile. Ten cubic centimetres of the blood taken from the basilic vein at the operation gave a pure growth of the streptococcus pyogenes.

The second case occurred in a boy, 12 years of age, who had had an appendix abscess drained two months previously. He returned from a convalescent home in perfect health and with the wound healed. The appendix was found free from adhesions but strictured and exhibiting the scar of an old perforation. It was removed by the clamp method and the abdomen was closed. The peritoneum appeared perfectly healthy and cultures taken from its surface proved sterile. Within a few hours the boy became extremely ill and soon showed signs of diffuse peritonitis which became worse with extraordinary rapidity. Death occurred 40 hours after the operation. Films and cultures were taken within four hours of death. The films showed endothelial cells only and no organisms. Cultures from the exudate and from the surface of the gut gave a pure growth of the streptococcus pyogenes. Unfortunately the blood was not examined in this case.

The strain of the streptococcus pyogenes obtained from the peritoneal cavity in the first case presented the typical cultural characters of this coccus. It formed very long chains when grown in broth and stained well by Gram's method. The organism did not, however, grow anaerobically. This is, of course, an exception to the general rule in the life-history of the pyogenic cocci. This streptococcus was injected into the peritoneal cavity of a mouse and proved to be highly pathogenic. The organism was recovered from the spleen of the animal and was present in scrapings of this organ in very large numbers. The strain of the streptococcus pyogenes, which was isolated from the basilic vein, was found to be similar in every detail to the organism which had been isolated from the peritoneal cavity in the same case.

It will be noticed that there were no organisms seen in the peritoneal exudate of the second case of streptococcic peritonitis. The streptococcus which was isolated in this instance was similar in most respects to the organism which had been obtained from the peritoneal exudate and from the patient's blood in the first case, but with these exceptions, namely, that this coccus was a facultative anaerobe and that it was found to be non-pathogenic to mice. It has now been frequently demonstrated that a streptococcus which has been proved to be highly pathogenic to man may yet fail to produce any effect in animals and this is well illustrated by the instance which we have just quoted. In the first of these examples the streptococcus which was highly pathogenic to mice failed to kill a rabbit or even to have any pathogenic properties. These facts are very important when we come to consider that one of the first antistreptococcic sera to be placed on the market was obtained from a strain of the streptococcus pyogenes which had been isolated from one of the lower animals, not from a human source.

The film preparations of the peritoneal exudate which were examined in both instances serve to illustrate one very important point—viz., that the cells in the peritoneal cavity were found to be apparently healthy. It is true that in the second case we did not find any organisms but in the first case large numbers of streptococci were present. If, however, we examine the cells present in the peritoneal cavity in a case of peritonitis due to the colon bacillus both the polynuclear and mononuclear cells are always found to be degenerated. There may be some of the cells in a healthy state of preservation but the large majority are degenerated beyond recognition. This fact cannot fail to be of importance; we know that the body cells are actively phagocytic in cases of peritonitis due to the colon bacillus but only slightly so in those instances which are due to infections with the streptococcus pyogenes. It may be partly owing to this fact that in those cases of peritonitis due to the streptococcus pyogenes death occurs so very rapidly, much more so than in the case of any other known micro-organism.

With the colon bacillus free in the peritoneal cavity the prognosis is sufficiently bad, but with the streptococcus pyogenes it appears to be hopeless, and this in spite of the presence in one of these cases of enormous numbers of phagocytes which seem to be powerless against this virulent infection. We take the view that these cases are instances of infection at the operation, not from the stump of the appendix but from outside. If we adopted the theory of stump infection we should have to explain why the colon bacillus was not present; why two cases should have been due to an organism which is rarely found in appendicitis but which, when present, is of greater virulence than even the virulent colon bacillus; and why they should have recovered, the one from a catarrhal attack and the other from an abscess, and yet have retained within the appendix a streptococcus in such a state of virulence as to kill within 48 hours. Again, if these cases were due to a blood infection it is hardly possible that there would be the evidence of intense peritonitis so very soon after the original operation. If, however, the infection of the peritoneum is the primary lesion and the blood infection is secondary, as we suggest, then we have an explanation of what, to our mind, probably occurs in many fatal cases of peritonitis.

The bacillus pyocyaneus in post-operative peritonitis.—In a case of hysterectomy death was due to diffuse peritonitis caused by the bacillus pyocyaneus. Supravaginal amputation for fibromyomata had been done and the after progress was satisfactory for three days, after which the temperature began to rise and by the twentieth day there was a definite localised pelvic abscess. This was opened through the peritoneal cavity; its walls were formed partly by inflamed and distended intestine. The pus, which was thick and non-smelling, showed polynuclear cells, Gram-positive cocci and bacilli, and Gram negative bacilli. The clear fluid present in the peritoneal cavity beyond the abscess proved to be sterile, whilst the pus gave, both aerobically and anaerobically, a pure growth of the bacillus pyocyaneus. Death from diffuse peritonitis occurred eight days after the second operation. The necropsy showed universal purulent peritonitis. Ten cubic centimetres of blood taken from the basilic vein shortly before death grew the streptococcus pyogenes and the staphylococcus albus. In this instance the fatal infection of the peritoneum doubtless occurred by the opening of the abscess. Where the bacillus pyocyaneus came from in the first instance is doubtful. Possibly it was from the interior of the uterus but more probably it came from the inflamed intestine which formed part of the wall of the abscess. The absence of the colon bacillus is accounted for by its cultural relationship with the bacillus pyocyaneus, which has already been explained. In another instance the colon bacillus was found in a localised abscess after colotomy for acute obstruction. Death occurred from diffuse peritonitis.

We have three examples of staphylococcus infection. One patient had had gangrenous omentum removed from a strangulated hernia three weeks previously. The wound had been drained, had suppurated, and had healed. A localised intraperitoneal abscess around the omental stump yielded the staphylococcus albus, aureus, and citreus. The patient recovered. In another instance a large localised intraperitoneal abscess formed 14 days after myomectomy. The pus yielded a pure culture of the staphylococcus aureus and the patient recovered. In another case enucleation of a necrotic uterine fibromyoma was followed 14 days later by signs of diffuse peritonitis. The lower part of the abdomen contained a fibrino-purulent exudate from which the staphylococcus albus was obtained in pure culture both aerobically and anaerobically, whilst the films showed cocci only. The abdomen was washed out and drained. Death occurred three days later and at the necropsy it was found that the peritonitis involved only the lower half of the abdomen.

SEPTICÆMIC PERITONITIS.

We apply the term septicæmic to those cases in which the peritoneal infection is a secondary event and due to organisms brought by the blood stream. Although there is no absolute proof we consider that there is sufficient evidence to justify a belief in this manner of infection. There is little doubt that pneumococcic peritonitis is most frequently an infection by means of the blood stream, as Dudgeon and Branson have shown to be the case in most pneumococcic infections in children.

Streptococcic peritonitis.—Of this variety of septicæmic peritonitis we have examined two cases. The first instance occurred in a child aged seven months who was admitted for diffuse erysipelas. The whole cutaneous surface was at one time or another involved. On the tenth day of the illness the symptoms and physical signs of peritonitis appeared from which the child died within 24 hours.

Experiment 1.—One and a half cubic centimetres of a 24 hours' broth culture of the staphylococcus albus were injected into the peritoneal cavity of a guinea-pig; the animal was killed and the peritoneal fluid was examined 24 hours later.

Fresh drop of peritoneal fluid.—Enormous numbers of phagocytes. Very small amount of free fluid. No signs of peritonitis to the naked eye.

Film Preparations of the Peritoneal Fluid Stained by Leishman's Method.

	Total number.	Percentage.		
[illegible]	424	84·8		
[illegible]	1	0 2	73	14 6
[illegible]	72	14·4		
Large hyaline cells	1	0 2		
Eosinophiles	1	0·2		
Transitional cells	1	0·2		
	500	100·0		

The finely granular polynuclear cells in the guinea-pig's blood correspond to the polynuclear neutrophiles in human blood and are similar cells except that the granules in the guinea-pig's blood are eosinophilic. Most of the large mononuclear cells were vacuolated, most of the polynuclear cells were degenerated, while all these cells and the large mononuclear cells were phagocytic. Numerous endothelial cells were present in the film preparations but they were not included in the differential count.

Experiment 2.—One and a half cubic centimetres of a 24 hours' broth culture of the staphylococcus albus were injected into the peritoneal cavity of a guinea-pig. The animal was killed 15 minutes later and the peritoneal fluid was examined. A large amount of perfectly clear fluid was present in the peritoneal cavity. A hanging drop of the peritoneal fluid showed large numbers of leucocytes which were apparently phagocytic.

Film Preparations of the Peritoneal Fluid Stained by Leishman's Method.

	Total number.	Percentage.
Finely granular polynuclear cells	8	2·0
Small mononuclear cells	103	25 75
Large mononuclear cells	75	18 75
Coarsely granular eosinophiles	*214*	*53·5*

No less than *131* of the coarsely granular eosinophilic cells were phagocytic while many of these cells contained numerous cocci.

Experiment 3.—One and a half cubic centimetres of a 24 hours' broth culture of the staphylococcus albus were injected into the peritoneal cavity of a guinea-pig. The animal was killed an hour later and the peritoneal cavity was examined immediately after death. A large amount of clear fluid was present. No signs of peritonitis were visible. A hanging drop of the peritoneal fluid showed large numbers of leucocytes, many more than were present in a drop of the fluid from the guinea-pig's peritoneum in Experiment 2.

Film Preparations of the Peritoneal Fluid Stained by Leishman's Method.

	Total number.	Percentage.
Finely granular polynuclear cells	2	0 5
Small mononuclear cells	345	86 25
Large mononuclear cells	50	12·5
Coarsely granular cosinophiles	3	0 75

Every variety of cell was phagocytic.

Experiment 4.—The animal (guinea-pig) was killed two hours after an exactly similar proceeding as occurred in the previous experiments. Much more fluid was present than in the case of the preceding experiment. The peritoneal fluid was found to be slightly turbid. A hanging drop of this peritoneal fluid showed large numbers of leucocytes

Film Preparations of the Peritoneal Fluid Stained by Leishman's Method.

	Total number.	Percentage.
Finely granular polynuclear cells	458	91 6
Small mononuclear cells	22	4 4
Large mononuclear cells	1	0 2
Coarsely granular eosinophiles	19	3 8

Nearly every finely granular polynuclear cell was found to be phagocytic, while eight of the coarsely granular eosinophiles were also phagocytic.

Experiment 5.—A guinea-pig was killed one hour after a [illegible] (half a cubic centimetre) of the colon [illegible] as hardly any peritoneal fluid present. [illegible] of the peritoneal exudate showed large numbers of leucocytes which were apparently phagocytic. In this case the phagocytic reaction was extremely well marked but every cell was *degenerated* beyond recognition.

Experiment 6.—A guinea-pig was killed four hours after an injection of a similar dose of the colon bacillus as in the preceding experiment but another strain of the bacillus was used. The peritoneum was injected in this case and a good deal of peritoneal fluid was present.

Film Preparations of the Peritoneal Fluid Stained by Leishman's Method.

	Total number.	Percentage.
Finely granular polynuclear cells	245	61 25
Small mononuclear cells	53	12 25
Large mononuclear cells	21	5·25
Mast cells	11	2 75
Coarsely granular eosinophiles	70	17 5

28 of the eosinophiles were phagocytic as were eight of the small mononuclear cells. Every finely granular polynuclear cell was phagocytic but all were degenerated.

Experiment 7.—This animal was killed 15 minutes after receiving an intraperitoneal injection (one and a half cubic centimetres) of a 24 hours' broth culture of the staphylococcus albus. The peritoneal fluid, which was examined immediately after death, was found to be in large amount and quite clear. There was no evidence of peritonitis. A hanging-drop preparation of the peritoneal fluid showed a large number of cells which were apparently phagocytic. We did not observe any extracellular cocci.

Film Preparations of the Peritoneal Exudate Stained by Leishman's Method.

	Total number.	Percentage.
[illegible]lear cells	0	0 0
[illegible]	293	73 25
[illegible]	14	3 5
[illegible]philes	93	23 25

We found that 48 of the coarsely granular eosinophiles were phagocytic. Many of the lymphocytes, both small and large, and the large hyaline cells were also found to be phagocytic.

As a result of these few experiments on phagocytosis we have been able to show that many of the leucocytes which are present in normal blood play a very important part in peritoneal infections. It is impossible to form any absolute conclusions from so few experiments but it is quite evident that while the staphylococcus albus provokes an extensive phagocytosis within a period of 15 minutes of injecting the organism into the peritoneum, as time advances the cells increase in number and instead of the mononuclear cells and the coarsely granular eosinophiles being the chief phagocytes the polynuclear cells with fine eosinophilic granules play the chief part in the protection of the body. The phagocytes, however, in the case of the staphylococcus albus are in good condition after many hours of warfare with the micro-organisms, but the colon bacillus may cause a very rapid degeneration of leucocytes within one hour of peritoneal infection; in every instance the colon bacillus provokes a rapid and extensive phagocytosis, almost entirely of the finely granular polynuclear variety. This bacillus, however, causes a rapid and extensive degeneration of the leucocytes, a circumstance which is not repeated in the case of the white coccus until a great many hours have elapsed.

We are now in a position to realise the harm that may be done when the peritoneal cavity is washed out in cases of peritonitis, more especially in those instances in which there is a staphylococcus infection of the peritoneum, beyond the limits of the virulent colon bacillus. If we wash away the phagocytes from the peritoneal cavity with large quantities of saline solution we allow many micro-organisms to remain in the peritoneal cavity, to say nothing of carrying the colon bacillus into fresh regions of the peritoneum, and we replace the cells and body fluids which are actively engaged in the defence of the body against their powerful opponents with a much less valuable fluid.

We have only one more point to which we wish to draw attention—namely, the phagocytic properties of the eosinophile (coarsely granular) and the small lymphocyte. We were most careful in these experiments to avoid drawing the cover-slip over the surface of the omentum; we only used the free fluid in the peritoneal cavity. There can no longer be any doubt not only that the small lymphocyte is a phagocyte but that the eosinophile possesses phagocytic properties of the very greatest importance.

ERRATUM.—In the first lecture, published in THE LANCET last week, a misprint occurs. The top line of the right-hand column of p. 479 reads: "Within a period of 30 minutes with a dilution of 1 in 150," &c. As the context shows it should have read: "Within a period of 30 minutes with a dilution of 1 in 50," &c.

testines were bathed in a large quantity of turbid but non-offensive fluid. There was no attempt at agglutination of the intestines. Film preparations of the peritoneal exudate showed large numbers of polynuclear cells which were in an apparently healthy condition, and also large numbers of diplococci and streptococci which stained by Gram's method. Many of the leucocytes were phagocytic but we did not observe one single chain of cocci within the cells, only diplococci. No other micro-organisms were seen. A culture of the streptococcus pyogenes was obtained from the peritoneal exudate and also of the colon bacillus. There [illegible] int for [illegible] le that [illegible] vity as [illegible] agony. [illegible] This patient had been ill with acute abdominal symptoms for 24 hours before the operation. A large quantity of clear exudate was found in the peritoneal cavity and an acutely inflamed mass covered with flakes of lymph in the great omen[illegible] whic[illegible] appe[illegible] The [illegible]

Large numbers of polynuclear and mononuclear cells were present in the cover-slip preparations of the peritoneal exudate but no micro-organisms. The fluid in the peritoneal cavity was found to be sterile but the staphylococci albus and aureus were obtained from the exudate near the inflamed sarcoma. A pure culture of the streptococcus pyogenes was grown from the surface of the tumour. It is very interesting to observe that although the streptococcus pyogenes was present on the surface of the tumour we failed to isolate this organism from the peritoneal exudate. Although there were large numbers of polynuclear cells in both these examples of streptococcic peritonitis, yet these cells were apparently normal and in neither instance contained any chains of cocci. We have already drawn attention to this peculiar behaviour of the cells in this variety of peritonitis, which is quite different from what is found in cases where the infection is due to the colon bacillus or to the bacillus pyocyaneus.

We consider that peritonitis due to the streptococcus pyogenes is generally a septicæmia. It would appear that in cases of peritonitis due to this organism there is hardly any local reaction at the seat of infection, such as always occurs in peritonitis due to the colon bacillus, bacillus pyocyaneus, and staphylococcus aureus. The streptococcus pyogenes is absorbed from the peritoneal cavity with such rapidity that the patient [illegible] fluids are able to offer an[illegible] We shall only obtain [illegible] ment of this disease when a valuable multivalent anti-streptococcic serum is discovered. It is extremely doubtful if more favourable results will ever be attained by surgical interference.

Pneumococcic peritonitis.—It is impossible to be certain of the origin of many cases of pneumococcic peritonitis but it is highly probable that in the large majority of cases it is a blood infection. There is no doubt, at any rate, that this statement is true as regards this variety of peritonitis in children. There is one point, however, which still requires explanation—namely, how it is that the peritoneum is so much less frequently infected with this organism than the other serous sacs. Some observers have found the pneumococcus in the peritoneal cavity in cases of pleuritis without any evidence of inflammation of the peritoneum. If we study the literature of peritonitis we find that the pneumococcus, like the streptococcus pyogenes, is frequently stated to be present without sufficient evidence. In 1886 Cornil described pneumococcic peritonitis for the first time and since that paper was published the subject has been very exhaustively dealt with, both in this country and abroad, but chiefly by French bacteriologists.

Our own series includes, in addition to one instance in which the pneumococcus was found in an appendix abscess, but not in pure culture, three instances of pure pneumococcic infection of the peritoneum. One case was operated upon; in the other two the exudate was examined within 20 minutes of death. The first example occurred in a male child, aged seven weeks, who had been ill for two days. There was œdema of the abdominal wall on admission to the tion was done and the child died on the third day of the illness. At the necropsy a large quantity of greenish fluid was found in which were suspended flakes of fibrin. A pure culture of the pneumococcus was obtained from this exudate. We failed, however, to find a source of infection.

The second case concerned a rickety male child, aged two and a half years. At the necropsy, in addition to the peritonitis which was diffuse but not of a very severe type, broncho-pneumonia, empyema, suppurative pericarditis, and lymphadenitis of the mediastinal glands were found. The peritoneal exudate was thick greenish-yellow pus. A pure culture of the pneumococcus was obtained from the pleura, pericardium, and from the surface of the lungs, but the peritoneal exudate was sterile. This example might be described as an instance of acute polyserositis.

The third case was one of extreme interest. It has been stated by certain continental surgeons that if in a child [illegible] sufficient proof that such a statement will not hold in every case. A little girl, aged six years, was seized whilst at school with acute abdominal pain. The bowels were opened four times that day. [illegible] morning and continue[illegible] admission she looked [illegible] the temperature was 10[illegible] before the operation. [illegible] tion and was not distended but was very tender on palpation. The lungs appeared to be normal. There were no signs of otitis or meningitis. The abdomen was opened 48 hours after the first symptoms had been observed. A small quantity of thin, odourless pus was present in which strings of fibrin were suspended. The intestines were reddened but not distended and the peritonitis was distinctly more marked in the lower half. The appendix was normal and the Fallopian tubes did not appear to be more inflamed than the rest of the pelvic peritoneum. The abdominal cavity was flushed out with hot saline solution and closed. Death occurred two hours later. At the necropsy the lungs were found to be normal as also were the rest of the structures above the diaphragm. The meninges were normal. Besides the condition of diffuse peritonitis which was present the uterus was found to contain about a drachm of pus.

Bacteriology.—Film preparations of the vaginal secretion taken before the operation showed large numbers of cocci and diplococci which failed to retain Gram's stain. The diplococci were chiefly intracellular but also extracellular. The ends of the cocci were flattened and these ends were approximated. Enormous numbers of polynuclear and mononuclear cells were present in cover-slip preparations of the peritoneal exudate. Large numbers of Gram-positive diplococci were also seen. These cocci were entirely extracellular. Exactly similar results were obtained with film preparations of the pus from the interior of the uterus, except that in this instance short chains of cocci were also present. A pure culture of the pneumococcus was obtained from the peritoneal cavity and from the interior of the uterus. This organism was intensely pathogenic to mice. A capsulated diplococcus was obtained from the various viscera and blood of the infected mice. This case is, therefore, of exceptional interest. It is, as far as we know, the first instance in which the pneumococcus has been isolated from a case of pyometra. Whether the abscess in the cavity of the uterus was the primary focus it is impossible to say, but it is not unlikely. A primary focus will be found in most cases of pneumococcic infections in children, however, if the *middle ears* are carefully examined. None of the cells in the peritoneal exudate in this case were degenerated, although the pneumococcus appeared to be extremely virulent. We know, however, that in the less acute cases of pneumococcic peritonitis the leucocytes are actively phagocytic. It is possible that the organism which was found in the vaginal exudate was the gonococcus, while the organism which produced the most important changes elsewhere was the pneumococcus. There were certain points as regards the morphology of the organism which were unlike the gonococcus but these are not as important as the fact that the organism did not [illegible] method and was confined to the interior of

Experiment 1.—One and a half cubic centimetres of a 24 hours' broth culture of the staphylococcus albus were injected into the peritoneal cavity of a guinea-pig; the animal was killed and the peritoneal fluid was examined 24 hours later.

Fresh drop of peritoneal fluid.—Enormous numbers of phagocytes. Very small amount of free fluid. No signs of peritonitis to the naked eye.

Film Preparations of the Peritoneal Fluid Stained by Leishman's Method.

	Total number.	Per-centage.		
Finely granular polynuclear cells...	424	84·8		
[illegible]	1	0·2	73	14·6
[illegible]	72	14·4		
[illegible]	1	0·2		
Eosinophiles ...	1	0·2		
Transitional cells	1	0·2		
	500	100·0		

The finely granular polynuclear cells in the guinea-pig's blood correspond to the polynuclear neutrophiles in human blood and are similar cells except that the granules in the guinea-pig's blood are eosinophilic. Most of the large mononuclear cells were vacuolated, most of the polynuclear cells were degenerated, while all these cells and the large mononuclear cells were phagocytic. Numerous endothelial cells were present in the film preparations but they were not included in the differential count.

Experiment 2.—One and a half cubic centimetres of a 24 hours' broth culture of the staphylococcus albus were injected into the peritoneal cavity of a guinea-pig. The animal was killed 15 minutes later and the peritoneal fluid was examined. A large amount of perfectly clear fluid was present in the peritoneal cavity. A hanging drop of the peritoneal fluid showed large numbers of leucocytes which were apparently phagocytic.

Film Preparations of the Peritoneal Fluid Stained by Leishman's Method.

	Total number.	Per-centage.
Finely granular polynuclear cells	8	2·0
Small mononuclear cells ..	103	25·75
Large mononuclear cells ...	75	18·75
Coarsely granular eosinophiles	*214*	*53·5*

No less than *131* of the coarsely granular eosinophilic cells were phagocytic while many of *these* cells contained numerous cocci.

Experiment 3.—One and a half cubic centimetres of a 24 hours' broth culture of the staphylococcus albus were injected into the peritoneal cavity of a guinea-pig. The animal was killed an hour later and the peritoneal cavity was examined immediately after death. A large amount of clear fluid was present. No signs of peritonitis were visible. A hanging drop of the peritoneal fluid showed large numbers of leucocytes, many more than were present in a drop of the fluid from the guinea-pig's peritoneum in Experiment 2.

Film Preparations of the Peritoneal Fluid Stained by Leishman's Method.

	Total number.	Per-centage.
Finely granular polynuclear cells	2	0·5
Small mononuclear cells ..	345	86·25
Large mononuclear cells ..	50	12·5
Coarsely granular eosinophiles	3	0·75

Every variety of cell was phagocytic.

Experiment 4.—The animal (guinea-pig) was killed two hours after an exactly similar proceeding as occurred in the previous experiments. Much more fluid was present than in the case of the preceding experiment. The peritoneal fluid was found to be slightly turbid. A hanging drop of this peritoneal fluid showed large numbers of leucocytes.

Film Preparations of the Peritoneal Fluid Stained by Leishman's Method.

	Total number.	Per-centage.
Finely granular polynuclear cells	458	91·6
Small mononuclear cells ..	22	4·4
Large mononuclear cells .	1	0·2
Coarsely granular eosinophiles	19	3·8

Nearly every finely granular polynuclear cell was found to be phagocytic, while eight of the coarsely granular eosinophiles were also phagocytic.

Experiment 5.—A guinea-pig was killed one hour after a peritoneal injection (half a cubic centimetre) of the colon bacillus. There was hardly any peritoneal fluid present. A hanging drop of the peritoneal exudate showed large numbers of leucocytes which were apparently phagocytic. In this case the phagocytic reaction was extremely well marked but every cell was *degenerated* beyond recognition.

Experiment 6.—A guinea-pig was killed four hours after an injection of a similar dose of the colon bacillus as in the preceding experiment but another strain of the bacillus was used. The peritoneum was injected in this case and a good deal of peritoneal fluid was present.

Film Preparations of the Peritoneal Fluid Stained by Leishman's Method.

	Total number.	Per-centage.
Finely granular polynuclear cells	245	61·25
[illegible]	53	13·25
[illegible]	21	5·25
Mast cells	11	2·75
Coarsely granular eosinophiles	70	17·5

28 of the eosinophiles were phagocytic as were eight of the small mononuclear cells. Every finely granular polynuclear cell was phagocytic but all were degenerated.

Experiment 7.—This animal was killed 15 minutes after receiving an intraperitoneal injection (one and a half cubic centimetres) of a 24 hours' broth culture of the staphylococcus albus. The peritoneal fluid, which was examined immediately after death, was found to be in large amount and quite clear. There was no evidence of peritonitis. A hanging-drop preparation of the peritoneal fluid showed a large number of cells which were apparently phagocytic. We did not observe any extracellular cocci.

Film Preparations of the Peritoneal Exudate Stained by Leishman's Method.

	Total number.	Per-centage.
[illegible]	0	0·0
[illegible]	293	73·25
[illegible]	14	3·5
Coarsely granular eosinophiles	93	23·25

We found that 48 of the coarsely granular eosinophiles were phagocytic. Many of the lymphocytes, both small and large, and the large hyaline cells were also found to be phagocytic.

As a result of these few experiments on phagocytosis we have been able to show that many of the leucocytes which are present in normal blood play a very important part in peritoneal infections. It is impossible to form any absolute conclusions from so few experiments but it is quite evident that while the staphylococcus albus provokes an extensive phagocytosis within a period of 15 minutes of injecting the organism into the peritoneum, as time advances the cells increase in number and instead of the mononuclear cells and the coarsely granular eosinophiles being the chief phagocytes the polynuclear cells with fine eosinophilic granules play the chief part in the protection of the body. The phagocytes, however, in the case of the staphylococcus albus are in good condition after many hours of warfare with the micro-organisms, but the colon bacillus may cause a very rapid degeneration of leucocytes within one hour of peritoneal infection; in every instance the colon bacillus provokes a rapid and extensive phagocytosis, almost entirely of the finely granular polynuclear variety. This bacillus, however, causes a rapid and extensive degeneration of the leucocytes, a circumstance which is not repeated in the case of the white coccus until a great many hours have elapsed.

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extremity. A very narrow pedicle is worse than useless unless it contains the artery and vein supplying the rest of the flap. If a very narrow pedicle be altogether divided one at all events gets a free flap not dragged upon by the part supplying it.

[illegible] the blood- [illegible] by Figs. 7, [illegible] he dorsalis pedis artery, and, in part, the os calcis were destroyed, amputation was done just above the ankle-joint. The flap, shown in Fig. 7, was so cut that it consisted of a skinless pedicle, P, containing the plantar vessels and nerves, while the rest of it, B, was covered with skin and came from the ball of the foot close to the toes. For a month or two the doubled-up raw pedicle formed an ugly protuberance (Fig. 8) but this rapidly wasted and finally the stump could only be distinguished from a "Syme" by the completeness of the circle formed by the linear cicatrix. (See Fig. 9.) This case was reported in the *Annals of Surgery*, vol. viii., p. 440. Date of operation, April 2nd, 1888.

After amputating the breast and removing skin freely one [illegible] bare of skin [illegible] together as [illegible] t be taken generally from that region of loose skin, the axilla. If the raw surface is near the axilla a pedicled flap may be used. If it is near the sternum, as much as from six to ten square inches, or even more, can be cut entirely free from its original site and transferred, more or less successfully, to the inner side of the breast. Part of such a flap may perish but enough usually survives for one's purpose. Towards the end of this lecture I will try to describe how to do this operation. (See Fig. 19.)

In dealing with cicatricial contractions such as follow burns and scalds, to obtain the best cosmetic results, it is required to remove the cicatrices altogether, not simply to divide them. (See Fig. 10.) The large wound thus made has then a base and edges of normal tissue, which can be completely fitted with sound and elastic natural skin. Soft, white, and thick skin placed as a patch in the middle of a tense, thin, bluish, puckered cicatrix forms a contrast which itself amounts to a disfigurement. This should be particularly borne in mind in dealing with the face and the hands. In treating cicatricial contraction of more concealed parts, such as the popliteal space, one need not be so careful to remove the scar tissue, but it should at least be cut in two down to its base and the parts widely separated. (See Fig. 1.)

FIG. 10.

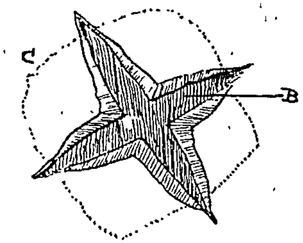
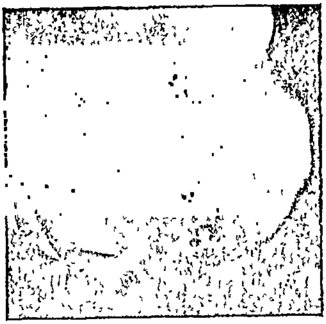


Fig. 10 represents a cicatrix to be removed. It may be [illegible]

Thiersch's grafts are of limited value as a means of permanently preventing cicatricial contraction. The whole thickness of the skin is more effective. And even when the whole thickness of the [illegible] to prevent a certain amou[illegible] I think it occurs in the [illegible] of union between the two surfaces is completely organised. Hence, if one takes a case of syndactyly, divides the web [illegible] e web with Thiersch's grafts, [illegible] be so marked as to nullify [illegible] uses Wolfe's grafts it will be less. But even if one attaches the hand to the flank and uses a pedicled flap an elementary web will return. It is advisable that the fingers should be split half an inch higher than the natural web. Suturing the skin of the dorsum to the skin of the palm at the apex of the separation is totally inefficient of itself to prevent the defect under consideration. It is the contraction in a longitudinal direction between the roots and the tips of the fingers which does the mischief.

Subcutaneous fat is essential for the best result in certain circumstances, especially where free mobility is required. The deep fascia beneath it is to be spared if possible, but should a little of it be accidentally taken away no great harm seems to result.

FIG. 11.



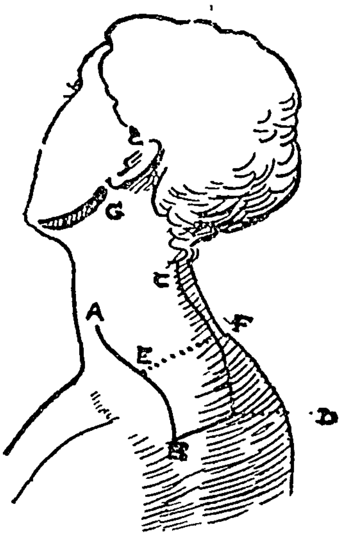
A penis covered with skin taken from the scrotum.

I have already mentioned what a storehouse of spare skin is to be found in the axilla, a happy circumstance in relation to modern operations for cancer of the breast. Another similar storehouse is the scrotum and, in a minor degree, the prepuce. The scalp has been "papered" with prepuces, in at least one case, I am told, the female scalp. The skin of the penis having sloughed in a case of extravasation of urine the dorsum of the penis adhered tightly to the front of the pubes. This not only made urination difficult and sexual intercourse impossible but also the patient was the subject of an old stricture and, with the penis fixed against the pubes, it was next to impossible to pass a bougie. To form a new skin for the penis a flap was taken from the scrotum (see Fig. 11). The patient was under the care of Dr. Richard F. Starkie.

[illegible]—I have many times at the [illegible] private performed and demon- [illegible] ion for hypospadias which I devised and first practised successfully on May 18th, 1895, assisted by Mr. R. W. Lloyd and Mr. H. G. Wharry, in a case under the care of Dr. John Duncan of St. Petersburg, after several operations had been practised unsuccessfully in that city. 1. A suprapubic drain is placed in the bladder. 2. Two rectangular skin flaps having broad bases towards the median line and on the under surface of the penis are reflected inwards. When united these two form a lining for the new urethra and their raw surfaces are outwards. 3. To cover these raw surfaces a square flap is cut from the prepuce in the following manner. The prepuce on the dorsal aspect of the penis is unfolded and everted. Then a quadrangular flap is cut through that skin layer of it which is next the glans penis, the distal border of the flap being placed near the corona glandis. This flap is turned up from the superficial layer of preputial skin. The result, of course, is a raw surface of twice the size of the flap marked out to begin with. A small longitudinal "button-hole" is cut in this dorsal part of the prepuce, close to the corona glandis and the glans penis is passed like a button through this "button-hole." The preputial flap then falls over the raw surfaces of the under flaps which were cut to begin with and is sutured in position. 4. When a week has elapsed the preputial flap is cut free from its base and any point of leakage is looked for and remedied.

Notes.—A. The two first-mentioned rectangular flaps should not be quite separate near the opening of the hypospadiac urethra but should be continuous round the scrotal margin

FIG. 3.



In this case (in the West London Hospital, September, 1904) the left horizontal ramus of the lower jaw was removed for epithelioma of the jaw and the side of the tongue. The flap, A, B, D, C, was turned up and passed through the incision, G, into the mouth. When it had adhered to the inside of the cheek, enough of it was cut off to turn up and to cover the wound on the side of the tongue and its depressor muscles. With a little stretching E F reached to B D, and healing was complete. The chin has not been pulled over to the left by cicatricial contraction, the mouth opens freely, and there is plenty of room for the dentist to fit an artificial jaw and teeth into. (February, 1905.)

FIG. 4.

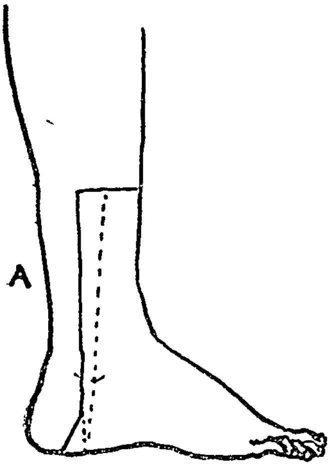
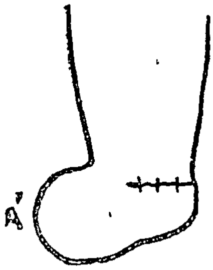
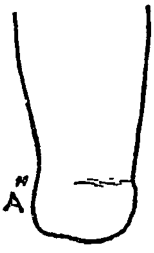


FIG. 5. FIG. 6.





Figs. 4, 5, and 6 illustrate an amputation of the leg at the junction of the middle and lower thirds for disease of the ankle with multiple sinuses. The heel, including a part of the os calcis, was used to cover the stump. The three figures show at A, A′, and A″ how the long pedicle A gradually wastes till the stump can only be distinguished from an ordinary Syme's or Pirogoff's amputation by the shortness of the leg. I performed a similar operation on a patient under the care of Mr. Frederick Lawrance on May 26th, 1895.

the chin down to the clavicles had been burnt and replaced by a cicatrix which held the chin downwards and to one side (traumatic wry-neck). The cicatrix was excised and replaced by a flap from the right upper arm. Afterwards the arm was repaired from the chest and the thoracic wound was closed, partly by bringing its edges together and partly by Thiersch's grafts from the thigh.

Finally, whether there be two steps or only one in a given case, the last deep wound made has to be closed either by forcing its edges together or by Thiersch's grafts or partly by bringing the edges together and partly by Thiersch's grafts. For example, in the case illustrated by Fig. 3 there was, after the skin required had been cut off, enough left on the pedicle and on the back part of the root of the neck to permit the large skin wound to be closed entirely by sutures. In many cases a large wound can be sutured down to a smaller size and the remainder closed by Thiersch's grafts. An example of this has just been given in the case of cicatrix of the throat after a burn. The most convenient place for taking Thiersch's grafts from is usually the front of the thigh.

The base of a flap should be wide. An oblong flap with a base narrower than the length is apt to slough at the distal

FIG. 7.

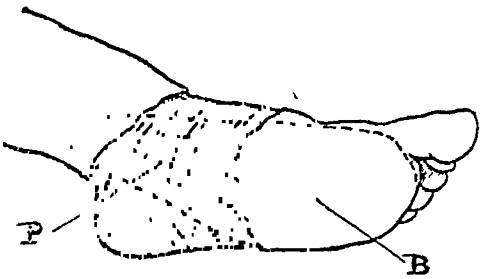


FIG. 8.

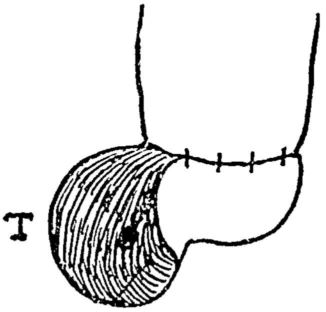


FIG. 9.

Figs. 7, 8, and 9 illustrate a case in which the skin of the heel having been de[illegible] of the sole of the foot were used to c[illegible] of the flap contained the plantar vessels and nerves. Its pedicle, which was *uncovered by skin*, at first formed a fleshy tumour T (see Fig. 8) but in a few months the stump could only be distinguished from a Syme by the linear cicatrix which formed a complete circle.

THE VALUE OF THIERSCH'S GRAFTS IN THE TREATMENT OF BONE AND JOINT DISEASE.

Six years ago I had to treat a curious case of ulcer of the leg. At first this may have originated in varicose veins from which the patient, a middle-aged man, suffered severely, but the diseased process had penetrated the upper end and also the middle of the shaft of the tibia very deeply. The surrounding skin was blue and the fat as soft as ground rice. A blunt spoon easily scraped away large quantities of diseased skin, fat, and disintegrated bone. I cut away every obviously unsound portion of hard and soft tissue, leaving an apparently healthy surface. The result was two long cavities in the tibia, so deep that they all but completely penetrated the bone from the shin to its posterior aspect. Experience shows that, under ordinary treatment, such cavities take months to heal and that, in the meantime, diseased processes are apt to start again in them. Accordingly, surgeons have sunk flaps of soft tissue into them to fill them up. I have tried this plan myself with fair success but it is not an ideal plan for various reasons. On this occasion I simply lined (papered as it were) the cavities with Thiersch's grafts. Healing was immediate, except at one small deep point near the bottom of the cavity in the middle of the tibia. (See Fig. 17.) At the same time I performed Trendelenburg's operation for the varicose veins in both limbs. The point which escaped the scraping and grafting afterwards formed the starting point for further mischief, like the original in character, though of not one-twentieth the extent, and led to further operations. On each of these occasions, after successfully grafting, I put the patient through a course of iodide of potassium. I was not able to determine the character of the growth microscopically. There was no syphilitic history; but the iodide did good and, of itself, healed one point which broke out afresh. The recurrence did not begin in the part grafted. Unfortunately, the patient was last summer attacked with extensive glandular enlargement in the groin. I have removed the glands; they appeared to be epitheliomatous; but at present (February, 1905) there has been no recurrence. [illegible] well and the cavities lined [illegible] a third of their original depth. Here sound bone has formed and lifted the grafted skin towards the general surface of the limb without loosening it in any way. I have performed this operation now on a number of bone cases, mostly tuberculous, and have nearly always had the same result in the way of quick healing and, except in the case first described, have had no glandular trouble.

FIG. 17.

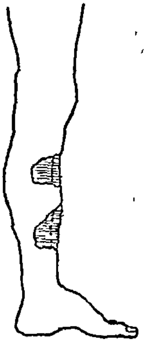
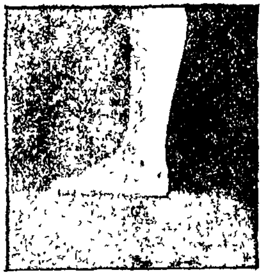


Diagram to indicate the depth of cavities in the tibia which were lined with Thiersch's grafts The straight and broken lines show the depth a year after operation

I believe it may be laid down as a law that *skin grafts have in some way a property of inhibiting the recurrence of specific ulcerations of the bones and muscles, as well as of the skin, and that this applies not only to tubercle but to epithelioma and to leprosy*. Of course, the local disease should be carefully removed first; but, locally at least, success may be expected even if the general system still remains infected. Dr. Robert J. Colenso, Dr. Robert Moir, and I treated by excision and skin-grafting an ulcer as large as the palm of the hand on the outer side of the knee of a male, with various other troubles due to leprosy contracted in the East. The result was a speedy healing, which has not broken down to this day (seven years after the operation). At the same time that I was operating in this way on the larger bones of the limbs and, as I shall show presently, on the joints also, Mr. C. A. Ballance was working independently in a similar manner on the temporal bone for the cure of middle-ear disease.

It then seemed to me that a similar method might be employed to prevent the formation of those chronic sinuses which often follow operations on diseased joints, which are so difficult to cure, and inflict so much suffering, inconvenience, and even danger on the patient. On Sept. 13th, 1900, I resected a suppurating tuberculous hip in a girl, seven years of age, at the West London Hospital. A sinus remained and in a short time not only this sinus but an area around it of the size of the palm of the hand became infiltrated with tubercle. The infiltration involved skin, subcutaneous fat, and intermuscular spaces, if not muscles. Accordingly, on Oct. 23rd I operated again, took pains to remove the disease and made a large wound, partly superficial, [illegible] to the bare bone left by the resecti[illegible]d especially the deep, [illegible]o the bone, with Thiersch's grafts which overlapped the bone. The deep part of the wound healed at once, even in a few days. The superficial part, where some of the grafts had slipped and not taken perfectly, had to be regrafted in parts. The patient was shown at the Medical Society of London on Feb. 10th, 1902.[2] I see her occasionally and in the four years she has had no recurrence of tubercle, either locally or elsewhere. I have repeated this operation on various patients, one of them a child with disease of both hips, always with ultimate success and generally with immediate success.

FIG. 18.



The leg of a young girl on whom I operated several years [illegible] the help of Mr. Sidney [illegible] Tanner Cooper. The [illegible]raped and gouged out [illegible] grafts which adhered [illegible]ng rapidly filled up, leaving mere [illegible] illustration.

Failure can easily be traced to one or other of the following causes. (1) neglecting to line the cavity in the soft tissues completely, that is, leaving a granulating and discharging surface; (2) neglecting to dress the wound at the proper time, or dressing roughly and disturbing the grafts; and (3) leaving a sequestrum or much diseased bone at the bottom of the grafted wound. These mistakes can be rectified by another operation, but it is, of course, better to avoid them.

The mode of treatment described affords an escape from the dilemma in which the drainage tube is apt to place us, the dilemma in which, if the tube is removed, a sinus refuses to heal from the bottom, while, if the tube is left, it necessarily keeps up a discharging sinus, liable to be reinfected with tubercle if not already infected. What is exceedingly striking in watching the after-course of a case of this kind is the way in which the grafted deep wound diminishes in size, not only in width but also in depth. After a few months a wound which when first grafted and of the opening, so that together they look like a flat horse-shoe magnet. Then the outer margin of this flat horse-shoe is "gathered up" by the suture. B. This suture should be single and very simple, so as to be easily removeable. There is not enough substance in such flaps to absorb catgut knots. A single piece of silkworm gut, passed in and out so as to form a figure of 8, with the ends emerging under the glans penis, suffices. C. In reflecting the transverse part of the magnet-shaped flap great care must be used because of the thinness of the floor of the urethra near the hypospadiac opening in most of these cases.

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[2] Transactions of the Medical Society of London, vol. xxv., p. 335.

In "Heath's Dictionary of Surgery" Mr. John Wood pointed out that the prepuce could be used in operating for hypospadias but his mode of using it would be likely to fail, I think, for the following reasons: (1) he makes no suprapubic drain; (2) he cuts the preputial flap after button-holing the prepuce; (3) he makes this aperture transverse; (4) he does not unite the under flaps round the hypospadiac meatus; and (5) he does not suture after the fashion described in Note B (above). These points are essential if the operator is to expect success.

A moderate amount of skin can be taken from the trunk of even the tightest-skinned person, enough to fill up defects in the hand and fingers. Much more can be spared by older people with lax abdomens and the skin hanging in folds. Sometimes the surgeon can act on the principle that one fairly complete organ is better than two seriously incomplete, just as a poor mother might put one child to bed and send the other to school in clothes partly borrowed from his brother rather than keep both idle and half clad at home. A young woman came into the West London Hospital with all the fingers of the right hand crushed, torn, and on the palmar surface burnt by the hot roller of a machine mangle. Nearly every interphalangeal joint was open on the palmar aspect. All the flexor tendons of the middle and ring fingers were destroyed. But their dorsal tendons were intact. I therefore amputated the ring finger, preserving all its dorsal soft structures. These being then brought round and fixed to the previously refreshed palmar surface of the phalanges and joints of the middle finger, the extensors of the ring finger assumed the duties of flexors of the middle finger. The results both as regards appearance and function were surprisingly good (see Figs. 12 and 13). In Fig. 13, D marks the back of the ring finger transferred to the palmar side of the middle finger.

Other examples of the application of this principle are given by plastic amputations of the foot (see Figs. 4 to 9). A middle-aged man was taken into the West London Hospital for amputation of a leg, most of the skin of which was destroyed by a chronic ulcer. It occurred to me that if I used the soft structures of the whole sole of the foot to cover the skin I might simply excise the ulcer, amputate a little way above the ankle, cover the end of the stump with the heel-flap, and get that best of all stumps, a "Syme." (The original intention, of course, had been to amputate at, or below, the knee.) The success of the plan was perfect. The case was reported in THE LANCET of Nov. 28th, 1885, p. 987. Professor Rydigier of Cracow has [illegible] operation in exactly the same way [illegible] Syme's amputation, saying, among other things, that a longer stump can be obtained. But it must be remembered that the more the os calcis is preserved the more the tibia must be sacrificed, unless the original ulcer is almost too small to justify such an operation at all.

FIG. 12.

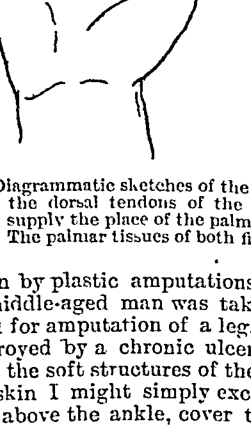
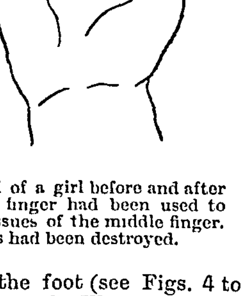


FIG. 13.



Diagrammatic sketches of the hand of a girl before and after the dorsal tendons of the ring finger had been used to supply the place of the palmar tissues of the middle finger. The palmar tissues of both fingers had been destroyed.

FIG. 14.

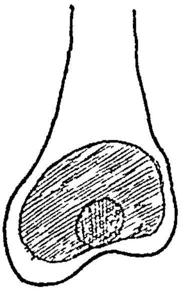


FIG. 15.

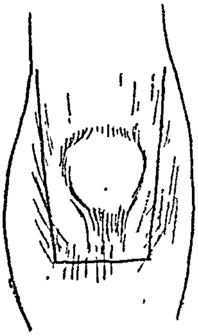
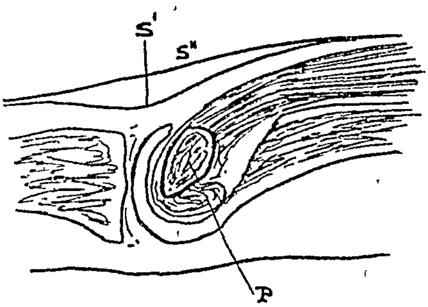


FIG. 16.



These figures illustrate the case in which the patella and surrounding tissues were used to fill up the cavity left by hollowing out the tuberculous lower end of a femur.

It should be noticed that in the last-quoted example it was not merely the skin but also the subjacent muscular and even osseous structure which were transferred. This principle can be applied in the middle of a limb as well as at its extremity. A housemaid, about 28 years of age, a patient of Dr. Johnston, late of Wentworth Fitzwilliam, had long suffered from chronic disease of one knee-joint. An operation had left fistulæ leading from each side into the centre of the condyles of the femur. These condyles had been a shell of bone filled with cheesy matter of an orange-yellow colour. After this cheesy matter was removed and the knee-joint found, though filled with fibrous adhesions and with the patella ankylosed by bone to the femur, to be free from active disease, the above-mentioned fistulæ were left. They led to the large cavity in the femur, which discharged freely and had not contracted materially in spite of packing, drainage, and much patience exercised for months. The patient's general condition was very bad. She was weak and emaciated. On Sept. 16th, 1902, the patella and the quadriceps above and around it were exposed, the ligamentum patellæ was cut through transversely, and a thick quadrangular flap of aponeurosis, muscle, and ligament containing the patella turned up so as to expose the front of the condyles. These were then completely hollowed out till the femur resembled a deep spoon. The flap was then sunk into the hollow formed by gouging and scraping the condyles. Healing was complete in a fortnight. The patient's general health improved at once. Even the day after operation her face had assumed a bright and healthy look. She has several degrees of movement and has for some time filled a housekeeper's place. (See Figs. 14, 15, and 16, in which P represents the buried patella, S′ the level of the skin immediately after operation, and S″ its level now.) In this case it was of prime importance to obtain quick healing. Prolonged granulation and suppuration in such cases generally mean not only injury to the general health but also recurrence of the disease.

THE VALUE OF THIERSCH'S GRAFTS IN THE TREATMENT OF BONE AND JOINT DISEASE.

Six years ago I had to treat a curious case of ulcer of the leg. At first this may have originated in varicose veins from which the patient, a middle-aged man, suffered severely, but the diseased process had penetrated the upper end and also the middle of the shaft of the tibia very deeply. The surrounding skin was blue and the fat as soft as ground rice. A blunt spoon easily scraped away large quantities of diseased skin, fat, and disintegrated bone. I cut away every obviously unsound portion of hard and soft tissue, leaving an apparently healthy surface. The result was two long cavities in the tibia, so deep that they all but completely penetrated the bone from the shin to its posterior aspect. Experience shows that, under ordinary treatment, such cavities take months to heal and that, in the meantime, diseased processes are apt to start again in them. Accordingly, surgeons have sunk flaps of soft tissue into them to fill them up. I have tried this plan myself with fair success but it is not an ideal plan for various reasons. On this occasion I simply lined (papered as it were) the cavities with Thiersch's grafts. Healing was immediate, except at one small deep point near the bottom of the cavity in the middle of the tibia. (See Fig. 17.) At the same time I performed Trendelenburg's operation for the varicose veins in both limbs. The point which escaped the scraping and grafting [illegible] for further mischief, lik[illegible] not one-twentieth the [illegible] On each of these occasions, after successfully grafting, I put the patient through a course of iodide of potassium. I was not able to determine the character of the growth microscopically. There was no syphilitic history; but the iodide did good and, of itself, healed one point which broke out afresh. The recurrence did not begin in the part grafted. Unfortunately, the patient was last summer attacked with extensive glandular enlargement in the groin. I have removed the glands; they appeared to be epitheliomatous; but at present (February, 1905) there has been no recurrence. The leg apparently remains quite well and the cavities lined with Thiersch's grafts are only a third of their original depth. Here sound bone has formed and lifted the grafted skin towards the general surface of the limb without loosening it in any way. I have performed this operation now on a number of bone cases, mostly tuberculous, and have nearly always had the same result in the way of quick healing and, except in the case first described, have had no glandular trouble.

FIG. 17.

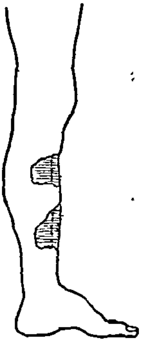


Diagram to indicate the depth of cavities in the tibia which were lined with Thiersch's grafts The straight and broken lines show the depth a year after operation.

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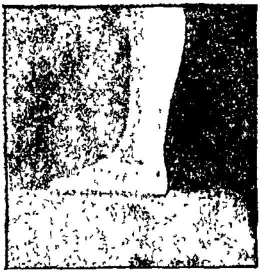
It then seemed to me that a similar method might be employed to prevent the formation of those chronic sinuses which often follow operations on diseased joints, which are so difficult to cure, and inflict so much suffering, inconvenience, and even danger on the patient. On Sept. 13th, 1900, I resected a suppurating tuberculous hip in a girl, seven years of age, at the West London Hospital. A sinus remained and in a short time not only this sinus but an area around it of the size of the palm of the hand became infiltrated with tubercle. The infiltration involved skin, subcutaneous fat, and intermuscular spaces, if not muscles. Accordingly, on Oct. 23rd I operated again, took pains to remove the disease and made a large wound, partly superficial, [illegible] bone left by the resecti[illegible]d especially the deep, [illegible]o the bone, with Thiersch's grafts which overlapped the bone. The deep part of the wound healed at once, even in a few days. The superficial part, where some of the grafts had slipped and not taken perfectly, had to be regrafted in parts. The patient was shown at the Medical Society of London on Feb. 10th, 1902.[2] I see her occasionally and in the four years she has had no recurrence of tubercle, either locally or elsewhere. I have repeated this operation on various patients, one of them a child with disease of both hips, always with ultimate success and generally with immediate success.

FIG. 18.



The leg of a young girl on whom I operated several years ago for caries of the os calcis with the help of Mr. Sidney L. Tench of Brixton and Mr. A. Tanner Cooper. The greater part of the os calcis was scraped and gouged out and the cavity lined with Thiersch's grafts which adhered at once. The large cavity resulting rapidly filled up, leaving merely the small dry depression shown in the illustration. The functional result was perfect.

Failure can easily be traced to one or other of the following causes: (1) neglecting to line the cavity in the soft tissues completely, that is, leaving a granulating and discharging surface; (2) neglecting to dress the wound at the proper time, or dressing roughly and disturbing the grafts; and (3) leaving a sequestrum or much diseased bone at the bottom of the grafted wound. These mistakes can be rectified by another operation, but it is, of course, better to avoid them.

The mode of treatment described affords an escape from the dilemma in which the drainage tube is apt to place us, the dilemma in which, if the tube is removed, a sinus refuses to heal from the bottom, while, if the tube is left, it necessarily keeps up a discharging sinus, liable to be reinfected with tubercle if not already infected. What is exceedingly striking in watching the after-course of a case of this kind is the way in which the grafted deep wound diminishes in size, not only in width but also in depth. After a few months a wound which when first grafted and for some days after reached into the hip-joint may only admit the point of a probe for about half an inch. The little sinus is quite dry and still obviously lined with Thiersch's grafts.

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[2] Transactions of the Medical Society of London, vol. xxv., p. 335.

It is obvious that one lecture on plastic surgery of an hour's duration cannot be made exhaustive, even if one speaks only of the plastic surgery of the skin. Before concluding with a few remarks on technique I should like to refer to

TRANSPLANTING AND GRAFTING MUCOUS MEMBRANE.

Twenty years ago I inherited from my senior at the West London Hospital, that distinguished specialist in urinary surgery the late Mr. Teevan, a case of urethral stricture which was in several ways remarkable. He had had median perineal cystotomy performed several times, once to remove a foreign body, the broken off end of a catheter. The patient himself once seen could never be forgotten; his hair was of a bright orange colour with a tinge of crimson, due to his work in a colour factory. Having for the second or third time to rescue him from retention by a perineal division of a mass of cicatrix containing no traceable urethra I on the last occasion took a rectangular transplant of about one and a half inches by two inches of mucous membrane from the rectum, close to where it passes into skin. With the finest catgut I sewed this, raw surface outwards, over a No. 12 rubber catheter. I then passed the catheter through the perineal wound, half of it into the bladder and half of it through the penile urethra. After a week the catheter was removed. A careful watch was kept but no trace of the graft was ever seen again and the patient never required operation again. Some years afterwards a message came that he had been taken dangerously ill. He died almost immediately. My house surgeon, Mr. H. Scott Elliott, made a post-mortem examination under great difficulties. It was the depth of a hard winter. The body lay frozen hard throughout in a cottage. He brought home the specimen, but when examined the urethral part stopped short just behind the seat of the stricture!

I have had the opportunity of repeating this operation in a manner varied so as to enable me to see and to demonstrate the adhesion of the graft of rectal mucous membrane to the site of a resected mass of urethral granulations and cicatricial tissue. In this case I kept the perineal wound open by gauze packing until the grafts had visibly adhered.

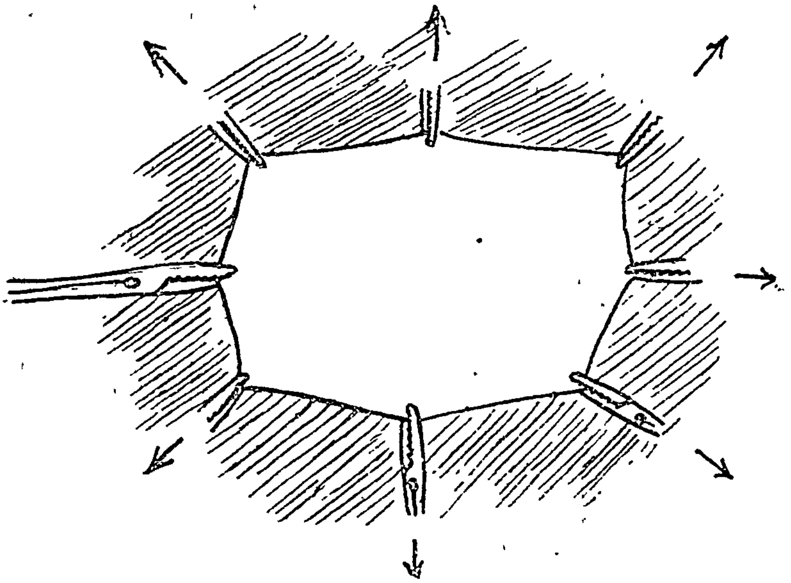
THE QUESTION OF ANTISEPTIC *v.* ASEPTIC METHODS IN PLASTIC SURGERY.

I may claim to have been one of the first to point out the desirability of keeping chemical antiseptic lotions away from grafts and using warm water instead.[3] Warm solution of common salt ("neutral saline") is an improvement on plain water. But frequently now the importance of this detail of practice is greatly exaggerated. Neither Thiersch's grafts nor flaps are seriously injured, much less killed, by contact for a short time with the lotions ordinarily used in antiseptic surgery, such, for example, as 1 in 2000 perchloride of mercury. I cut my grafts with a blade which has been boiled but with its edge protected by lint or cotton-wool. All the gauze dressings (often the swabs as well) have been wrung out of 1 in 2000 perchloride lotion. For certain reasons, more especially because it confuses nurses to change the mode of dressing with the class of operation, I find it more convenient to use this technique, although I acknowledge that salt solution is preferable in the abstract, and, indeed, I use it when any "floating" or douching is required. The knife is not blunted and the grafts are not killed.

The great enemy to successful plastic surgery is not antisepsis but sepsis. A graft bathed in pus will not adhere and live. This must be carefully remembered in the after-treatment. When one feels assured that the wound is aseptic the first dressing may be postponed for a week and the graft should be found alive and firmly fixed. But if there is danger of suppuration the dressing should be daily and a free passage for the escape of pus must be provided. This daily dressing must be done with great delicacy.

The surface to be grafted may [illegible] thinly coated with fresh, bright, and [illegible] As a rule it is best to scrape away th[illegible] urface should be prepared first and bleeding from it staunched by pressure while the grafts are being cut. But grafts have themselves a hæmostatic action. When blood is effused beneath a graft it should be pressed out with a swab and with some flat, smooth, metallic instrument placed between the swab and the graft, otherwise the swab will bring the graft away. A single layer of gauze serves as a protective. More gauze is placed on the top of it and removed independently at the next dressing. Cotton-wool should be used extravagantly to prevent rubbing and, if necessary, pads to prevent pressure. When pedicled flaps are transplanted they should be fixed (1) by sutures of the edges; (2) by supplementary and very stout sutures near but not in the base of the flaps (thick silver may be used for these); (3) by strapping; and (4) by plaster-of-Paris. Plaster-of-Paris not only tends to give a better final result but greatly prevents pain, though it sometimes gets in the way of dressing. At the separating operation a trustworthy assistant should hold the parts together—e.g., the limb to the trunk—until not so much as a hair's breadth of the pedicle remains undivided. A premature movement at this moment may do irretrievable damage. Before forming the flap a pattern of its size and shape may be cut in green protective or in boiled rubber sheeting. The patient's own blood serves for a red ink to mark out the flap. After a pedicled flap is cut free it generally requires careful readjustment and the insertion of fresh sutures.

FIG. 19



Forceps arranged round a free skin flap to take the "curl" out of it and facilitate removal of fat.

With regard to Thiersch's grafts, a concave-edged amputating knife does well for cutting them. A broad metal spatula is generally convenient for transferring them. An excellent substitute is a tablespoon. The graft should be placed in the concavity of the spoon. A much larger graft can be spread out on it than on a spatula. For lining a narrow cavity a teaspoon or eggspoon may be useful. In lining a deep cavity with grafts the point end of the knife itself may have to be used to carry the grafts in. Do the Thiersch's grafting thoroughly. Do not leave small uncovered angles and intervals.

Now with regard to *transplants of the whole thickness of the skin* transferred without any pedicle. After cutting such a graft out arrange half a dozen catch forceps around its edges. (Fig. 19.) Place it, raw surface upwards, on a sterilised towel and a convex surface, usually a part of the patient—e.g., his thighs or chest. Have the flap well stretched in every direction by pulling at the forceps Shave off all the fat Stretch the flap again (to take the elasticity and tendency to curl up out of it) Swing it into place Secure it with a few sutures But cut away all the forceps so as to leave no bruised skin behind The most rigid asepsis is desirable to insure success in this operation and the more vascular the part grafted the better of course

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[3] Notes on Plastic Surgery, Annals of Surgery, 1887, vol. vi., p. 97.

TRANSPLANTATION BY EXCHANGE

When a large hairy mole has to be removed from the face it can be exchanged with a piece of skin of the same size and shape taken from the arm Stout sutures should anchor the mole to the arm Only very delicate sutures will then be needed to adjust the arm skin to the face [4]

I have directed attention almost entirely to the transplantation and grafting of skin and mucous membrane and of structures attached to them It is of course well known that every tissue of the body is transferable and that there is a plastic surgery of muscle tendon bone nerve, blood vessel, omentum intestine stomach liver, kidney and other deep parts which has already a large literature and concerning which much more remains to be written

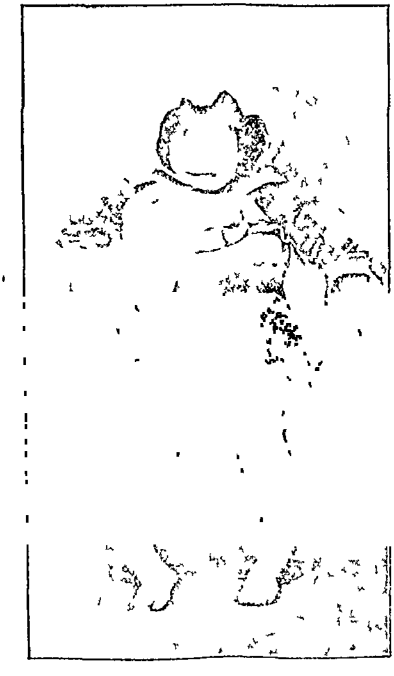
Grosvenor street W

THE TREATMENT OF SEVERE CURVATURES IN THE TIBIÆ BY MEANS OF MANUAL OSTEOCLASIS

By T H OPENSHAW, C M G, M S Durh, F R C S Eng,
SURGEON TO THE LONDON HOSPITAL SENIOR SURGEON TO POPLAR ACCIDENT HOSPITAL AND SURGEON TO THE NATIONAL ORTHOPÆDIC HOSPITAL

HAVING during the past two years thoroughly tested this method of treatment I venture to bring it to the notice of the profession as a rapid permanent and complete cure of pronounced rickety curvatures in the tibiæ Of some 30 or more cases which I have treated by this method the following which I had photographed and skiagraphed both before and after treatment is a typical example

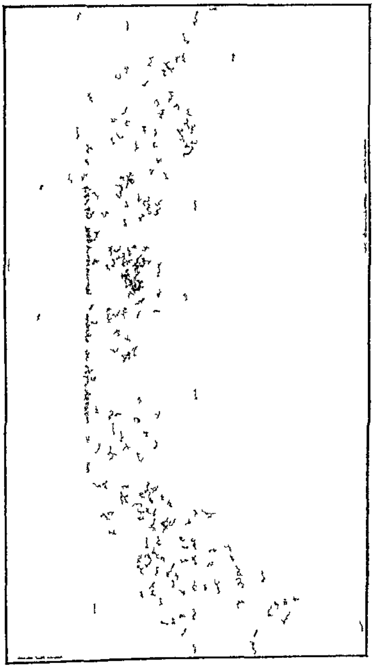
FIG 1



The patient aged four years Oct 7th 1904

A girl aged four years was brought to me at the London Hospital on Sept 9th 1904 with well marked curved tibiæ enlarged epiphyses rickety rosary, and other signs of recent rickets She had been breast fed for one year and only walked at the age of three years Fig 1 (reproduced from a photograph taken on Oct 7th) shows both tibiæ so extravagantly curved that a line continuing the anterior border of the upper two thirds of each tibia falls outside the corresponding foot Fig 2 (reproduced from a skiagraph of the leg bones taken on Oct 7th) shows the tibia so curved that the inferior surface of its lower extremity is directed inwards On Oct 20th manual osteoclasis of the left leg was performed two lateral splints were applied and the child was sent home She was brought for inspection the next day The circulation of the foot being good and no pain being complained of the splints were left undisturbed and a skiagraph of the leg (Fig 4) was taken The child was seen a week later on the 28th and the splints were re adjusted On Nov 11th the splints were removed and the child s legs were photographed in the standing position as seen in Fig 3 [illegible] left [illegible] straight the right present
before
[illegible] lly anæsthetised the leg is encased in cotton wool and bandaged The child is then turned over so that the leg which is to be broken lies on its outer side A wedge shaped block measuring some seven inches by three inches at the base and six inches high is used The upper edge of this block is about one inch wide and four inches long and is covered with thick indiarubber This block is put underneath the leg transversely at the

FIG 2



Oct 7th 1904 Reproduction of skiagraph of tibia and fibula (left) centre of the curve. The operator with one hand grasps firmly the foot and ankle and lower portion of the tibia and with the other hand the upper part of the tibia, the hands of the operator being some two to three inches apart. With the block resting quite firmly upon a firm table, and the child's leg on the rubber-covered upper edge of the block, with a steady and increasing pressure exerted through the hands of the operator, the bones of the leg are snapped across and the leg can then immediately and easily be made to assume a straight position. In a few instances the fibula can be heard to crack first but in the majority of cases the fibula is simply bent and the tibia alone is broken. In the case of some 40 legs which I have operated upon in this manner no bruising of tissue, laceration of skin, or other untoward result has occurred. The limb has been put up in two lateral well-padded wooden splints, bandaged, and the child sent home immediately on recovering from the anæsthetic.

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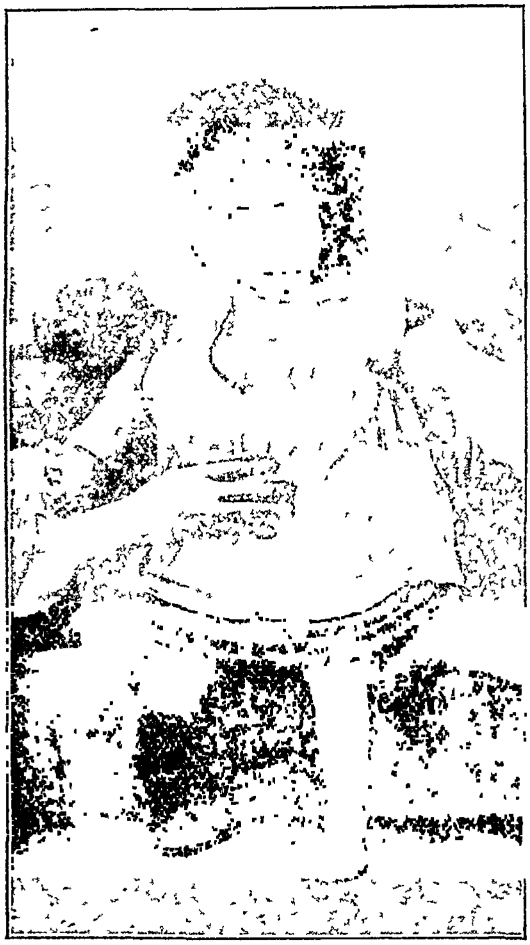
[4] The Lancet Nov 22nd 1902 and Feb 19th 1887

FIG. 3

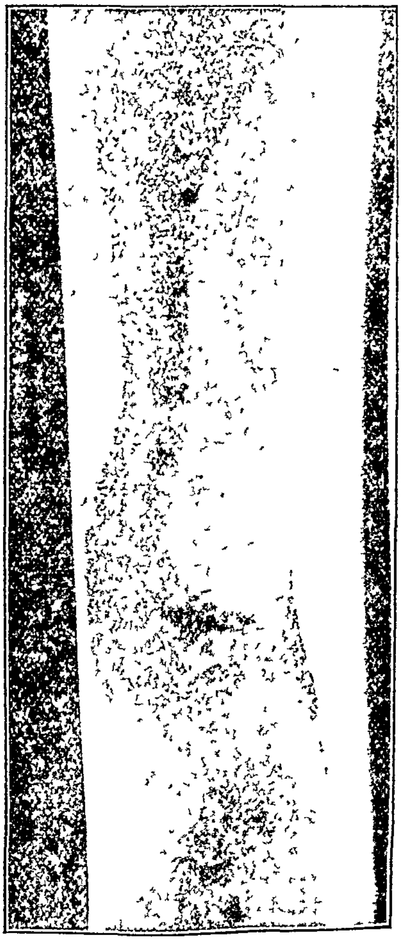


The patient Nov 11th, 1904.

The line of fracture in nearly every case is transverse, in a few it is oblique, and in a few irregular in outline. The fracture in the tibia is situated at the exact spot where it is necessary that the bone should be broken in order that the leg can be made to assume a straight position. The act of stretching the bone into a straight position puts tension upon the bone at the exact spot where it is necessary that it should be fractured. The fracture gapes and the fractured surfaces are separated to an extent just sufficient to permit the bone to become straight. This wedge-shaped separation of the fractured surfaces actually increases the length of the bone and corrects the shortening due to the curvature. The bone is lengthened proportionately to the length of the base of this wedge-shaped cleft The more the bone is curved the thicker is the wedge-shaped cleft and the greater the consequent lengthening. The periosteum on the convex side of the bone is unbroken and it is doubtful whether the periosteum on the concave side of the bone is more than lacerated and stretched.

The repair of this fracture is exceedingly rapid. I have x ray photographs showing complete obliteration of the line of fracture, in one case in six weeks after the manual osteoclasis was performed; whereas in an ordinary fracture of an adult tibia it is often possible by the x rays to make out the line of fracture some 12 months after the date of fracture. The advantage of this method of treating pronounced curvatures in the tibia as compared with the prolonged application of straight wooden splints to the inner side of the legs, or the use of complicated and expensive surgical appliances, must be obvious. It is no uncommon occurrence for splints to be worn for six or 12 months and in some cases for an apparatus to be worn for years, whereas by manual osteoclasis the patient's legs are straightened at once and the patient is made to walk about quite well with straight legs in from three to four weeks.

FIG. 4.



Reproduction of skiagraph taken on Oct. 21st, 1904, the day after manual osteoclasis.

Compared with cuneiform osteotomy, in my opinion, manual osteoclasis is far superior. In the first place, the bone is broken exactly at the spot and along the plane which is absolutely the proper one in order to allow the bone to become straight. It is impossible precisely to ascertain where this plane is situated until the bone has been broken. It is only by *straightening* the bone and allowing it to break that the proper line of fracture can be determined. Every operator knows how difficult it is to remove by cuneiform osteotomy exactly the proper-sized wedge and to remove it from exactly the correct plane in the bone. Secondly, the bone is lengthened instead of being shortened by the excision of a wedge-shaped portion. Thirdly, instead of an open wound with much damaged bone and periosteum a simple intraperiosteal greenstick fracture is produced which is firmly healed and permits the child to walk in three weeks Fourthly, the operation can be performed and the child treated as an out patient

It may be asked Is it always necessary that the bone should be broken? In my opinion it is imperative that the bone should be broken before the leg will remain straight For over a year I had under observation one child whose right leg I endeavoured to straighten by manipulation without breaking the bone but after a year s splinting and *repeated manipulations the right leg was still considerably* curved and had to be broken and straightened It is therefore in my opinion always essential that the tibia should be broken by manipulation The leg cannot otherwise be straightened On three occasions I have used this method of straightening a leg which had become deformed as the result of a fall some years after cuneiform osteotomy The eldest child so straightened was aged 12 years It is obvious that there is an age limit beyond which it is impossible to fracture the leg by manual manipulation, but in my opinion the leg of any child under ten years of age may be so broken where necessary

Wimpole street W

THE CAUSE OF PAIN IN CASES OF GASTRIC ULCER AND ITS BEARING UPON THE OPERATION OF GASTRO-JEJUNOSTOMY

BY C W MANSELL MOULLIN, F R C S ENG

SENIOR SURGEON AND LECTURER ON SURGERY AT THE LONDON HOSPITAL

THE walls of the stomach have no sensory nerves, that is to say no nerves capable of exciting that part of the nervous system which is concerned with the sensation of pain This has been proved by the method of operating under local anæsthesia They may be cut or crushed or burnt without exciting the slightest feeling And it is well known that a gastric ulcer may develop without causing pain or any other symptom until the barrier gives way and the contents of the stomach escape into the peritoneal cavity On the other hand it is no less certain that dyspepsia and gastric ulcer are usually attended by severe suffering and that not only is there pain but often great tenderness as well both deep and superficial There must be a reason for this difference and it seems to me that the reason is of some clinical significance In gastric surgery what is wanted more than anything else is greater accuracy of diagnosis and everything that can assist in diagnosis is of value

The characteristic pain of gastric ulcer comes on shortly after the food has entered the stomach grows worse and worse as digestion goes on and then gradually becomes less severe as the stomach empties itself Vomiting often relieves it at once Exceptionally it begins later and in a few rare instances it is stated that it is relieved by taking food It is clear that pain of this character is not due to contact of food with the mucous surface for it has been shown on many occasions that stimuli of this kind do not cause any sensation at all and that it is not due directly to increased acidity, for it has been proved that acids much

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stomach can cause pain by contact with its walls The only way in which the act of digestion can cause pain is by the movement of the stomach affecting the sensory nerves distributed around it, and there is abundant evidence to show that this is the chief if not the sole agent Sensory nerves derived from the intercostals are distributed in abundance in the parietal peritoneum or rather in the subserous cellular tissue that underlies it The least drag upon this is instantly resented If the patient is under an anæsthetic the *heart and the respiration show* the effect at once In one instance under my care in which the walls of the stomach were peculiarly hard and rigid (leather bottle stomach) I had for this reason alone to abandon the operation I had proposed and content myself simply with an exploratory laparotomy Respiration stopped at once when the least traction was made upon the stomach If the patient is not under general anæsthesia there is an immediate complaint of pain The painless ulcer that forms almost without a symptom and suddenly ruptures into the general peritoneal cavity is nearly always situated on the anterior surface far away from the parietal peritoneum and the sensory nerves The ulcer that causes the most suffering is either on the lesser curvature or at the pylorus unless it has already contracted adhesions to the parietal peritoneum elsewhere, so that it can drag upon it directly and the pain increases as *the movements of the stomach become more energetic* during digestion and ceases when they do Whether there are other accessory causes or not there can be no question that dragging upon the parietal peritoneum as the stomach moves during the process of digestion is the chief source of the pain in cases of dyspepsia and gastric ulcer

The reason for the intensity of the pain in so many cases of gastric ulcer is made clear in the same way Inflammation, starting from the lymphatics that drain the region of the ulcer spreads to the parietal peritoneum and makes it infinitely more sensitive Just as when the appendix is inflamed the parietal peritoneum which is continuous with its mesentery and in communication with its lymphatics becomes so sensitive that the faintest pressure upon the abdominal wall causes acute pain so it is with the stomach The lymphatics which drain the greater part of its wall converge towards the pylorus and the lesser curvature Whenever there is an inflamed area on the mucous surface or a sore that is irritated by contact

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enlarged glands are found in operations upon this region it is certainly more general than is usually imagined, but it is quite sufficient to render the attachments of the stomach more sensitive and to make the least pull upon them more painful than it was before As the cause of the pain in gastric ulcer is the movement of the stomach it naturally follows that it is felt most severely when the pyloric end is at work The cardiac end of the stomach is not in such close relation with the parietal peritoneum and in comparison is almost a passive receptacle The pyloric end is much more muscular and energetic In some instances the contraction of the pylorus itself is the immediate agent Jedlicka [1] for example describes spasmodic contraction of the pylorus as present in the majority of the cases of gastric ulcer associated with hyper acidity that were operated upon in Maydl s clinic In others it is the contraction of that ill defined but strong band of muscular fibres which surrounds the prepyloric region of the stomach and separates the antrum pylori from the rest Jedlicka in some of his cases describes this band as so much hypertrophied that when divided its cut surface was considerably greater than that of the pylorus In several instances I have found the same and in one case under my care section of these fibres (simple gastrotomy) effected a cure which seems as if it would be permanent The patient a man 39 years of age had suffered from pain and vomiting after food for three years and had had four attacks of hæmatemesis the two latest of which were serious When the stomach was opened neither ulcer nor scar was found All that was done was to divide this portion of the wall of the stomach

freely for the purpo

incision was sewn up

vomiting ceased Now

reports himself as still anæmic but except for that as well as he ever has been in his life In most of my cases however the contraction has not been confined to one or other of these parts but has involved the whole of this region It is very difficult to say what may be the normal size and thickness of the pyloric part of the stomach under varying conditions but I am convinced that in a large proportion of the cases in which I have operated for gastric ulcer it has been much thicker than it ought to have been especially in cases in which there was no marked degree of stenosis beyond

What is true of the pain in cases of gastric ulcer is also true of tenderness on deep pressure (The cutaneous hyperæsthesia so often present in this disorder is merely the expression of the irritability of the nerve centres kept up by stimuli reaching them from the visceral nerves) Tenderness on deep pressure is a measure of the sensitiveness of

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[1] *Zur Operativen Behandlung des Chronischen Magengeschwürs.*

the parietal peritoneum. It means that this is in a state of active hyperæmia, or even of slight inflammation, kept up by irritation conveyed to it from the affected area on the wall of the stomach. Naturally, in the majority of instances the tenderness is greatest in the epigastrium, either in the middle line or slightly towards the right, for this corresponds approximately with the lesser curvature. When it is definitely localised elsewhere and persistent it usually indicates adhesion to the abdominal wall and if it is in the front the tenderness is often associated with contraction of the corresponding segment of the rectus.

This is not merely an academic consideration. It has a very important bearing upon the ultimate success of the operation for gastro-jejunostomy. The object of this operation, when it is performed for chronic gastric ulcer, is to drain the stomach and place it at rest. If this can be accomplished the vomiting and pain cease. If the pain continues it means that there is still dragging upon the sensory nerves under the parietal peritoneum around and that the operation has failed in one important particular. To accomplish this in all cases is no easy matter. If the ulcer is comparatively small, so that it can be excised and merely a thin linear cicatrix left without any puckered bands or adhesions, success is fairly certain. But in the majority of cases, by the time a surgeon is allowed to operate course after course of medical treatment has been tried and has failed and the wall of the stomach has become so far involved that excision of the ulcer means a fairly large gastrectomy. In such cases there is usually no option if gastro-jejunostomy is contemplated. The opening in the stomach must be made where it can be. But when there is a choice the opening should either be made quite at the cardiac end, so that the pyloric portion has no work to do; or if it is made near the pylorus there must be a very free division of the circular muscular fibres, as in the case of simple gastrotomy I have mentioned already. It does not matter so far as the stomach is concerned (the relation of the jejunal loop to the colon is a different question) whether the opening is made upon the anterior or the posterior surface; the weight of the bowel very soon drags it down into the most dependent position. But it is of the greatest importance for ultimate success either that the stomach should be prevented from doing any energetic work or, if this cannot be managed, that it should be prevented from dragging upon the parietal peritoneum by dividing either the fibres that enable it to do so or the peritoneal adhesions.

I have recently been engaged in tracing out the after-history of patients upon whom I have operated for various disorders in connexion with the stomach from two to ten years ago and I have been very much struck with the conspicuous absence of pain in some of the worst cases in which, owing to the presence of adhesions, I had been compelled to make the gastric opening quite at the cardiac end, a situation usually regarded as inadvisable. The reason, I think, is obvious. The pyloric portion ceases to contract or do any work if the opening is sufficiently free and the stomach no longer drags upon the sensory nerves in the parietal peritoneum.

Wimpole-street, W.

A CASE OF

RECURRENT OR SUCCESSIVE OVARIAN PAPILLOMA WITH SEQUENT VENTRAL HERNIA,

FOLLOWED BY CERVICAL EPITHELIOMA; TWO ABDOMINAL CŒLIOTOMIES; OPERATION FOR VENTRAL HERNIA; VAGINAL HYSTERECTOMY; RECOVERY.

BY E. STANMORE BISHOP, F.R.C.S. ENG.,
HONORARY SURGEON TO ANCOATS HOSPITAL, MANCHESTER.

IT is not often that any one surgeon is able to follow a case of this kind in its entirety, as patients so frequently change their attendants if one operation is followed by the necessity for another. It is therefore fortunate that in this instance it has been possible to record an unbroken series of events.

The patient was a widow, her husband having been dead 14 years before the first operation. She was a florid, stout woman and had had three children but no miscarriages. Menstruation had always been regular until August, 1898. She had always had pain for one or two days before each period, this passing off when the flow was established. In July, 1898, she consulted Mr. G. Knapton of this city for certain symptoms, when he discovered a tumour in the abdomen which appeared to be ovarian. In the middle of August of the same year whilst standing at the top of a flight of stairs she became giddy and fell to the bottom. Up to this time she had not herself noticed much increase in the size of the abdomen but now it began to increase rapidly and Mr. Knapton found that the defined swelling noted before had disappeared, whilst in its place the abdomen contained a much larger amount of free fluid. Various other changes were also apparent. Whereas previously the menses had recurred once every month, they now were seen every fortnight, whilst constant aching pain in the hips and sacral region was observed.

In November, 1898, the abdomen being greatly distended, she was tapped by Mr. Knapton who removed in this way three and a half gallons of clear amber viscid fluid. Before this there had been frequent desire to urinate, especially at night, associated with some difficulty. After the tapping this symptom disappeared. On Nov. 29th, 1898, I was requested to see her with Mr. Knapton in consequence of the rapid recurrence of distension with fluid. The circumference at the level of the umbilicus was 45½ inches. The vertical measurement from the pubes to the umbilicus was eight inches and from the umbilicus to the xiphoid cartilage 18 inches. The abdomen was somewhat pendulous. Percussion showed free fluid which moved somewhat slowly on change of position. The pulse was 108 and the respirations were 24. The last period finished on Nov. 11th, having lasted four days.

On Nov. 30th, the patient being in the dorsal position, a median incision was made between the umbilicus and the pubes, passing through the left rectus muscle, the fibres of which were bluntly separated by the handle of the knife. On opening the peritoneum there was an immediate gush of viscid—almost mucilaginous—amber fluid; loops of small intestine and thickened, lumpy omentum protruded. After a large quantity—several quarts—of fluid had escaped, the hand was introduced and passed into the pelvis. The fundus uteri was recognised and partially covering this and extending to the left side was a soft, pulpy mass which when brought into the wound resembled the interior of inflamed small intestine. It was red and velvety, of about the size of a small child's head, and was attached to the left broad ligament by a narrow pedicle. By the side of it lay a normal Fallopian tube with open fimbriæ. The pedicle was tied and divided, the peritoneum being sewn over the stump. No other growth was found and the left ovary and tube were healthy. On removal the under surface of the pulpy mass was smooth and looked like the wall of a cyst. It appeared to us as if a cyst had previously existed, had been burst by the fall, and become turned inside out. As large quantities of thick pulpy fluid still poured out two glass drainage-tubes were passed into Douglas's pouch and the abdomen was irrigated. The abdominal wound was closed down to, and around, these. As the patient recovered from the anæsthetic she began to retch and fresh quantities of the same pulpy fluid poured out, soaking the dressings, the patient, and the table. At 10 P.M. reaction had been good but a large amount of fluid had flowed through the tubes, requiring frequent changes of dressings and causing great difficulty in keeping the patient and the bed dry. This continued for 24 hours, after which the amount of fluid lost very rapidly decreased. One tube was removed on Dec. 1st, the next on the 2nd, and a small gauze drain left after the second tube was taken away on the 4th. The mucoid, viscid character of the discharge altered to reddish serum on the 2nd, three days after the operation. A catheter was not required, urine being passed normally on the 1st. Flatus was passed on the 2nd and the bowels acted well after a turpentine enema on the 3rd. The temperature was never above the normal. On the 27th she left the surgical home apparently perfectly well.

In August, 1899, the patient again noticed some increase in the size of her abdomen which became somewhat rapidly larger. In September she felt pain in the right inguinal and iliac regions and this became more intense in October, necessitating her confinement to bed. For a fortnight before observation this pain had been severe, preventing sleep, and for the last week had been accompanied by numbness in the right thigh. I saw her with Mr. Knapton, who had been in attendance, on Oct. 31st, 1899. The abdomen was greatly enlarged, the circumference at the umbilicus being 53 inches. There was free fluid in the abdomen. A large bilobed mass, dull on percussion, was felt in the hypogastrium extending from the pubes to some two or three inches above the umbilicus on either side. Pressure over this elicited some tenderness, most marked on the left side. There had been since the last operation some vaginal discharge which lately had smelt slightly. There was no pain on micturition or defecation but there had been some difficulty in the performance of the former act. She believed that she had lost weight. She could not lie on either side and was somewhat breathless. The heart and lung sounds were normal. There was no enlargement of the liver. Bimanual examination of the vagina showed that the uterus was normal in size and perfectly mobile, its movements not being communicated to the mass above. The os was split on both sides to the vaginal vaults but the surfaces were smooth and not friable. The examination [illegible] the [illegible] of [illegible] ned nearly in the line of the previous scar. On opening the peritoneum there was a gush of large quantities of similar yellow glutinous fluid as before. A mass similar to that previously removed was found springing from the edge of the right broad ligament. Its pedicle occupied the site of the right Fallopian tube which was not found. By its side, and external to it, was a firm body of the size and shape of an ovary, in which was imbedded a small cyst. Behind the uterus and adherent to it was another semi-gelatinous mass of the size of a small walnut. The peritoneum was injected and so was one coil of small intestine, the peritoneal coat of which presented a finely villous appearance. Both masses were removed along with the ovary; the abdomen was freely irrigated with saline solution until the latter returned clear and the abdominal wound was then entirely closed without drainage. Recovery was uneventful.

In January, 1902, the patient returned for the third time. There was a small ventral hernia at the site of the last operation but this did not give her much trouble. The symptoms of which she chiefly complained were a foul vaginal discharge, mixed with blood and associated with loss of flesh. On examination per vaginam the anterior lip of the os presented a crateriform ulcer with friable walls. On Jan. 26th the sac of the ventral hernia was dissected out. The opening through which bowel had escaped was double, each aperture being of the size of a shilling, and the two were separated by a narrow band of fascia. Both sacs had burrowed to some distance into the subcutaneous fat. After being freed they were twisted, after Ball's method, and ligatured, the excess being cut off and the stump reduced into the abdomen. One side of the fascia was then brought over that on the opposite side and united by mattress sutures. As [illegible] returned to [illegible] 2nd. [illegible] l and there had been no sickness. Vaginal hysterectomy was now done and the uterus was removed. As there was some troublesome hæmorrhage three or four clamps were left on the broad ligaments and the pelvic peritoneum was not united. The vagina was filled with gauze. This operation was followed by some vomiting with abdominal pain. Later there was much flatulence, with borborygmi. The catheter was used until after removal of the clamps which took place 48 hours later. After this urine was passed naturally. All sutures came away by the tenth day. Healing was complete [illegible] March 20th [illegible] he reported [illegible] operation [illegible] y growths. [illegible] ctive tissue centres, covered by well-defined columnar epithelium. There was a clear boundary line between the two which was perfectly continuous. The growths were evidently simple papillomata. Sections through the edge of the uterine ulcer showed cell nests.

Opinions differ somewhat with regard to these [illegible] Thus Giles and Sutton[1] say that there is reason t[illegible] that they arise in the paroophoron, that they always burrow between the layers of the mesosalpinx. They speak of them as always cysts in the beginning which may burst by overgrowth, the dendritic masses within then protruding and infecting the peritoneum; whilst Williams, in 1892, collected 26 instances of what he designates "surface papillomata." These growths, he says, are generally bilateral and invade the pelvic peritoneum, producing, as a result, hydro-peritoneum in most of the cases; and Senn[2] declares that papillary tumours on the surface of the ovary have been observed by Gusserow, Klebs, Birch Hirschfeld, and Winckel. Similarly the question of their innocency or malignancy appears hardly to have been decisively settled. Semb[3] declares that they are most benign neoplasms, do not cause cachexia, never give metastasis, are not destructive, and do not return. Pozzi[4] says they are ordinarily benign but may sometimes become malignant in the extreme. Alban Doran[5] says that the implantation of papillomatous growth on the peritoneum may prove clinically malignant within a few months or it may completely wither after removal of the tumour. Tauffar[6] insists that some papillomatous growths of the ovaries are essentially innocent, whilst others are distinctly malignant. He[7] makes ingenious comparison between them and the condylomata seen about the vulva in cases of gonorrhœa. In this case they were certainly bilateral but did not both appear at the same time. At the date of the first operation the right ovary, tube, and broad ligament were examined and found to be absolutely free from growth and although they were attacked later there was an interval of 13 months between the dates at which the patient's attention was drawn to the results of their respective invasions. It will have been noted that at the second operation a secondary mass was removed from the posterior uterine wall. When the uterus itself was taken away a little more than two years after no trace of the occurrence of such growth at any time could be found, the peritoneum, so far as could be seen, was healthy, and no fresh accumulation of fluid had taken place.

The patient has been, and remains, perfectly well (February, 1905).

Manchester.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF ACUTE INTUSSUSCEPTION OF THE SIGMOID COLON DUE TO A SUBSEROUS POLYPOID LIPOMA; LAPAROTOMY; EXCISION OF POLYPUS; RECOVERY.

BY JOHN HOWSON RAY, M.B. VICT., F.R.C.S. ENG.

THE patient was a woman, aged 30 years, who was admitted to the Salford Royal Hospital on Dec. 1st, 1904, suffering from acute intussusception of the colon with complete intestinal obstruction and the protrusion of a subserous polypoid lipoma at the anus. She was seen by Dr. J. Stavely Dick two days previously and gave a history of abdominal pain in the left lumbar and iliac regions for the past six months; this pain was noticed chiefly at, and after, defecation. On Nov. 29th, 1904, she had very severe pain after defecation and was somewhat collapsed. Complete intestinal obstruction occurred on this day and vomiting was frequent and excessive. An enema given on Dec. 1st was followed by a violent expulsive effort during which a polypus as large as a medium sized orange protruded through the anus. This was taken to be the apex of the intussusception, an opinion verified by the subsequent laparotomy.

On admission to the hospital an operation was performed forthwith and an incision about four inches long slightly *to the left of the* middle line opened the peritoneal cavity and allowed the whole length of the intussusception to be made out. This was about 12 inches long; the neck was over the left sacro-iliac synchondrosis and the pelvic cavity [illegible] blood-stained fluid. By the aid of an assist[illegible] sception was raised to the [illegible] n this point reduction was fairly easy. The last part to unfold was at the junction of the middle and outer thirds of the omega loop, and this was brought out of the laparotomy wound and found to contain a tumour that completely blocked the lumen of this part of the colon. The colon having been incised the tumour was exposed and found to be the same mass that had protruded through the anus. The tumour was removed and it was necessary to cut through the wall of the bowel completely to effect removal, thus opening into the mesocolic angle. The wounds in the bowel were sutured with celloidin thread and the abdominal wall was closed in four layers, leaving a small drainage-tube at the lower angle of the wound so as to reach the bottom of the pelvic cavity. The after-treatment was simple and the subsequent progress of the case was uneventful. The tumour proved to be a circumscribed subserous lipoma, apparently growing from the mesocolic angle and producing an inverted diverticulum into the colon. The tumour measured two and three-quarter inches by two and a quarter inches by one inch in the three chief diameters and was ovoid in shape, weighing about two ounces five and a half drachms. The mucous membrane over the tumour was intensely congested and showed marked evidence of circulatory obstruction.

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[1] Diseases of Women, p. 269.

[illegible] 148

The patient was shown at the meeting of the Manchester Medical Society on Feb. 1st, when attention was drawn to the statistics of intussusception with special reference to cases of intestinal polypi and diverticula.

Manchester.

FRACTURE OF THE ANTERIOR FOSSA OF THE SKULL INVOLVING THE OPTIC AND SIXTH NERVES.

BY LAURENCE C. PANTING, M.D., B.CH. OXON.,
HONORARY MEDICAL OFFICER TO THE ROYAL CORNWALL INFIRMARY, TRURO.

THE following case seems to be worth recording on account of the somewhat unusual features which it presents, more especially as a similar case has been recently published in THE LANCET.[1]

A boy, aged eight years, was admitted into the Royal Cornwall Infirmary under my care with a history of having been run over by a cart, laden with stones, four hours previously. There had been no bleeding from the ears but there had been bleeding from the nose which had ceased before the arrival of the patient at the hospital. A lacerated wound in the scalp reached from a little below the parietal eminence to the coronal suture with a fracture of the skull extending its whole length, a second fracture almost vertically downwards meeting it about the middle. The angular piece of bone lying posterior to the vertical fracture was depressed. There was no subconjunctival hæmorrhage but there were ecchymosis in the right lower eyelid and surgical emphysema of the cheek due (?) to fracture in the antrum of Highmore. There were also bruising of the chest with surgical emphysema and acute tenderness over the sixth and seventh ribs. Although it could not be definitely made out there was almost certainly a fracture of the rib, as the absence of breath sounds and of voice sounds and the hyper-resonance of the percussion note showed that air was present in the pleural cavity also. The pupils reacted to light and were equal and moderately dilated. The boy was said to have been absolutely unconscious for about a quarter of an hour after the accident; he had regained partial consciousness when admitted into the hospital though he could not answer questions. The respirations were 48 and were shallow but regular; the pulse was 160 and regular and the temperature was 100° F. The urine contained a considerable quantity of sugar, due obviously to the cerebral lesion, but otherwise it was normal.

About two hours after admission an operation was performed for the elevation of the depressed fragment of the skull. The wound was somewhat enlarged and a small hole was trephined in the normal portion of the skull in the usual way and the depressed portion was elevated. The dura mater was found to be pulsating normally and was quite uninjured. The wound was then packed with gauze and the patient returned to bed. On the following day the boy was much better, the respirations had fallen to 34, the pulse to 120, and the temperature to normal; the urine was free from sugar and entirely normal. It was now noticed for the first time that though the position of the eyes at rest was normal, yet the right eye could not be moved outwards beyond the vertical meridian and the direct reflex to light was absent or present only to a very slight extent; the consensual reflex, however, remained normal. Vision with the right eye was very much impaired over the whole field of vision and the patient could only count fingers with difficulty. The fundus showed considerable changes, the papilla being swollen and blurred, the arteries diminished in size, and the veins swollen, while there were numerous bright hæmorrhages in the macular region. The boy made an uninterrupted recovery, the wound being healed in ten days and the lung regaining its activity in a little over a fortnight. The hæmorrhages in the fundus became darker and decreased until only a few of those close to the macula were visible, while the papilla became well defined and white and was clearly in a state of atrophy. This was the condition when the boy left the hospital at the end of three weeks entirely recovered excepting as regards the eye.

In this case it seems clear that the fracture reached forwards into the orbit and that the optic and sixth nerves were directly injured by it—in fact, an x ray photograph taken about a fortnight after the accident demonstrated the fracture reaching to the outer edge of the orbit. Since the continuity of both nerves was affected it seems probable that a like cause affected both and if this be so it can only have been direct injury by a portion of bone and not due to hæmorrhage into the sheath, since of course the sixth nerve is not like the optic provided with a sheath. The whole permanent injury, then, to the eye may probably be assumed to be due to the lesion of the nerves and this is supported by the fact that the consensual reflex was unaffected. The loss of the direct reflex must then be due entirely to the injury to the optic nerve and it is interesting to note that the reflex suffered considerably more than the conduction of light.

Truro.

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[1] THE LANCET, Jan. 21st, 1905, p. 158.

A Mirror
OF
HOSPITAL PRACTICE, BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ROYAL BERKSHIRE HOSPITAL, READING.

A CASE OF PERITONITIS DUE TO THE PNEUMOCOCCUS.

(Under the care of Dr. FRANCIS H. HAWKINS.)

A YOUTH, aged 16 years, was admitted into the Royal Berkshire Hospital under the care of Dr. F. H. Hawkins on April 14th, 1904, complaining of abdominal pain, vomiting, and diarrhœa. On April 9th the lad was quite well; on the 10th at night he was suddenly seized with severe abdominal pain; on the following morning he commenced to vomit and this vomiting continued until the day of admission. The bowels were at first constipated but for two days previously to admission they were moved three and four times during the day.

On admission the patient was noted to be lying on his back with his legs slightly drawn up. He was well developed, with dark hair, flushed face, eyes staring, and mouth firmly closed. The alæ nasi moved rapidly in respiration which was entirely nasal. The tongue was coated but moist. The abdomen was distended and moved but slightly in respiration; when the patient was asked to open his mouth and to breathe, however, the upper part of the abdomen moved freely, but oral breathing caused much abdominal pain which was general. Palpation, even of the slightest, caused pain in all regions. There were no dulness and no localising symptoms of appendicitis and rectal examination gave no indication of it. The lower border of the liver dulness was level with the costal margin. The respirations were 40, the pulse was 112, and the temperature was 101° F. Examination of the heart and the lungs gave no evidence of disease.

For two hours after admission the patient continued to vomit frequently, this being of an *olive-green colour.* Dr. Hawkins then asked his surgical colleague, Mr. J. A. P. Price, to see the patient with a view of operating. This was determined upon and when the abdomen was opened purulent fluid and flakes of lymph exuded The appendix was not diseased

Necropsy —(For the notes of this Dr Hawkins is indebted to Mr J R Thomas who was then house physician) "Abdomen large quantity of purulent fluid, whole bowel much congested, veins of mesentery engorged Bowels covered with lymph Appendix *normal* Spleen slightly enlarged, congested, other abdominal organs passively congested Lungs congested Heart normal' Thinking that the case might be one of pneumococcic peritonitis some of the pus was sent to the Clinical Research Association from which the following report was received "Media were inoculated with this specimen and from subcultures bacilli coli communis and a diplococcus indistinguishable from the pneumococcus were obtained

Remarks by Dr HAWKINS —From the above report I feel justified *in recording this case as one of pneumococcic* peritonitis But few cases have been recorded in British literature Sir Dyce Duckworth and Dr Frederick Taylor have both recorded cases in the Transactions of the Clinical Society, while Dr J H Bryant in a paper read at the meeting of the British Medical Association in 1901 records three cases In foreign literature however, this subject has received much more attention From a study of cases it appears that pneumococcic peritonitis occurs more in children than in adults more in girls than in boys and amongst adults more in men than in women When met with as acute primary peritonitis especially in cases sent into hospital with well [illegible] cult to distinguish [illegible] is so frequently [illegible] member that in pneumococcic peritonitis the onset is very sudden especially so in children, they are usually apparently quite well one day and the next acute abdominal pain arises followed by vomiting in nearly all cases and by diarrhœa in most Herpes may be present and the temperature in some instances *assumes the pneumonic character* In the adult, while the onset is equally acute, the pain may be violent colicky without vomiting or diarrhœa The attack may pass from the acute into a chronic stage with relatively few peritoneal symptoms This form of peritonitis may be local or general The prognosis of these cases is so far as the published cases in English literature are concerned unfavourable Thus out of six cases recorded only two recovered—one, a female aged 27 years, and the other, a girl, eight years of age Dr von Bonn, however, expresses *the opinion that the prognosis is good*

EGYPTIAN GOVERNMENT HOSPITAL, ALEXANDRIA

A CASE OF CONTUSION OF THE ABDOMEN, RUPTURE OF THE LARGE INTESTINE OPERATION, RECOVERY

(Under the care of Mr A WEBB JONES)

THE *patient a little Egyptian girl, aged 11 years*, was admitted to hospital about 4 30 P M on Dec 9th having [illegible] the seat of a large swing near [illegible] admission she complained of [illegible] mediately above the pubes and [illegible] en of urine obtained showed nothing abnormal The pulse was rapid but of good volume and strength She was treated with hot fomentations and rest in bed When first seen by Mr Webb Jones at 10 30 A M on the next day he found the child very restless and vomiting copiously a watery and bilious material The expression was anxious On examination the skin showed a transverse linear bruise of the right thigh immediately below the anterior superior iliac spine The upper half of the abdomen moved with respiration but below the umbilicus there was little or no movement Over the motionless area the abdominal wall was very tender and rigid, whilst the note was slightly impaired. The pulse was 140 but of fair volume and strength On re examination *at 2 30 P M the condition of* the abdomen was unchanged but the facial expression had greatly altered for the worse A diagnosis of ruptured intestine was made and the patient was at once sent to the operating theatre

On opening the abdomen (slightly to the right of the median line) a quantity of thin yellow, slightly feculent smelling fluid escaped and with it some flakes of lymph On withdrawing the first loop of intestine which presented a perforation was discovered of about the size of the tip of the little finger The bowel for a distance of about eight inches in either direction was intensely congested and covered in places with patches of adherent lymph Beyond these limits, however the gut presented a normal appearance Makins s clamps were applied above and below the perforation and the rent *was closed by a simple catgut suture invaginated* by a continuous Lembert s suture of silk In the course of the manipulations a small quantity of semi solid fæcal material was extruded from the rent The portion of gut (sigmoid flexure) affected was then gently sponged with hot sterile water and carefully examined At the same time, with the edges of the wound held widely apart so as to give free exit to the fluid the nozzle of an irrigator was introduced into the pouch of Douglas In this way, the mesentery of the sigmoid flexure forming *a sort of natural barrier the soiled section of the peritoneum* was thoroughly cleansed without attacking the general peritoneal cavity as a whole No attempt was made to remove any residual water and the wound was closed in layers, leaving a small gauze drain and rubber tube at the lower extremity Feeding was commenced in 24 hours with spoonfuls of lime water and milk in gradually increasing quantities The tube was removed on the second day and replaced by a very fine gauze wick The bowels were opened naturally on the fourth day and from that time recovery was *uninterrupted, the upper portion of the wound healing by* first intention

Remarks by Mr WEBB JONES —The diagnosis presented but little difficulty The general symptoms—pulse, vomiting, and facial aspect—or more especially their steady increase in severity in spite of rest and warmth made it certain that some serious internal injury was present At the same time the local condition of pain, tenderness, and rigidity in the lower half of the abdomen with an absence of urinary changes pointed to a rupture of *the intestine as the most probable lesion With regard to* treatment it would seem that where the intensity of the inflammation is limited a limited irrigation (as in the [illegible] than an irrigation of the [illegible] has published a case in [illegible] rent the patient died on the twelfth day from a second perforation The latter rupture had apparently resulted from the giving way of a second spot the vitality of which had been irrevocably damaged by the original accident His case emphasises the *importance of carefully* scrutinising the coil of bowel involved and if necessary of invaginating any suspicious spots with a Lembert suture A point of interest in the present case is the time (unavoidable) that elapsed before operative measures were employed This must have been at least 22 hours

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Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY

Subsequent Course and Later History of Cases operated on for Appendicitis

A MEETING of this society was held on Feb 28th, SIR RICHARD DOUGLAS POWELL Bart the President, being in the chair

SIR FREDERICK TREVES opened a discussion on the Subsequent Course and Later History of Cases operated on for Appendicitis He divided the matter for discussion under two heads—the first including the various degrees of imperfect relief or of imperfect recovery after operation and the second the complications which arose in connexion with the operation but which were not directly due to the primary disease For the materials on which his paper was based he was indebted partly to his own case books and partly to a large number of statistics which had been obtained for him by Mr Hugh Lett Mr Lett had written something like 800 letters to patients who had been operated on at the London Hospital for appendicitis with a view to obtaining information as to their subsequent history and had constructed statistical tables of 1000 cases of operation for

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[1] Annals of Surgery, 1903

appendicitis at the London Hospital between July 1st, 1900, and August 15th, 1904. Imperfect results following removal of the appendix during the quiescent period were first considered and belonging to this class he had found 45 instances in his own books and 11 in the records of the hospital. The recurrence of attacks similar to those which had occurred before operation was due in some instances to the fact that there had been failure to remove the diseased appendix and in others to the presence of an appendix stump, a condition which emphasised the necessity of removing the appendix flush with the cæcum. In a much larger class the persistent symptoms had been caused by the presence of chronic inflammation of the right ovary and an example of such a condition in a woman, 30 years of age, was cited. Sir Frederick Treves thought that in order to avoid this possibility the right ovary should be systematically examined in all cases and that for the purpose a free opening by cutting the abdominal muscles was preferable to the more conservative method of splitting their fibres. In a certain number of cases a pre-existent colitis recurred after operation for appendicitis and gave rise to the statement of the patient that no relief had been obtained. Such cases usually recovered after several months of treatment. There were other cases in which constant pain in the right iliac fossa followed the operation and some of these were probably neuralgic in character and others were distinctly neurotic. The term neurosis was often a cloak for ignorance but it appeared to be appropriate to a patient who had resisted all ordinary methods of treatment and had eventually found relief in some form of "nature cure." Gall-stones, colic, moveable kidney, and renal calculi had been responsible for the return of symptoms simulating previous attacks of appendicitis in other instances. Finally there occurred tender painful lumps in the right iliac fossa, which in one case had been inflammatory, in three cases had been due to impacted fæces, and in another were the result of the presence of tuberculous glands. In 100 imperfect results following the evacuation of perityphlitic abscesses 40 were due to persisting sinuses, 24 to recurring abscesses, 16 to recurrent attacks of appendicitis, 12 to fæcal fistulæ, and eight to inflammatory deposits in the right iliac fossa. The majority of persistent sinuses were caused by the presence of a diseased appendix or a concretion. The recurrent abscesses, in the absence of a similar exciting cause, could be looked upon as independent of the appendicitis and common to all forms of local suppuration. The inflammatory masses were often diagnosed as pelvic sarcomata owing to their situation and extreme density but tended to resolve without special treatment. With regard to the presence of fæcal fistulæ four points should be remembered—viz.: (1) as long as the fistula persisted a second attack of appendicitis was extremely unlikely; (2) a fistula which was not due to actual cutting or tearing the bowel tended to heal spontaneously; (3) a fæcal fistula occurring some days after operation was more favourable than one which appeared at the time of operation; and (4) a diseased appendix or concretion was responsible for the persistent fistula in certain cases. An important question in the treatment of cases of perityphlitic abscess was whether, in the event of the appendix having not been removed at the time the abscess was evacuated, a second operation for appendicectomy should be performed in the subsequent quiescent period. With a most liberal estimate only 17 per cent. of cases showed any recurrence of symptoms after the abscess had been drained without removal of the appendix, and in 83 per cent. therefore such a second operation was unnecessary. Taking this fact and the well-known difficulty of the operation into consideration, the conclusion to be drawn was that a second operation should not be performed unless there was evidence of recurrent mischief. The complications associated with the operation for appendicitis were not fully considered and reference only was made to the fact that in 11 out of 12 cases of femoral thrombosis it was the left vein which had been involved, a circumstance which was not easily explained.

Sir WILLIAM BROADBENT considered that the discussion was one in which the physician could hardly take a part as it was unusual for him to be acquainted with the after-history of patients who had been handed over to surgical treatment. He was thankful that when imperfect results followed operative measures the patient almost invariably returned to the surgeon.

Mr. CHARTERS J. SYMONDS stated that in a series of 72 private cases he had met with one case of left femoral thrombosis, one fatal case of cardiac embolism, one case of non-fatal pulmonary infarction, and one pelvic abscess. 71 of these cases were perfectly relieved, although one was suffering from pain of renal origin. Out of 50 hospital cases there were no instances of venous thrombosis but two had recurrence of pain in the right iliac region. In one of these the pain was relieved by suturing the kidney and in the other the kidney was probably also at fault. Three cases had come under observation for recurrence of symptoms after operation by other surgeons. The right kidney was the seat of disease in two patients and in the third the symptoms were probably neurotic. Out of 37 cases in which the operation had been performed during the acute stage the appendix had not been removed in 14, two of which had had recurrence of suppuration. Mr. Symonds agreed with Sir Frederick Treves that thrombosis of the femoral vein was most common on the left side and he considered that the infrequency of its occurrence in his own series might be partly explained by the fact that he encouraged movement of the legs and the early attainment of the sitting posture after operation. In the absence of evidence of septic absorption it was sufficient to lay open a perityphlitic abscess and to drain it but when symptoms of septicæmia were present it was desirable to remove the diseased appendix.

Sir LAUDER BRUNTON thought that the majority of cases operated on for appendicitis remained perfectly well but a few returned to the physician with symptoms of chronic colitis which had existed previously. The pain in some of these cases was possibly due to adhesions involving nerves as it was not infrequently referred not only to the iliac region but also to the thigh. He had seen the symptoms of hepatic colic and those of appendicitis associated and in another case he had suspected the coexistence of pancreatic calculi and perityphlitis.

Mr. A. PEARCE GOULD based his observations on 300 cases of operation for appendicitis in private and hospital practice. He agreed that it was often difficult and sometimes impossible to remove the appendix but was fully aware of the disastrous results which sometimes supervened when the removal was imperfect. In only 10 per cent. of cases in which an abscess had been drained without removal of the appendix had there been any recurrence of symptoms; the justification for a secondary appendicectomy, therefore, was not evident without some special indication. Many complications had been observed, including femoral and internal saphenous thrombosis, cerebral softening, acute intestinal obstruction, ovarian suppuration, gangrene of the cæcum, and two cases of parotid bubo. Out of 214 cases of removal of the appendix without suppuration there had been only three deaths, one due to cardiac failure, one to septicæmia, and one to septic peritonitis. Out of 92 cases of perityphlitic abscess and general peritonitis 25 had died. There was ground to hope that with improved diagnosis and a clear recognition of the fact that operation should not be postponed until suppuration had taken place the mortality in cases of appendicitis would be very considerably reduced.

The meeting, which was very largely attended, was adjourned until Tuesday, March 7th, at 5 P.M.

MEDICAL SOCIETY OF LONDON.

Analysis of 300 Consecutive Gynæcological Laparotomies.—Some Remarks on Cæsarean Section.

A MEETING of this society was held on Feb. 27th, Mr. JOHN LANGTON, the President, being in the chair.

Dr. A. H. N. LEWERS read a paper based on an analysis of 300 Consecutive Gynæcological Laparotomies. Dr. Lewers gave in statistical form a very brief description of about 60 cases belonging to this series and these served to illustrate the great variety of conditions which he had found and the many difficulties that he had met with in dealing with different pelvic diseases. In summarising his results he divided his cases into nine different groups in the following manner: 1. Ovariotomy. 100 cases with no mortality. In 29 cases the ovaries on both sides had been removed and in 18 cases he had met with twisted pedicles. 2. Abdominal hysterectomy for fibroids. 73 cases with four deaths. Two cases had died from intestinal obstruction, one from shock, and one from peritonitis. 3. Removal of inflamed uterine appendages. 47 cases, four of which died. In each of the fatal cases the condition found was that of pyosalpinx. 4. Abdominal section for ectopic gestation, 33 cases and one death 5 Abdominal hysterectomy for conditions other than fibroids 17 cases with six fatalities Among these were instances of complication with such serious conditions as chronic Bright s disease, chronic bronchitis pulmonary embolism &c 6 Exploratory laparotomy 14 cases, of which five died In this series there were seven instances of malignant disease two of which proved fatal one case of intestinal obstruction, and one case of appendicitis 7 Cæsarean section Eight cases with one death, the latter supervening in a patient who had been in labour for four days before the operation was undertaken In six of this series section was performed on account of contracted pelvis and in the other two on account of tumours obstructing the pelvic outlet 8 Myomectomy Three cases with no deaths 9 Hysteropexy Five successful cases In the whole series there were 21 deaths, giving a mortality of 7 per cent

Dr W J GOW read a paper dealing with Cæsarean Section He reminded his audience that until recent years this operation had been one of almost academic interest and nearly invariably fatal Although it was now performed with much more success it did not yet occupy the important position which it should do and which he anticipated it certainly would do in the future His experience was based on 26 cases in which he had had no maternal death and in which all the children had been born alive although three had died in the early days of infancy In 25 of the cases the operation had been undertaken on account of contracted pelvis and in one on account of a fibroid obstructing labour The most advantageous time for Cæsarean section was at full term, either just before or during the first stage of labour and especially before the membranes had ruptured His first case was that of a rachitic dwarf and he was called upon to operate after labour had been going on for 12 hours The uterus was in a state of tonic contraction and had almost to be split in two a leg having escaped into the vagina and presented at the vulva There was very little hæmorrhage and silk ligatures were used in suturing the uterine wall The indications for performing Cæsarean section were (1) pelvic contraction or tumour obstructing labour, and (2) a child at or near full term and in a vigorous condition The latter was necessary because for some unknown reason infants delivered by this method were subjected to very considerable shock In the majority of instances the operation was simple and required very few instruments only one nurse and one assistant The abdominal incision need never be more than four inches in length and it was well to remember the extreme thinness of the abdominal wall in many women at the end of pregnancy The presence of the placenta on the anterior wall of the uterus did not in Dr Gow s experience add to the difficulties It should be rapidly cleared away from its attachments and not incised The child should be extracted if possible, by the feet and after the cord was tied, placed in a warm bath until he was disposed to breathe Artificial means of inciting respiration were to be avoided The uterus should be closed and returned into the abdomen as rapidly as possible in order to secure good contraction In ordinary circumstances the escape of liquor amnii into the peritoneal cavity was attended with no bad consequences but in one case in which the fluid had become contaminated by an ante partum vaginal discharge it had infected the peritoneum and given rise to several localised abscesses These had been opened and drained with success Dr Gow had not found that in performing a second section which he had done in three cases there had been any serious inconvenience due to the presence of adhesions He did not intend to perform symphysiotomy in any circumstances and he considered that the removal of the body of the uterus after Cæsarean section was not only superfluous but a step in the wrong direction

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CLINICAL SOCIETY OF LONDON.

Exhibition of Cases

A MEETING of this society was held on Feb 24th, Dr FREDERICK TAYLOR the *President* being in the chair

Dr J H BRYANT showed a case of Anæmia Splenica with marked pigmentation and clubbing of the fingers A man aged 48 years temperate who had never been abroad had in July, 1876 a severe fall and was struck on the left side of his abdomen In 1900 he suffered acute abdominal pain and was told that he had an enlarged spleen In January 1904 a severe attack of abdominal pain was accompanied by hæmatemesis He had a yellowish brown complexion, his fingers were markedly clubbed, and the spleen was enlarged and extended two inches below the umbilicus, there were numerous patches of dark brown pigmentation in the skin over the dorsum of the feet and the front of the legs, the urine was normal, the red blood corpuscles numbered 4 350 000 per cubic millimetre, there was 70 per cent of hæmoglobin, the *colour index was 0 8 and the white blood corpuscles* numbered 4375 per cubic millimetre —The PRESIDENT remarked on the rarity and obscurity of the case and mentioned another which resembled it in some respects but which had in addition a much enlarged liver —Mr W J HARRIS asked whether Dr Bryant considered that cases of splenic anæmia without pigmentation and clubbed fingers should be placed in a different category to the one exhibited —Dr A G PHEAR asked whether there had been at any time more evidence of anæmia than at the present and expressed doubts as to the propriety of using the name splenic anæmia in the absence of such evidence —Mr W G SPENCER referred to the presence of a traumatic history in the case and suggested it might be a case of splenomegaly similar to those occurring abroad in which excision of the spleen had relieved the symptoms —Dr F PARKES WEBER thought the pigmentation on the legs was hæmorrhagic in origin and that this suggested some primary disease of small blood vessels Perhaps some partial obstruction to the splenic vein might account for the enlargement of the spleen —Dr BRYANT in replying admitted the difficulty in naming the condition but thought that the association of splenomegaly with pigmentation and clubbed fingers justified the use of the term anæmia splenica

Mr EDRED M CORNER showed a case of Dislocation of the Atlas from the Axis with Fracture of the Anterior Arch of the Atlas A man, aged 21 years fell off a horse upon his forehead He 'saw stars but was able to mount the horse and to ride home A fortnight later the patient s neck was found to be rigid and he carried his head a little flexed and turned to the right He had a difficulty in opening his mouth, also in articulation and in mastication but not in swallowing The left transverse process could be felt between the mastoid process and the angle of the jaw, as to the process on the right side the examining finger found in its place a depression, whilst at the back of the pharynx on the right side there was a prominence A skiagraph showed the dislocation of the atlas from the axis on the right side and also a fracture of the anterior arch of the atlas The condition of the odontoid process was doubtful

Dr PURVES STEWART showed a case of Narcolepsy and Hysterical Blindness A man, aged 22 years, previously healthy had an attack of influenza six weeks ago A fortnight ago he complained of pain in the left side of the chest but there were no abnormal physical signs and he had insomnia for four or five nights He was then given 15 grains of sulphonal and slept for 19 hours continuously Since then he had had attacks of sudden sleep occurring at meals during games &c lasting several hours at a time Four days before admission he developed convulsive phenomena (opisthotonos &c) just before waking Three days

himself practically blind

from darkness and the

e kept the eyes directed

optic discs pupils and

cranial nerves were normal There was no headache or vomiting The urine was normal —Dr ALEXANDER MORISON thought that some such term as hypnolepsy would be more appropriate than narcolepsy and cited two cases of the latter condition in which the sudden attacks of falling asleep had been associated with marked cyanosis and other grave symptoms —Dr STEWART in reply stated that Charcot had used the name narcolepsy for cases similar to the one which he had shown

Mr A H TUBBY showed a case three years after Muscle grafting for Paralysis of the Left Upper Extremity In June 1901 the boy then aged ten years had infantile spastic paralysis of the left upper extremity The forearm and the hand were in the position of excessive pronation with flexion at the elbow and the wrist The fingers were strongly flexed The pronator radii teres was detached then passed behind the radius, and re attached so as to act as a supinator The palmaris longus and other flexor tendons at the wrist were divided The patient had regained extension at the elbow, supination of the forearm, and flexion and extension of the fingers, especially when the humerus was fixed.—Dr. E. FARQUHAR BUZZARD maintained that there was no evidence that the grafting of the pronator radii teres had been of any service; the forearm could only be brought to a position midway between pronation and supination and that movement was performed by the biceps, which could be felt to contract. He thought that the tenotomy would account for any other improvement which might have resulted from the operation.—Mr. HARRIS believed that the massage with which the patient had been treated since the operation might be responsible for any amelioration in the condition of the arm.—Mr. TUBBY, in reply, said that it was impossible to judge of the improvement without having seen the patient three years ago.

Mr. WILLIAM TURNER showed a case of Primary Sore on the Eyelid of a child, aged three years. The patient had been quite well until early in January, when, without obvious cause, a pimple formed on the margin of the right lower eyelid towards the outer side and had since steadily enlarged. An enlargement of the glands below the jaw on the right side was first noticed on Feb. 11th and there had since been a steady increase in size. The child had seemed ill since Feb. 18th. She had been sleeping with her mother. The mother, aged 29 years, had had several living children, two born alive who died after a few weeks, and one miscarriage. She was under treatment in August, 1904, for secondary lesions, mucous patches in the throat with enlarged glands, and an eruption on the hand.—Mr. CAMPBELL WILLIAMS expressed his opinion that acquired syphilis in young children was generally productive of severe constitutional symptoms and that it was important to get the patient under the influence of mercury. He advised the use of mercurial ointment on a binder.

Dr. J. G. SLADE exhibited a case of Lymphatic Leukæmia with microscopic specimens of the blood showing an enormously increased number of white blood corpuscles. The patient, a house painter, aged 49 years, had been in hospital under the care of Dr. W. H. Allchin. He had always been a teetotaler, was without venereal history, and was a moderate smoker. He began to complain in the autumn of 1902 of weakness and pains all over, and lumps in the neck were first noticed by his wife. In May, 1903, a medical man found lumps in the neck, axillæ, and groins larger then than they were at the present time. He improved under treatment but before admission lost flesh, was short-winded, and his face became yellowish. He had had no bleeding or diarrhœa or œdema of the ankles. He was found to have enlarged glands, supraclavicular, axillary, and inguinal; they were soft, discrete, moveable, and not tender. The liver extended two inches below the costal margin, the spleen was enlarged, extending two inches below the umbilicus, and the notch could be felt. His urine had a trace of albumin. Examination of the blood on Feb. 21st gave the following results: red corpuscles, 2,430,000; hæmoglobin, 24 per cent.; and white corpuscles, 1,300,000. The proportions of the leucocytes were: small, 96 per cent.; large, 3 per cent., and polymorphic, 1 per cent.; of the polymorphic five corpuscles were finely granular to one coarsely granular. Blood platelets were scanty.—Dr. PHEAR pointed out that although the polymorphic cells formed only 1 per cent. of the total white corpuscles there were 13,000 to the cubic millimetre, which was two or three times as many as the normal. He asked whether the large white cells belonged to the class of large lymphocytes or whether they were large hyaline cells of the ordinary type.—Dr. WEBER drew attention to the remarkably low hæmoglobin value considering the number of red corpuscles.—The PRESIDENT thought it would be interesting to learn when the changes in the blood developed and mentioned a case in which enlargement of lymphatic glands had preceded the leukæmic by nine months.

Mr. W. H. BATTLE showed a case of Disease of both Knee-joints. A man, aged 37 years, in 1902 was attacked by pain in the calves, the ankles, and the feet and in spite of treatment with salicylates and iodides developed effusion in the wrists, the elbows, and the knee-joints. At the end of 1903 the effusion in the knees had become more marked and the right knee was aspirated. It was now less swollen but the effusion in the left knee had increased.—Mr. CAMPBELL WILLIAMS asked what amount of iodide had been given and mentioned a case of a child in which he had mistaken a syphilitic for a tuberculous arthritis.

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Dr. Peacocke exhibited specimens from a man, aged 48 years, who had died from infective endocarditis, the duration of his illness being about six months. Infarcts were present in the lungs, the spleen, and the kidneys. In the brain there were three distinct hæmorrhagic infarcts, one in the inferior frontal convolution, another in the region of the temporo-sphenoidal convolutions, and another in the occipital lobe, all on the right side. For two months before his death the patient had suffered from aphasia. Vegetations were present on the tricuspid, mitral, and aortic valves and on the endocardial surface of the left ventricle and auricle. No aortic murmur was audible during life. No micro-organisms were found in the blood.

Dr. R. Travers Smith exhibited a specimen showing Perforation and Aneurysm of an Aortic Valve.

Society for the Study of Disease in Children.—A meeting of this society was held on Feb. 17th, Dr. Edmund Hobhouse being in the chair.—Mr. N. Bishop Harman showed a case of Unilateral Paralysis of the Third and Fourth Cranial Nerves of Congenital Origin.—Dr. Porter Parkinson agreed that it might be due to an anterior poliomyelitis.—Mr. Sydney Stephenson pointed out that in some cases there was a marked history of heredity.—Dr. Hobhouse showed a child, aged five years, with Hemiplegic Spasticity and Incoördination on the Right Side. Weakness of the right arm was followed a year later by incoördinate movements of the leg. Six months before any nervous symptoms appeared the child had convulsions. There was neither optic neuritis nor mental impairment. The condition had remained [illegible] eight months. There was [illegible] e right side and it was almos [illegible] jerk.—Dr. F. Parkes Weber showed a girl, aged 12 years, with Chronic Joint Disease, Splenomegaly, and Enlarged Axillary Glands. There had been a definite general reaction to tuberculin and he regarded this as a valuable indication for treatment.—Dr. F. J. Poynton showed a boy, aged eight years, with Chronic Arthritis which had begun without apparent cause three years before. The affection was most marked in the hands and the feet. The course was characterised by relapses and fever with a good deal of local pain. The [illegible] —Dr. Edmund Cautley showed a boy, aged nine years, with early Osteomyelitis or Epiphysitis of the Upper End of the Femur. He was admitted to hospital on Dec. 16th, 1904, as a case of rheumatic fever. The symptoms were pyrexia, [illegible] y frequent pulse, and pain and [illegible] the left thigh. An exploratory [illegible] egative in result. On Jan. 27th a skiagram showed definite changes in the neck and the upper part of the shaft and in both trochanters. On Feb. 8th pus appeared under the scar of the exploratory incision and on reopening the wound a probe passed down to bare bone. Dr. Cautley regarded the case as one of mild osteomyelitis or starting as an epiphysitis of the great trochanter.—Mr. Douglas Drew advised further exploration.—Mr. Arthur Edmunds showed a boy, aged seven years, with Syphilitic Arthritis of the Right Knee, forming a painless swelling, of two years' duration, which had markedly decreased under antisyphilitic treatment.—Dr. G. A. Sutherland showed a boy, aged 12 y[illegible] Knees of one month's [illegible] its contained free flui[illegible] lisease. He stated that in his experience drugs had proved of little use and that the affection ran a prolonged course, ending in spontaneous recovery.—Mr. Douglas Drew showed a case of Excision of Both Hip-joints for Tuberculous Disease and one of Acquired Club-foot with marked hereditary tendency.—Dr. G. E. C. Pritchard showed a child, aged two years, with Spastic Diplegia and Optic Atrophy. The head was microcephalic. Labour was difficult and prolonged. Spastic rigidity was almost universal and almost constant choreiform movements were present in the hands and the arms. Frequent mild fits occurred. The first fit was said to have been on the third day of life. There were no signs of intelligence. He regarded the condition as one of microcephalic congenital idiocy due to arrested or perverted development of the nerve elements.—Dr. Hobhouse showed a specimen of Congenital Absence of the Gall Bladder and Bile Ducts from a female, aged eight months, jaundiced since birth. The urine contained no bile salts or pigment. The fæces were white. The liver weighed eight ounces and the child nine pounds at death. There was marked interlobular cirrhosis.—Dr. Hobhouse also read a paper on a case of Interstitial Nephritis, with Extensive Renal Retinitis in a girl, aged six years. The eye symptoms appeared two months before death and were very intense. The urine was rather copious, contained a few hyaline casts, and blood for a time. There was no evidence of congenital syphilis but the child had had scarlet fever at the age of three years. The kidneys were exhibited.

Glasgow Medico-Chirurgical Society.—At a meeting of this society held on Feb. 17th Dr. David Newman delivered a presidential address on the subject "Cystoscopy, with Special Reference to the Use of the Cystoscope in the Diagnosis of Renal Disease" and demonstrated a large number of cases by means of an opaque projector in order to illustrate that in surgical diseases of the kidney the symptoms simply pointed to the direction in which information might be obtained, nothing more. For example, pain and hæmaturia might originate as a consequence of the disease of any portion of the urinary tract and while in many instances the character of the bleeding and the situation of the pain correctly indicated the nature and the site of the lesion, in others they seriously misled unless resort was had to physical proofs to guide and to correct the conclusions deduced from subjective symptoms. Cystoscopy—including the appearances of the bladder, of the orifices of the ureters, and the nature of the fluid which escaped from them—cleared up the differential diagnosis of bladder and renal disease, and at the same time enabled the surgeon to answer the questions: (1) Are both kidneys functionally active? (2) Are one or both involved in disease? (3) If one alone, which is it? The facts revealed by the cystoscope combined with the information obtained from bacteriological research, chemical examinations, radioscopy, and segregation of the urine, added to the ordinary clinical inquiry, enabled the surgeon to advise operation or to refuse it, knowing that he had employed all the methods of diagnosis at hand. Dr. Newman pointed out the advantages of Schlagintweit's catheter-cystoscope for diagnostic purposes and of the Casper-Hirschmann instrument (by which two observers could view the bladder at one time) for demonstrating lesions in the bladder. By means of the opaque projector and a translucent screen he demonstrated a systematic examination of the normal bladder and afterwards showed three dozen most realistic views showing: 1. Lesions of the bladder such as active hyperæmia, chronic inflammatory changes, sacculation, tuberculous disease in various stages, and simple and malignant tumours. 2. Changes in the bladder and orifices of the ureters in descending ureteritis, ascending ureteritis, periureteritis, and chronic nephritis in various forms. Also the various changes in tuberculous nephritis, renal calculus, and tumour of the kidney. 3. Jets of urine, blood, and pus being ejected from the ureters. Blood and pus clots were also shown slowly passing down the ureter and dropping into the bladder. The following conclusions were drawn: 1. When one ureteral orifice is altered while the other is normal the renal lesion is on the side of the morbid ureter. 2. When the urinary jets are more frequent on one side than on the other: (a) greater functional activity is indicated by the jets being uniform in size and regular in rhythm; (b) undue irritation of the kidney is to be inferred when the jets, while more frequent than normal, are irregular in rhythm, unequal, and small in size; and (c) stricture, stone, or chronic ureteritis should be suspected when the shoots are distorted in form or irregular in amount. 3. When the urine does not escape in distinct jets: (a) dilatation of the ureter without paralysis of the sphincter is indicated when the urine dribbles into the bladder at intervals; and (b) destruction of the sphincter action is shown by the urine flowing into the bladder almost [illegible] elbow, supination of the forearm, and flexion and extension of the fingers, especially when the humerus was fixed.—Dr. E. **FARQUHAR BUZZARD** maintained that there was no evidence that the grafting of the pronator radii teres had been of any service; the forearm could only be brought to a position midway between pronation and supination and that movement was performed by the biceps, which could be felt to contract. He thought that the tenotomy would account for any other improvement which might have resulted from the operation.—Mr. **HARRIS** believed that the massage with which the patient had been treated since the operation might be responsible for any amelioration in the condition of the arm.—Mr. **TUBBY**, in reply, said that it was impossible to judge of the improvement without having seen the patient three years ago.

Mr. **WILLIAM TURNER** showed a case of Primary Sore on the Eyelid of a child, aged three years. The patient had been quite well until early in January, when, without obvious cause, a pimple formed on the margin of the right lower eyelid towards the outer side and had since steadily enlarged. An enlargement of the glands below the jaw on the right side was first noticed on Feb. 11th and there had since been a steady increase in size. The child had seemed ill since Feb. 18th. She had been sleeping with her mother. The mother, aged 29 years, had had several living children, two born alive who died after a few weeks, and one miscarriage. She was under treatment in August, 1904, for secondary lesions, mucous patches in the throat with enlarged glands, and an eruption on the hand.—Mr. **CAMPBELL WILLIAMS** expressed his opinion that acquired syphilis in young children was generally productive of severe constitutional symptoms and that it was important to get the patient under the influence of mercury. He advised the use of mercurial ointment on a binder.

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The plan of the second volume is much more satisfactory. There are only three sections dealing respectively with organic drugs derived from the vegetable kingdom, arranged according to their natural orders, with their classification according to their physiological effects on the human system, and, lastly, with their therapeutics, as in the first volume. The general principle adopted in this volume is to give a description of the *habitat*, characters, and properties common to the members of the natural order before dealing with the individual plant; after giving the *habitat* and the parts used, the plant is identified under the vernacular terms employed in different countries or different districts, then the characters are described, the constituents and preparations are named, and the actions and the uses are given from the therapeutic side. Questions of physiological actions or modern researches are rarely mentioned or only in such brief terms as to convey but little information.

It is possible that these volumes may be consulted with advantage by "western" practitioners when engaged in the East and anxious to know something of the local remedies but the work must be used with great discretion The following passage will show how far the thought of the East is from that of the West. "As a stimulant it is given in low fevers, epilepsy, and as a deobstruent and depurative in parotitis, dropsy, and other glandular diseases. It is an ingredient of various approdisiac *(sic)* confections. As a poultice it is applied to paralysed limbs and rheumatic swellings." A few lines lower we are told that this same drug acts by setting up emesis, that it is a diuretic, an astringent, an anthelmintic, that it is burnt as an incense, and that it is regarded as an insectifuge and insecticide for fleas, and so on. It is right, we think, to withhold the name of such a marvellous drug but the above is all culled from p. 628.

A *Text-book of Quantitative Chemical Analysis.* By J. C. OLSEN, A.M., Ph.D., Professor of Analytical Chemistry in the Polytechnic Institute of Brooklyn; formerly Fellow of the Johns Hopkins University. New York: D. Van Nostrand Co. 1904. Pp. 513. Price $4.

COMPLAINT is often made, with some justification we are bound to own, that too many text-books on the elements of chemistry and on simple qualitative analysis are published which cannot lay claim to any novelty in regard to the treatment or discussion of the subject. However true that may be of qualitative analysis the same can hardly be said of books on quantitative analysis. They are, in fact, comparatively few in number. The classic work is, of course, that by Professor Fresenius, to which we may add Sir William Crookes's "Select Methods in Chemical Analysis." Methods of analysis, however, are constantly being improved and modified with the view of yielding more accurate results. In particular considerable advance has been made with electrolytic methods of analysis and a section of the work before us by a well-known American analytical chemist gives interesting details of the application of electrolysis to the analytical determination of metals. In America analytical chemistry is making decided progress and, as a rule, the American chemist is characterised by his devotion to those details which are essential to really accurate results.

Dr. Olsen's book is divided into nine sections, in which the determination of metals, acids, the analysis of alloys, of minerals, electrolytic methods, volumetric analysis, oxidation, reduction and precipitation methods, and technical applications all receive adequate treatment. The author's familiarity with manipulative details is evidenced in his excellent instruction to the student on the precautions to be observed in order to attain accurate results and to facilitate their completion. We observe that the text is throughout well in accordance with modern developments of the subject which reflects great credit on the author in view of the large amount of periodical literature appearing in civilised countries recording from time to time the latest methods of analysis adopted by chemists in all parts of the world. The literature of quantitative analysis is, in fact, scattered and the book which, like the one before us, aims at successfully presenting an intelligible synopsis of these advances is obviously helpful. Moreover, there can be little doubt that the value of quantitative chemical analysis as regards its application to the arts and industries is rapidly growing in appreciation. Since many of our industrial operations are at some stage or other based on chemistry it is obvious that a high standard can be obtained only by adopting a system of scientific control over the industrial processes concerned. Dr. Olsen has produced a very useful and up-to-date guide on the subject.

A *Text-book of Physiological Chemistry.* By OLOF HAMMARSTEN of Upsala. Translated by JOHN A. MANDEL, D.Sc., Professor of Physiological Chemistry in New York University. Fourth edition. New York: John Wiley and Sons. 1905. Pp. 703. Price 17s. net.

IN this edition, which is translated from the fifth German edition, some of the older or at present untenable statements have been eliminated and certain chemical methods—not important for the physician or the student—have been less fully treated in order to give space for an account of the recent great advances in this subject and not to cause a too great increase in the size of the book.

The introduction is one of the best chapters in the book and will well repay perusal, for it deals with the fundamental questions of animal oxidations. Even on such a fundamental question as oxidation processes in the body, the very complexity and diversity of the views are set forth, including those of Pflüger, as dependent upon the special constitution of the living protoplasmic substance, the "biogen" theory of Verworn and the "active proteids" of Loewy. The theory of *catalases* which are supposed to liberate molecular oxygen and the still more modern and questionable view of oxidases are also considered. Even in ordinary combustion—e g., that of wood or oil—the substances themselves do not combine with oxygen. It is only after the action of heat has decomposed these bodies to a certain degree that the oxidation of the products of such decomposition takes place and is accompanied by the phenomena of light. The animal body may also have a source of energy in the cleavage processes which are not dependent on the presence of free oxygen, as, for example, in living muscle. The chapter closes with a general description of the intracellular and extracellular enzymes and their actions.

In the chapter on the "Protein Substances" the recent advances in our knowledge of the hydrolytic cleavage products of peptic and tryptic digestion are fully set forth The older view, that in peptic digestion only proteoses and peptones and no simpler cleavage products were formed, is now known not to be true. So also the "antipeptone" of Kühne is now known to undergo further cleavage. A full account is given of the hydrolytic cleavage products, such as alanin, aspartic acid, glutamic acid, and so forth, and the hexon bases, arginin, lysin, histidin, and so on.

Chapters III. and IV. deal with the carbohydrates and the fats. Chapter V. treats of the animal cell, and here we have a particularly full account of nuclein bodies and that important group of derived substances called the purin bodies. Naturally from one who has contributed so largely to the study of blood as Hammarsten we have a specially thorough and critical account of this fluid. On p. 159 the translator has introduced a word unfamiliar to English ears, "The teleostei are the first ...... to show an independence of the osmotic pressure of the inner *milieus* and the surrounding medium." Attention is prominently called to the fact that chlorophyll and blood pigments are closely related and are constructed from the same mother substance as one of "the greatest biological importance." There is a good summary of the very varied views held regarding coagulation of the blood. Then follow chyle, lymph, transudates and exudates, and then the liver. Chapter IX. deals with digestion. Some text-books hardly recognise the importance of saliva as an active medium by which a constant stream conveying the dissolved bodies passes into the blood from the intestinal canal during digestion. The recent observations of Pawlow are fully set forth and so are the actions of entero-kinase and the remarkable ferment erepsin discovered by Cohnhein in the mucous membrane of the small intestine, a ferment which Vernon has recently shown to be present in almost all the organs of the body. It does not act on fibrin, though it acts on the products of proteid digestion—proteoses and peptone —and on casein. The antipepsin, which prevents self-digestion of the mucous membrane and which is present in intestinal worms, is also mentioned. In addition we now know there is a gastric lipase or fat-splitting ferment which can act only on fat in a state of fine emulsion, as in the yelk of an egg, cream, or milk. Thus the fats of these foods may undergo partial digestion by the gastric juice. From the intestinal mucous membrane an antitrypsin can be obtained. The whole question of ferment—i.e., enzyme action—is assuming a new phase. By feeding an animal with a special food ferments are produced which are not present when that food is withheld, or in Brocard's dictum, "*C'est l'aliment qui fait le ferment.*" The remaining chapters deal with the connective tissues, muscles (including their metabolism), nerves, organs of generation, milk, urine, and skin. The last two chapters are on respiration and metabolism. The last gives a broad all-round view of the subject, a kind of *résumé* of the chemical processes occurring in the organism under different conditions.

Altogether this is one of the most compact, comprehensive, suggestive, and readable of the works on physiological chemistry which is somewhat liable to prove a toilsome study if the work be too largely chemical and too little physiological. There are no figures in the text. There is an uncoloured plate of spectra at the end and there is also an excellent index.

The Study of Chemical Composition. By IDA FREUND, Staff Lecturer and Associate of Newnham College, Cambridge. Cambridge: University Press. 1904. Pp. 650. Price 18*s.*

THIS is an admirable essay on the subject of chemical composition approached from the point of view of historical development. It is well to pause now and again in order to review the situation so far as it has advanced. There is a tendency amongst many workers in the field of science to become so absorbed in modern developments or their own particular branch of research that the complete history or the harmonious whole is left out of consideration. To such Miss Freund's essay may be strongly commended. Others, though not engaged actively in chemistry but who care to interest themselves in the position of chemical science and as to how that position has been built up, will read the book with profit. The study of Miss Freund's presentation of historical developments on the subject cannot, of course, pretend to take the place of extensive reading of original memoirs but it will admirably serve the purpose of those who have not time to spend in the laborious work of referring to scattered literature on the points dealt with. In fact, one of the most valuable features of her essay is that it contains the pith and substance of those original contributions which have given progress to chemical science. In the introduction the author generalises on the scope and the methods of the natural sciences and the study of facts by observation and experiment (with historical instances). The steps from observation to the detection of uniformities, to the consequent discovery of laws and the application of discovered law to the explanation of further facts (the deduction method) are next discussed in clear terms and the qualifications of a good working hypothesis are considered in natural sequence. After this interesting, though somewhat short, introduction Miss Freund proceeds to discuss the theories of combustion and this subject, of course, is perhaps one of the most important in connexion with the history of chemical science. Indeed, combustion may be said to be the foundation of chemistry. The discovery of oxygen, of nitrogen, and of air was the outcome of the correct observations made in regard to the nature of combustion. The author thus develops her subject through 19 chapters, each and all of which afford interesting reading. To many readers the nineteenth and last chapter, on the ultimate constitution of matter and the genesis of the elements, will appeal strongly as an attractive review of recent developments. The story of the genesis of the elements so vividly told by Sir William Crookes, of the fruitful researches amongst the stellar world by Sir Norman Lockyer, of the relations between electricity and matter by Professor J. J. Thompson as well as Sir William Crookes, and of the discovery of radio-activity as an atomic property by Madame Curie affords attractive and pleasant reading as bearing upon our knowledge of the constitution of matter. Miss Freund concludes her essay appropriately enough by referring to an impression prevailing amongst the general public that the recognition of the divisibility of the atom has dealt a deathblow to that atomic theory which was founded by Dalton just 100 years ago. This misconception (if it exists) had its origin likely enough in that subtle phrase which Mr. Balfour employed in his presidential address before the British Association for the Advancement of Science at Cambridge when he said that matter is not merely explained but explained away by assuming that the atom is now no more than the relatively vast theatre of operations in which minute monads perform their orderly evolutions while the monads themselves are not regarded as units of matter but as units of electricity. "Nothing," writes Miss Freund, "has had to be given up, nothing to be modified, but there has been deepening of the foundation, extension of scope, correlation with other sciences." Miss Freund has provided excellent intellectual pabulum in this admirable essay which we are sure will be read with pleasure and profit by all those eager to get a clearer glimpse into the nature of things.

LIBRARY TABLE.

The Essentials of Chemical Physiology, for the Use of Students. By W. D. HALLIBURTON, M.D. Lond., F.R.S. Fifth edition. London: Longmans, Green, and Co. 1904. Pp. 224.

Price 6s —This book runs so rapidly into further editions (which is evidence of its popularity and success) as to leave little that is fresh to say from the point of view of the reviewer In the present edition some important changes have been made in the arrangement of the exercises To begin with there is a new first lesson introduced on the detection of the elements contained in substances of physiological interest This naturally connects the work of the student passing from the study of pure chemistry with that of chemical physiology The fats again are now made the subject of a separate lesson Some new exercises have been inserted and a few of the advanced lessons have been rewritten This is the case with those relating to milk pancreatic digestion, muscle, and Kjeldahl's method of estimating nitrogen This method, however, must be modified in the case of certain nitrogen containing substances—for example, nitrites or even uric acid, require the addition of a reducing substance such as sodium thiosulphate coupled with phenol to prevent loss of nitrogen The book fully maintains its educational character

X Rays their Employment in Cancer and other Diseases By RICHARD J COWEN, L R C S Irel , L R C P Irel , &c London Henry J Glaisher 1904 Crown 8vo Pp 129 Price 2s 6d net This small book contains nothing startlingly new or original While ostensibly written to assist general practitioners who may wish to use the therapeutic properties of the x rays in treating their patients, it is difficult to imagine a work of 129 small pages doing more than merely touching the fringe of the subject and being used as the sole guide by anyone seriously contemplating the pursuit of x ray work The first chapter on the Focus Tube is really a short treatise on the x rays and their effects, while the second on the Coil, is conspicuous by the very few references to the subject of its title On p 41 the x rays are described as longitudinal rays which is not in accordance with the views of our most eminent physicists In the description of the technique the method of recording the volts and amperes in the primary circuit of the coil is still adhered to However useful this may be to an individual using the same equipment it is of little use to those who may wish to copy the procedure unless their apparatus happens to be an exact counterpart—a very unlikely contingency A record of the length of the alternate spark gap when working with a tube of well known make and pattern is much preferable In the case of a book published towards the latter end of 1904 we naturally expect at least some reference to the use of a milliamperemeter in circuit with the tube We notice what is said regarding the treatment of nævi and port wine marks and the removal of superfluous hairs by means of the x rays The opinion of x ray workers of large experience is not entirely in favour of this method, the results not justifying the risks necessarily incurred There are errors in spelling and at least one of the blocks has been misnamed The book adds nothing new to our knowledge of x ray therapeutics although it may be useful to those who would like to acquire a smattering of the subject

Premature Burial and How it may be Prevented By WILLIAM TEBB F R G S , and Colonel EDWARD PERRY VOLLUM M D , late Medical Inspector, U S Army Second edition, by WALTER R HADWEN, M D St And London Swan Sonnenschein and Co Limited 1905 Pp 454 Price 6s —The joint authors of this work attempt to show that the danger of being buried alive is very real and suggest that the duty of taking effective precautions against it is one that naturally falls to the legislature In the preface to the second edition Dr Hadwen writes that "the careful study of the subject which the work has entailed and the perusal of the evidence collected from various parts of the world, which has accumulated considerably since the first edition was published in 1896, have convinced me of the real need in this country of drastic and far reaching reforms in connexion with our burial system" The most important conclusion is that no evidence of death is really satisfactory except that which is supplied by putrefaction, usually evidenced by the change of the colour of the abdomen, and that to insure this safeguard waiting mortuaries should be erected by every sanitary authority in the kingdom at the public expense Such mortuaries would however be quite unnecessary if direct medical testimony were required

JOURNALS AND MAGAZINES

The Phonographic Record of Clinical Teaching and Medical Science —The January number of this journal, which is now published quarterly instead of monthly, contains two excellent articles The one by Mr C W Cathcart, deals with the subject of Recent Methods of Diagnosing the Relative Conditions of the Two Kidneys in Surgery and is well worth study by those who wish to be *au courant* with the latest surgical methods of diagnosis The article by Sir William R Gowers is in his well known exhaustive style and deals with Syphilitic Disease of the Brain The number also contains the annual report of the honorary secretary of the Society of Medical Phonographers

Reports and Analytical Records

FROM

THE LANCET LABORATORY

SODIUM PERBORATE (WELLCOME BRAND)

(MESSRS BURROUGHS WELLCOME AND CO SNOW HILL BUILDINGS, LONDON E C)

SODIUM perborate is an interesting example of a compound which yields two well known antiseptic substances on dissolving in water It is a well defined salt which in water gives off nascent oxygen the solution containing practically borax and peroxide of hydrogen On adding permanganate of potassium to the solution a brisk disengagement of oxygen takes place Similarly, on adding chromic acid and ether a dense blue colouration is produced which dissolves readily in the ether The blue compound is perchromic acid Sodium perborate may be employed both as an internal and an external antiseptic The solution is non acid and free from irritating properties The salt may be employed as a dusting powder to suppurating surfaces the available oxygen being particularly helpful in such a case the gas being brought into close and continued contact with the seat of suppuration The salt is stable Sodium perborate is obviously both a disinfectant and a deodorant

RECORD OLD SCOTCH WHISKY

(MESSRS S FAWKES AND SONS 8 AND 9 KENDRICK STREET, STROUD)

The analysis of this whisky gave the following results extractives 0 01 per cent , mineral matter, *nil*, alcohol by weight 39 30 per cent by volume 46 59 per cent , equal to proof spirit 81 64 per cent The secondary products amounted to the following, given in grammes per 100 litres of absolute alcohol present acidity reckoned as acetic acid 26 00 , aldehyde 5 40 , furfural, 1 60 , ethers reckoned as ethyl acetate 40 00 , higher alcohols, 65 00 , and total secondary products 138 00 These results indicate that this is not an all malt spirit and that it contains not less and probably more than 50 per cent of neutral spirit, whether it be called patent, grain, or anything else The

he character of the

gards malt The

blend

CHOCOVUM

(DR BRY, PARIS AND 64 NEW OXFORD-STREET LONDON W C)

As its name implies this is a preparation of chocolate containing egg substance Some proof of the presence of egg in the chocolate is afforded in the fact that the fat extracted was found to contain phosphorus. The total amount of fat was 40·85 per cent., part of which is, of course, derived from the cocoa. The proteid amounted to 8·26 per cent. and the mineral matter to 1·80 per cent. Chocovum is clearly a preparation possessing peculiar nutritive qualities. It is further palatable and doubtless contains nuclein and lecithin which are admitted to be valuable in promoting nutrition.

CALOX.

(Messrs. McKesson and Robbins, New York; London Agents, S. Maw, Son and Sons, 7–12, Aldersgate-street, London, E.C.)

A novel and important feature of this dentifrice is that on application to the teeth or in contact with water it yields nascent oxygen. It is, therefore, not only antiseptic but deodorant—two desirable properties of a tooth wash. In addition it contains a well-known aromatic antiseptic which makes it agreeable to use. Calox is a dry powder containing a definite proportion of calcium dioxide, which in contact with acids gives an equivalent of hydrogen dioxide. Its oxidising and deodorising power was obvious in our experiments.

DIABETIC SPICE BUNS.

(Messrs. Callard and Co., 74, Regent street, London, W.)

The statement that these buns are free from starch and sugar is according to our analysis correct. Carbohydrates are in fact displaced by proteid and fat. The proteid behaves in the same way as that present in milk. The fat amounted to 27·30 per cent. and the proteid to much the same figure. The buns are palatable and though free from sugar have a slightly sweet taste.

GILMOUR'S OATMEAL STOUT (QUAKER BRAND).

(Messrs. Ellis and Co., Hill-street, Richmond, Surrey.)

It might be expected that the use of a proportion of Scotch oats in the brewing of malt liquor would add to its nourishing properties, since the oat contains considerably more proteid than does barley and moreover an abundance of phosphates. Our analysis of this stout proved such to be the case, for phosphates were present in distinct amount and the extractives contained 12 per cent. of proteid. The stout has an agreeably "smooth" and "soft" flavour and is free from an undesirable excess of carbonic acid gas. Further, it was in ripe and sound condition, being comparatively non-acid. The total extractives amounted to 5·20 per cent.; the mineral matter, 0·15 per cent.; while the alcohol by weight amounted to 5·87 per cent., by volume 7·32 per cent., and proof spirit 12·84 per cent. The stout is of good quality and well brewed, containing an excellent proportion of the soluble nourishing constituents of malt and oats.

SULTANA BREAD.

(Messrs. Pelling Stanley and Co., Limited, 28, Mathew-street, Liverpool.)

The specimen loaf submitted to us proved to be simply bread containing sultana raisins. Each two-pound loaf contains about half a pound of sultanas. The idea is of some dietetic interest, since raisins are nutritive, while they tend, like most fruits, to promote intestinal action and to correct proneness to constipation. We should imagine that the school-boy would view this preparation with some interest and indeed it forms, especially when buttered, a wholesome departure from the daily slice of bread.

BITTER BEER.

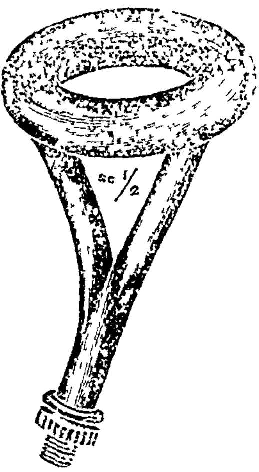
(Joseph Dunn, 21, Greenhead-street, Calton, Glasgow.)

According to our analysis this beverage contains not more than 2 per cent. of proof spirit, so that it is safe to describe it as non-intoxicating. The extractives amounted to 1·90 per cent. and the mineral to 0·14 per cent. The extractives consist chiefly of sugar, since this substance amounted to 1·25 per cent. The beer is evidently a brewed liquor and contains the extractive principles of hops. The beer is bright and effervescent and the flavour for this class of beverage is not unsatisfactory.

New Inventions.

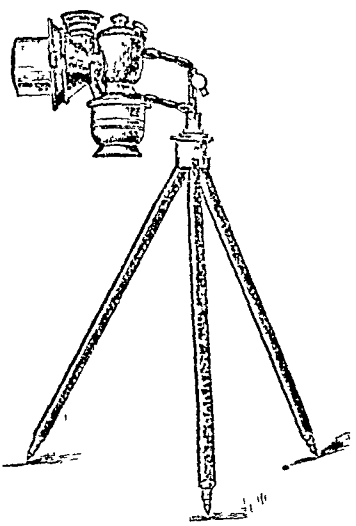
A SPRING STEM PESSARY.

We have received from Messrs. Maw, Son, and Sons a new form of spring stem pessary. The general appearance of the appliance may be seen from the illustration. Both ring and stem are made of watch spring covered with indiarubber. We consider that this form shows many advantages over the rigid form of stem pessary and it should prove decidedly useful in cases of prolapse. The resiliency is a great advantage, but it would be an improvement if the screw portion which fixes into a tape bandage were made shorter so as not to project beyond the vulva to any extent.



A PORTABLE LAMP FOR USE IN LARYNGOLOGY.

The accompanying illustration shows a portable lamp that I have adapted for use in examination of the ear and upper respiratory passages. It consists of a cycle acetylene lamp with a flat flame burner. The reflector is blackened inside to prevent unequal lighting of the field by reflected rays. In front of the lamp I have had a lens placed with a diameter of two and a quarter inches at a distance of three inches from the flame. This lens is fitted into one end of a tube which screws at its other end into a plate attached to the front of the lamp window from which the glass has been removed. By means of the screw thread on the tube the distance between the lens and the flame can be adjusted so as to give a beam of light with rays as nearly parallel as possible. The lamp bracket is attached to the top of an aluminium camera stand by a detachable metal plate and the lamp can be turned to one or other side. In the illustration the telescopic legs of the stand are shown closed up; they can, however, be drawn out so as to give various heights up to 45 inches from the ground. The lamp and stand together weigh 2 pounds 4½ ounces and they are easily carried in a bag as they take up comparatively little space. The light is very bright, the field illuminated from a head-mirror is clear and free from shadows, and I have found the arrangement most satisfactory. If preferred, the lamp can be attached by a moveable arm to a vertical rod which clamps on to the edge of a table. It is sufficient to put a small amount of calcium carbide in the chamber at the base of the lamp *before going out* and then fill the water reservoir when the light is required. There is no unpleasant smell from the lamp if the flame is not blown out or the carbide chamber opened while in the house. After use it ought to be cleaned out regularly. It may be obtained from Messrs. Philip Harris and Co., Birmingham.



Wilfrid Glegg, M.D. Edin.,
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for Diseases of t.
Birmingham.

THE LANCET.

LONDON: SATURDAY, MARCH 4, 1905.

Overwork.

THE death of an unfortunate baker's journeyman, concerning whom it was testified by a medical witness at the inquest that having heard the non-medical evidence and the history of the case he was satisfied that the deceased had died from heart failure accelerated by overwork and long hours, is an event not unworthy of notice by the hardest worked of all professions In the case in question, on which we do not desire to lay any particular stress, it was shown that the man was accustomed to work in a bakehouse, probably not better than other bakehouses in respect of cubic space and air-supply, for 15 hours a day during the earlier part of the week and for 23 hours on Saturdays and that he had for some time been complaining of "shortness of breath," but he does not appear to have been subjected to any medical examination. On the day of his death, a Friday, he commenced work at 9 P.M. and would have gone on until the evening of Saturday. About 11 P.M. he ate some fried fish and returned to work but soon after doing so he fell forward and expired. There was no post-mortem examination and nothing to show what was the actual cause of death, which may, of course, have been of a kind with which the hours of work had nothing to do except perhaps by way of predisposition. Pathologically the verdict was entirely unsatisfactory but it was perhaps sufficient for the protection of society. It is at least certain that the deceased was not the victim of foul play and that his death could not be traced to any legal offence. The ready assumption by the medical witness that death had been due to, or accelerated by, overwork and the equally ready acceptance of this assumption by the coroner and the jury not unnaturally lead us to look a little more closely at the meaning of the word and to inquire whether what it denotes must indeed be recognised as a possible or perhaps a frequent cause of premature mortality. A general practitioner in full employment is probably the hardest worked of civilised men, both physically and intellectually, and his life is not a long one According to the elaborate tables published by Dr. J. F. W. TATHAM in 1897 the comparative mortality figure for medical men was 966, as against 821 for lawyers, 533 for the clergy, and 953 for occupied males in the aggregate; and previous inquiries made by Dr W. OGLE showed that, notwithstanding the generally high mortality of the profession, there were three numerically important headings, pulmonary tuberculosis, other diseases of the respiratory organs, and accident, under which this mortality was lower than that of the male population generally. On the other hand, the medical mortality from diseases of the liver, from diseases of the circulatory and urinary systems, and from suicide was greatly in excess of the average, whilst that from diabetes and from gout was more than three times as heavy as among the male population in the aggregate. Statistics of this kind are to some extent vitiated, of course, by the circumstance that they deal with the profession as a whole and furnish no means of discrimination between its successful and its unsuccessful members. The former, presumably, will furnish the examples of overwork and the suicides will be mainly recruited from the latter.

Ingenious attempts have been made by MASCHEK and other writers to classify work under the three headings of effort, velocity, and duration, and to arrive at formulæ which should show the proper relations of these three elements to each other. Such attempts have not been conspicuously successful but they at least serve to call attention to the distinctness of the elements in question and to the necessity of taking each of them into consideration when endeavouring to estimate the output of an individual. They remind us that the spurt of a tired man may be more injurious to him, may, in common parlance, "take more out of him" than sustained efforts more deliberately accomplished; and it must be remembered that the exceptional work of medical men is quite commonly of this character. A country practitioner who has come to the close of a busy day is suddenly called upon to make a hasty journey and on arriving at his destination to confront some emergency, surgical or obstetric, with which it will require all his energies to cope. It is a not uncommon experience in such cases that even when released he may not be able to obtain the repose which he greatly needs, either because of the pressure of new duties or because his mind cannot relinquish the memories of what has just been done. It is not everyone who can say, like the late Sir WILLIAM JENNER, "I don't think that anxiety about a patient ever kept me awake for five minutes in my life. I go to a bedside. I do my best. What more can I do? Why should I not sleep?" It is quite possible to find in these words an explanation of the fact that a life unusually filled with arduous work and with the most onerous responsibilities was nevertheless prolonged to the age of 83 years. Herein, it may be, should be sought the lesson which the contrast between longevity on the one hand and undue mortality on the other is best calculated to teach to those who will read the events aright. MASCHEK succeeded in establishing at least one formula which appears to show that the time occupied in strenuous effort should not greatly exceed one-third of the 24 hours, and the experience not only of Sir WILLIAM JENNER'S success but of the contrasts furnished to it by innumerable failures may be said to show with at least equal distinctness how much depends upon the complete relinquishment of effort, whether physical or intellectual, when the time for cessation from it has arrived.

We know too little about the physiology of sleep to dogmatise concerning the reasons which render it a necessity, but we know from experience that, save in the cases of very exceptional persons, the hours devoted to it cannot be curtailed without serious injury—injury which often falls upon the work and which never fails to fall upon the worker. The first Lord TRURO was one of the exceptional persons referred to and after sitting up over briefs and papers until three in the morning he would awake refreshed at six and would be ready for the labours of another day. This life he led for many years but when he was Lord Chancellor his successive private secretaries rapidly gave way under the stress of his requirements and he himself, although he reached the age of 73 years, was incapacitated from exertion for some time before his death and spent his two last years in great suffering. Sir ANDREW CLARK was fond of telling his patients that "nature never forgets and seldom forgives" and the lesson which the words convey is a true and wholesome one. If we disregard exceptional cases we shall find it generally true that it is more easy to exceed the powers of the system than to husband them, and true also that to husband them is the way of wisdom. Of the three elements of work mentioned above that of duration is usually most under our command and those who would retain health and attain longevity should see to it both that their efforts are not too prolonged and that they are followed by corresponding periods of rest. Lord PALMERSTON, during his last premiership, made it an absolute rule after returning late from the House that he should never be disturbed on any pretext until he had been eight hours in bed ; to the observance of this rule he was probably much indebted for the health and vigour which enabled him to spend most of the eightieth anniversary of his birth on horseback, inspecting fortifications in the neighbourhood of Portsmouth. If we turn to the element of velocity in work we shall find abundant reasons for the belief that its predominance implies an amount of strain greatly in excess of the actual accomplishment and calls for a corresponding equivalent of repose. The wise man, who realises that he must spend his life in living, will be all the more solicitous so to manage his expenditure that it may not be wasteful and he will be careful to guide his activities to this end. He will realise that his day's work, whatever its amount, will be rendered almost indefinitely more easy of accomplishment by method and arrangement and by steady refusal to break through these except for very cogent reasons. He will realise that exceptional duration and exceptional speed of work should be avoided whenever possible and that, when they cannot be avoided, they should be followed by correspondingly exceptional periods of repose. He will realise, lastly, what is perhaps the most important thing of all—namely, that men are not so much killed by work as by worry. He will render himself master of the course of his own thoughts and will dismiss from them for the time all anxieties as to which he has once arrived at a conclusion. Having decided to pursue a course of treatment he will wait until he next sees the patient before beginning to consider the character of its operation. He will not hunt his hares over again but will say with Sir WILLIAM JENNER, I have done my best, why should I not sleep soundly and so assist nature in preparing me for the cares and responsibilities of another day.

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Arsenic in Textile Fabrics and Wall Papers.

THE Bureau of Chemistry at Washington has in recent years carried out a large amount of useful analytical work in matters affecting the public health of the United States of America. In Bulletin 86, 1904—one of the numerous reports from this department which suggest that similar official work should be done in this country—Mr. J. K. HAYWOOD and Mr. H. J. WARNER give an account of an examination of various wall papers and fabrics which was undertaken in order to ascertain whether they contained arsenic. This is a subject which was not fully investigated by the recent Royal Commission on Arsenical Poisoning, the reference of which was limited to foods and drinks. Incidentally, however, the minutes of evidence of that Commission gave some useful information on the subject as regards this country. The Commission ascertained that although Scheele's green and other salts of arsenic are still used in certain articles of domestic use, such as candles and tapers, their employment to colour wall papers has been discontinued. Arsenic, however, may be present in a variety of the "aniline" pigments; in a few instances (magenta dyes) arsenic may have been employed in the manufacture of the colour but in most cases the arsenic has been derived from the use of unpurified oil of vitriol in the manufacture of the dye. The Commission's inquiries also brought out clearly the extreme susceptibility of some individuals to quantities of arsenic much smaller than those which are ordinarily given medicinally and the importance of the individual factor cannot be lost sight of when dealing with the present question. The harmful effect of arsenic when present in articles of apparel, such as coloured stockings, is probably restricted to the production of local affections of the skin of one or another kind. With carpets, rugs, and furs, which do not come into contact with the skin, the risk lies in opportunities of inhaling or swallowing arsenical dust and this may be considered of importance only when the material is highly arsenical—for example, furs such as those in which Mr. HAYWOOD and Mr. WARNER found 17 grains of arsenic in the square yard. With wall papers, however, the case is different. It has been clearly shown by GOSIO and others that when ordinary moulds—mucor mucedo, penicillium glaucum, and especially penicillium brevicaule—are added to organic substances containing arsenic, arseniuretted hydrogen and other highly poisonous volatile compounds are evolved. A very delicate test for arsenic is based on this property of moulds. The moulds in question have been shown to be frequently present on papered walls and there is evidence that in these circumstances they cause the evolution of volatile compounds of arsenic, if arsenic is present in the paper. Mr. HAYWOOD and Mr. WARNER quote certain recent cases of arsenical poisoning attributed to wall papers. It is noteworthy that several of the patients did not suffer conspicuously from catarrh, sore throat, or diarrhœa; their principal symptoms were obstinate neuralgia, dyspepsia, and general lassitude. Obviously the association of symptoms of this kind with arsenic might easily be overlooked and caution is therefore necessary in assuming that the small number of cases reported of late years signifies that arsenical poisoning by wall paper has almost become a thing of the past. The important indications which may be obtained by examining the urine of the patient in doubtful cases, or the hair, as suggested by the Royal Commission, should not be forgotten.

Certain countries, notably Germany and Sweden, prohibit the manufacture or importation of textile goods which contains more than a minute and prescribed proportion of arsenic. In America the matter is left to the different State legislatures and Massachusetts alone has a law on the subject. In this State, by an Act of 1900, textile fabrics in general must not contain more than one-tenth, and what are termed "dress goods" more than one-hundredth, of a grain of arsenic per square yard. These limiting quantities have been taken by Mr. HAYWOOD and Mr. WARNER as a basis of comparison when testing large numbers of different articles obtained from different sources in the United States. As a whole their results were satisfactory when judged by these standards. Many samples of furs, carpets, drapery, and "dress goods" contained no arsenic which was detectable by the delicate methods employed. The arsenic in some "dress goods," however, far exceeded the one-hundredth of a grain limit—e.g., a coloured print which yielded 0·24 grain of arsenic per square yard, and a number of black stockings, articles which seem specially liable to contain arsenic. As many as 537 wall papers of different colours and origins were tested. The results show that there is no commercial reason why arsenic should be present in plain, glazed, or coloured wall paper. The majority of samples were free from arsenic or contained merely a trace which could not be estimated quantitatively. One firm supplied a series of wall papers of many different colours in none of which was even a trace detected. Only a few wall papers transgressed the somewhat lenient Massachusetts limit of one-tenth of a grain per square yard. Two of these were of English manufacture. Several others, however, were very little below the one-tenth of a grain limit. The colours of the arsenical samples were various—reds, blacks, and greens were most often concerned. It is common in this country to see the legend "arsenic free" stamped at the back of a wall paper. But in view of the analyses of Mr. HAYWOOD and Mr. WARNER and of other evidence it seems desirable to receive these statements with some reserve. It is easy to declare that a paper is "arsenic free" if the sole test employed has consisted in applying a crude form of Reinsch test to a square inch of it. We should like to be certain that it is realised by the wall paper manufacturer that if he insists upon "arsenic free" colours the colour manufacturer can supply them and that when the term "arsenic free" is applied to wall papers it should signify that if tested by a delicate method such as the Marsh-Berzelius test the arsenic, if present at all, will be found in amounts which for practical purposes may reasonably be disregarded. In our present knowledge such a limiting quantity might perhaps be fixed as one-fiftieth of a grain per square yard and the results to which we have referred show that already the attainment of this limit is a matter which does not present any practical difficulty to certain manufacturers.

Shifting Dulness in the Thorax and the Abdomen.

IT is well that from time to time we should re-examine the evidence on which our opinions are based so that we may be able to give the reasons for the faith that is in us. There is need for this reconsideration of our conclusions in all branches of study and learning but especially is it wise in matters relating to the science of medicine. When a monograph is written on a small section of a subject it is perhaps possible for the author to be certain that he has included in it no statement the truth of which he has not personally proved. When, however, a general treatise on medicine or surgery is written it is obviously necessary for the writer to depend largely on the statements of his predecessors. He gives the views which are current at the time when he writes, except as to a few points where he may have made some original investigations. In this way statements are copied from text-book to text-book, each writer giving it on the authority of those who have written before him, and thus fallacies have been accepted as facts merely because they date from a hoary antiquity. It is therefore very necessary to test our facts from time to time. Many of the mistaken ideas which exist depend on false *a priori* reasoning untested by experiment. A good example of this was the old statement that heavy bodies fall more rapidly than light bodies and no one ventured to question the unimpeachable syllogism on which the statement was based until GALILEI showed by experiment that weight had nothing to do with the rate of falling. Mr. RICKMAN J. GODLEE recently delivered a lecture before the Hunterian Society and in this he drew attention to some erroneous teaching as to the physical signs of the chest and the abdomen. He showed that great variations, unmentioned in the text-books, occur in the position of viscera, as revealed by percussion, according to the attitude adopted by the patient. In order to investigate the resonance on percussion of patients from below when they are in a recumbent position Mr. GODLEE has had made a high table with a net top, so that he can stand underneath and examine the under surface of the body in any desired degree of recumbency. By means of this aid to examination and by other methods he has been enabled to demonstrate several important facts in connexion with the shifting of dull areas.

In any investigations such as those undertaken by Mr. GODLEE it is important to bear in mind that, as Dr. J. MITCHELL BRUCE has pointed out, the skin shifts to a great extent when the attitude is changed and thus a mark on the surface placed to indicate the level of dulness in a standing patient will apparently show a shifting of the dulness if he assumes the recumbent posture. Mr. GODLEE'S lecture dealt mainly with the question of shifting dulness and his conclusions differ greatly from the dicta of most of the text-books. It is generally taught that a dulness due to a pleuritic effusion or to an empyema shifts with position under the influence of gravity. Mr. GODLEE maintains that the dulness resulting from an empyema with no free gas does not shift at all and that the dulness of a pleuritic effusion shifts very little, if at all. If a pyo-pneumothorax be present of course the case is far otherwise and the fluid moves freely. If there is dulness in the back which shifts on placing the patient on his face or upon the opposite side Mr. GODLEE holds that the cause of the dulness is subdiaphragmatic. In support of this contention he cited several striking cases. It is often stated in works on physiology that the lowest part of the pleura, the so-called "pleural sinus," is never occupied by the lung, even at the acme of inspiration. This appears to be a fallacy, for in very thin persons the lung can be seen to descend to the very bottom of the pleural sinus and the pulmonary resonance on deep inspiration may in many cases obliterate entirely the liver dulness in the back. Dr. S. Ringer has pointed out that if a patient who has a dull area in the chest or the abdomen is anæsthetised the extent of dulness diminishes and this may be very striking in a case of appendicitis. The diminution of dulness is probably due to the firmly contracted muscles pushing away the coils of intestine but when anæsthesia has relaxed the muscles the intestine slips in between the inflamed area and the abdominal wall and the dulness disappears. A similar phenomenon is noticeable in thoracic dulness but an explanation is more difficult. This variation of dulness under the influence of anæsthesia has an important practical application, for it points to the absence of any extensive inflammatory adhesions, so that in the case of an appendicitis the surgeon should take care to open the abdomen, not directly over the abscess but at a short distance outwards, so as to minimise the risk of involving the general peritoneal cavity.

Mr. Godlee shows that in a healthy young man in a standing position there is usually very little resonance to be obtained on percussion of the abdomen. It is difficult to percuss out the edge of the liver but some resonance is generally present over the stomach and the cæcum. In the prone position there is still more dulness. The explanation is that in such patients the small intestine contains little gas. In cases of intestinal obstruction with much distension it is impossible to decide with certainty that there is free fluid in the peritoneal cavity, for dulness may be present in the flanks when the patient is lying on his back and yet the upper flank may become resonant when he is turned on his side, although no free fluid be present. There is no doubt about the fact but the explanation is doubtful. Further, Mr. Godlee shows that a shifting dulness is the normal condition of both bases behind and is no proof of the existence of fluid in the pleural cavity. There is much more of importance in this lecture than we have been able to mention or to quote but we have said enough to show how valuable and suggestive the lecture was. We are too ready to accept as certain and finally determined all that we are taught or find in our text-books and a little healthy scepticism is of value if it leads to our re-proving the fundamental data on which our diagnostic art is based. From the wealth of his clinical experience Mr. Godlee has been able to cull many illustrations of the practical value of the facts which he stated and to the lecture itself we refer our readers.[1]

Annotations.

"Ne quid nimis."

A PROPOSED UNION OF THE MEDICAL SOCIETIES OF LONDON.

At the annual general meeting of the Royal Medical and Chirurgical Society held on Wednesday, March 1st, the President, Sir R. Douglas Powell, in his address to the society, spoke of the benefits that would be derived by the profession from a union of the medical societies of London into one Royal Society of Medicine. Sir Thomas Smith, Mr. D. H. Goodsall, Dr. Theodore Willi
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[1] The Lancet, Feb. 25th, 1905, p. 480.

it must have been derived from the surroundings. 9. However largely affected with the bacillus typhosus, the oysters at no time present to the eye any sign of such infection; they remain in all parts normal in aspect. This is the case not only with the infected oysters kept in sea water but also with the infected oysters kept in the "dry" state. There was only one exception—viz., an oyster derived from a polluted locality, which oyster had been eleven days out of the water. 10. During the time of these experiments (part of September, October, and part of November) the oysters lived quite well in *sterile* sea water frequently changed. There was no alteration noticeable in the aspect of the shell-fish; they remained plump and juicy and capable of promptly and tightly closing the shell. 11. Cockles readily embody the bacillus typhosus present in sea water. While the number of these latter appears at first to diminish in the body of the cockles it soon increases to a considerable degree, for five days after the cockles had been removed from the infected water and kept in clean sand the number of bacillus typhosus exceeded three times the number initially present. Their subsequent diminution proceeded only slowly since even ten days after their removal from the infected water the cockle examined still contained in its body 69,000 bacilli. 12. Mussels also readily embody the bacillus typhosus; in fact, the analysis seems to show that mussels do so to an extent greater than was found to occur in oysters or cockles. As regards the fate of the bacillus typhosus in the mussels these appear to stand between oysters and cockles, since in mussels the bacillus undergoes gradual diminution; this diminution, however, is incomparably slower than in oysters but takes place somewhat more quickly than in cockles.

A LIBEL UPON HOSPITALS.

IN certain numbers of a periodical called the *Wide World Magazine* there once appeared a series of articles by an enterprising person calling himself de Rougemont which dealt, under the guise of truth, with imaginary adventures in Australia and the neighbouring seas. The firm of Messrs. George Newnes, Limited, which firm, we believe, published the adventures of de Rougemont, has brought out a magazine called the *Grand Magazine* in which it seems possible that an admirer of de Rougemont conceals his identity under the title of "A Medical Practitioner." The enterprising gentleman styling himself de Rougemont took in the *Wide World Magazine* and the British Association in his character of a traveller, and in a similar way, surely, "A Medical Practitioner" in an article called "Hospitals: their Use and Abuse," which appears at p. 182 of the *Grand Magazine* for March, has taken in Messrs. George Newnes, Limited. An editorial note prefixed to the article commences as follows: "The writer of the following article, who is well acquainted with the facts and vouches for the accuracy of his statements, points to certain defects in the management of our great hospitals." Let us now give some extracts illustrative of what "A Medical Practitioner" calls "easily verifiable facts":—

> It may be said with perfect truth that the girls and young women who attend the public hospitals gain the possible healing of their bodies [illegible] naked, merely for purposes of demonstration I have myself seen this done some hundreds of times.
>
> Eighteen months ago I was the unwilling witness of an even greater atrocity. A woman was dying of malignant disease of the stomach and the physician under whose *care* she was was delivering a clinical lecture, taking the unhappy woman as his text. In the course of his remarks he mentioned various ways of ascertaining the extent of the stomach, amongst them the method of inflating it with gas and then by percussion mapping out its boundaries. A student inquired precisely how it was done and the physician said he would show him. The patient was thereupon given a solution of bicarbonate of soda and this do [illegible] ic acid. The effect on tl [illegible] understand, for the sto [illegible]. which would have been [illegible] uch more so when eaten out with cancer? She was hours recovering from the effect of this entirely unnecessary experiment, and she died the next day

These atrocities, according to "A Medical Practitioner," are committed more or less "in every hospital recognised as a place of instruction for students," and the editor believes that the person who could write such things is "well acquainted with the facts"! Of course, this statement is a stupid lie, and the firm of Messrs. George Newnes, Limited, ought to be ashamed of giving it currency and of publishing a shameful libel upon hospital practice.

PYROMANIA, A PSYCHOSIS OF PUBERTY.

IN the *Archives de Neurologie* for December, 1904, Dr. Raoul Leroy, assistant physician at the Evreux Asylum, refers to the medico-legally important subject of pyromania in young persons of both sexes, a form of mental disorder which leads to acts of incendiarism. "Whenever repeated fires occur," he says, "in a village or in the country suspicion generally falls on persons of incomplete mental or physical development—weak-minded youths or girls—among the inhabitants and it generally proves to be well-founded." The mental state of such incendiaries, says Dr. Leroy, is peculiar and characteristic. They are weak-minded and are often members of families in which epilepsy, insanity, or alcoholism occurs. Reference is made to the fact that among the peasant population of Normandy, where alcoholism prevails to a high degree, juvenile crimes of the nature of incendiarism are common. These feeble-minded delinquents are prone to set fire to buildings or other objects in revenge against their owners or in some cases merely to amuse themselves with the spectacle. A few cases, says Dr. Leroy, suffer from the influence of an obsession which irresistibly impels them to such acts, such cases forming a special form of insanity to which the term "pyromania" is applied. True cases of pyromania manifest themselves for the first time at the period of puberty. The following typical case is given in illustration of this affection. The patient or culprit in this case was a girl, aged 15 years, a domestic servant, who on three separate occasions had set fire to the house of her master. She was the child of respectable parents and at first no suspicion was entertained of her but on being questioned before the police at the third outbreak of fire she showed much agitation and finally confessed her guilt. "When she had stated the facts fully and was asked if she realised the wickedness of her crime," she replied, "Something supernatural urged me to set the place on fire." Although she was reasoned with and her wrong-doing demonstrated in the clearest manner "she remained unshakable and invariably repeated the same words in justification." She had no reason to hate her master, there was no motive whatever of vengeance that impelled her, only a presumably morbid impulse. The medico-legal inquiry revealed the fact that a highly neurotic hereditary taint existed in the family; the grandfather was a man of excessively violent disposition, a first cousin was liable to periodic attacks of insanity during which he wandered about, the grandmother committed suicide at the age of 62 years, and the patient's mother was a very nervous, emotional, weak-willed woman afflicted with coxalgia. The patient herself was a [illegible] but little intelligence and never could read and write correctly. Her character was excitable, violent, and impulsive, with a total lack of good judgment. At the age of 13 years she developed nocturnal somnambulism, walking all over the house in her sleep and having no recollection of it in the morning. The menstrual periods, which set in at the age of 15 years, were attended with headache, insomnia, and great nervous prostration. On one such occasion she had a hallucination that her bed was surrounded by flames and this was the starting point of her obsessions. Almost daily after this she felt the sudden morbid impulse to set something on fire. It grew stronger though she struggled against it, suffering great mental and physical distress in the process. The morbid obsession occupied her mind to the exclusion of all other ideas and caused such distress and agony that she could resist no longer. Taking a lighted taper she set fire to a packet of waste paper. This was followed by instant relief of distress and an agreeable feeling of satisfaction. These obsessions occurred from time to time and on three such occasions she set fire to outbuildings and parts of her master's house. The medical evidence taken before the magistrate in the trial of this patient showing the occurrence of insane impulses the patient was removed to the asylum. Dr. Leroy concludes that the morbid heredity on both paternal and maternal sides resulted in a brain liable to disorder and readily provoked to morbid impulse (in this case pyromania) on the occurrence of the stresses of puberty, a critical time in mental development.

LEPROSY AND THE LAW IN NEW SOUTH WALES.

THE statistics of the New South Wales leper lazaret at Little Bay, near Sydney, show that there were ten admissions and three deaths during 1903 and that 17 patients remained under treatment at the end of the year. In accordance with his usual custom, Dr. J. Ashburton Thompson, president of the Board of Health, gives copious clinical and etiological notes on the recent cases, one of which, moreover, presents some remarkable features in its social and legal aspects. The patient in question was a man retired from business and in easy circumstances. He was born in New South Wales in 1846 and had travelled all over that State but had never been outside it. When leprosy was diagnosed he made an application to the Board of Health for permission to be segregated in a house of his own under a section of the Public Health Act of 1902 which provides "that such person be ...... detained in such lazaret until released by order of the Board or be isolated in such place and in such manner as the Board directs." For this purpose he proposed to live in a house which stood detached in its own allotment in a suburb of Sydney on a broad road, 150 yards distant from any other house on the same side of the way. This was approved by the Board and the rules by which he was to guide himself while living there were laid down. The Board had used every possible precaution to avoid publicity in this as in every other case but the facts were divulged and the neighbouring property owners protested on the ground that the value of their property would be depreciated by the patient residing there. The house where he was living near by was boycotted and tradesmen refused to supply commodities, so that even food had to be bought at a distance and carried home by the purchasers. The patient was therefore ultimately compelled to take refuge in the public lazaret. The complainants, however, were not content with this result of their efforts but they attempted to obtain such an alteration of the law that it would be made illegal for the future to segregate any leper elsewhere than in the public lazaret. A Bill of which its proposer said: "The Bill provides that in the future the Board must send lepers to a reserve proclaimed by the Government for that purpose,' was read the first time in the Legislative Assembly on July 15th, 1903, and a second time on the 20th of the same month. Dr. Thompson had in the meantime written to the State Treasurer pointing out that the proposed legislation was not justifiable on medical grounds and would occasionally have the effect of producing unnecessary hardship. Having passed in the lower House the Bill reached the Legislative Council on August 20th, was opposed by Sir Normand MacLaurin, and was thrown out. The leprosy returns seem to show that the patient was still in the lazaret on Dec. 31st, 1903.

CURRENT THEORIES OF THE HEREDITARY PROCESS.

THE fifth lecture of the series[1] was delivered by Professor W. F. R. Weldon on Jan. 24th at University College, London, and dealt with the subject of the determinants of heredity. Many writers hold that some form of *material "determinants" passes in the germ* cells from parent to offspring, each group of determinants giving rise to the formation of one specific tissue or part of an organ. The idea of specific determinants was propounded by Mendel and Weismann. Roux and de Vries taught that the karyokinetic phenomena of cell division indicated a qualitative as well as a quantitative division of the nucleus and this idea has been further developed by Weismann. The number of chromosomes in the nuclei prior to cell division varies according to the species of animal and the tissue in which they occur. Hertwig has found in many invertebrates somatic chromosomes in the following numbers—viz., 18, 27, 28, 29, and 36. The worm *ascaris megalocephala* has two and four chromosomes respectively in its two subspecies. Human somatic cells contain 16 (Bardeleben) or 32 chromosomes, while in the sea-urchin the number is 36. There is no correlation, says Professor Weldon, between complexity of cell structure or function on the one hand and the number of chromosomes on the other. In the process of division each rod of chromosomes splits exactly into halves which separate and pass towards the centrospheres at the opposite poles of the dividing cell, so that each daughter cell receives an equal number of halves. The chromatin rods of a germ cell prior to maturation are fewer than the number contained in the somatic cells. Thus the germinal chromosomes in echinus are 18 while the somatic are 36 in number. This, Professor Weldon says, is a general rule. The longitudinal splitting of the beaded rods of chromosomes into slender rods of half beads is the normal process and this has been interpreted by Roux and Weismann as indicating a division which is both quantitative and qualitative of each chromosome. Weismann states that this cleavage process is continuously associated with a differentiation of the dividing parts, certain nuclear determinants being "sorted out" at each stage of division, so that cell differentiation takes place in various lines, leading to the formation of various tissues (nervous, muscular, glandular, sustentacular). In the process of conjugation of sperm and germ cells the centrosome or "archoplasmic substance" which forms the spindle fibres and takes an active part in the mechanics of the process of division is contributed by the spermatozoon. The centrosome is thus a motor mechanism which divides itself into two centrospheres, each centrosphere consisting of a central active corpuscle of protoplasm emitting contractile threads which attach themselves to the split-up segments of chromatin in the equatorial region of the germ cell body. By the contraction of these fibrils the chromatin segments are drawn away from the equatorial region towards the centrosphere at each pole of the cell, after which a septum is developed which completes the division of the cell body into the first pair of blastomeres. This process of cell division is repeated with almost mechanical regularity until the limit of numerical development is reached for the particular group of cells (tissue or part of organ) in question. Such a process as the "sorting of determinants"—that is, of elementary invisible microscopic constituents of the chromosomes postulated by Weismann—is, Professor Weldon thinks, quite irreconcileable with the facts of the equipotential nature of blastomeres in the early stages of cell division and with the facts of regeneration of lost parts, subjects which have been expounded in previous lectures. In normal cell division the chromosomes divide evenly, both in the qualitative and the quantitative sense, so that each of a pair of daughter cells receives at each division equal quantities of paternal and maternal chromatin from the parent cell. The changes which subsequently occur in the different cell lineages derived from the fertilised germ cells are largely due to other factors—viz., the relative positions assumed with regard to each other and to the cell mass by individual cells, and the differences of the incidental stimuli of the environment on differently placed cells (gravity, light and shade, pressure, relative food-supply). Boveri, who has given minute attention to the subject, concludes that it is the protoplasmic differentiation primarily produced by such incidental and environmental factors which determines in turn whether the chromosomes within the cells are to persist along one definite cell lineage as primitive chromosomes or are to undergo secondary differentiation in the variously differentiating somatic or tissue cells. Hence for normal development and perfect embryogenesis a very constant and 'correct" environment is necessary.

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[1] Abstracts of the first, second, third, and fourth lectures were published in THE LANCET of Jan. 7th (p. 42) and 21st (p. 181) and Feb. 4th (p. 307) and 25th (p. 512), 1905.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE quarterly meeting of the Medico-Psychological Association was held on Feb. 23rd at the North Riding Asylum, Clifton, near York, by the courtesy of Mr. J. Tregelles Hingston, the medical superintendent. The President, Dr. R. Percy Smith, occupied the chair. A motion was submitted, in which it was proposed by Dr. J. Carlyle Johnstone and seconded by Dr. E. B. Whitcombe "that the period of three years' training for nurses in an institution for the treatment of mental disorders, as prescribed by the regulations of the Medico-Psychological Association, must be served in one institution." A discussion arose upon the above motion, in the course of which different views were advanced. Dr. T. B. Hyslop and Dr. T. S. Clouston opposed the motion on the ground that it would be unfair to intelligent and aspiring nurses who were anxious to succeed and who after entering institutions where the education and training of nurses were inadequate found to their cost that this motion bound them to serve for three years in one institution so that time was lost until they had moved into an institution where adequate education and training could be secured. Moreover, the demand of such a long apprenticeship continuously at one institution was too exacting. Among others who took part in the discussion were Dr. G. M. Robertson, Dr. Ernest W. White, Dr. D. Yellowlees, Dr. T. Outterson Wood, and Dr. F. P. Hearder. An amendment was then proposed by Dr. Outterson Wood, duly seconded, and on a show of hands carried by 21 votes to 10 to the effect that the period of training for nurses should be two years and that it should not be served at more than two institutions. (The object of limiting the number of institutions to two was to discourage the few nurses who were mere "rolling stones.") This was adopted as a substantive motion and carried. Dr. Hyslop read a paper entitled "The Problem of the Insane in its Relationship to Overcrowding and Poverty." He argued that it was the duty of the association to constitute itself, owing to its special knowledge, its status, and its facilities for obtaining correct information, into a committee of inquiry into the subject of pauperism and overcrowding in their relations to insanity and mental degeneration. Collateral matters would legitimately come within the scope of the inquiry, such as the question of alien immigration, tramps and vagrants, and slum life, as also the action of alcohol and diet. An animated and lengthy discussion followed in which the President, Dr. Charles Mercier, Dr. Robert Jones, Dr. Clouston, Dr. T. Seymour Tuke, Dr. Outterson Wood, and others took part. No motion was, however, proposed at the termination of the discussion and the rest of the programme was adjourned to the next meeting owing to the lateness of the hour.

PARATYPHOID FEVER.

THE discussion which took place at the Royal Academy of Medicine in Ireland on Jan. 20th last[1] draws attention to a condition, at present known as "paratyphoid fever," which is not fully recognised. Many cases of continued fever are met with which clinically closely resemble typhoid fever but the blood does not give the Widal reaction and in most of the cases which have proved fatal the lymphatic structure of the intestine has not been involved. Certain observers maintain that instances of true typhoid fever occur without special changes in the intestine but other authorities contend that such cases are really caused by the "paratyphoid" infection. The disease and its relation to typhoid fever have called forth a considerable number of interesting and important contributions. The malady is caused by a micro-organism which appears to occupy a position intermediate between the colon and the typhoid bacilli and presents some of the characteristics of each. Two species of the "paratyphoid bacillus" have been separated, the *alpha* and the *beta*. There seems to be no clinical difference between the action of these two organisms. The symptoms of the paratyphoid infection are in many cases very similar to those which are met with in typhoid fever. The course, however, in the former is usually milder than in the latter and may even be afebrile; moreover fever, when present, may end by crisis. Diarrhœa is common in the paratyphoid infection. The duration of paratyphoid fever varies from 12 to 84 days. Epistaxis is a frequent symptom. Relapses, both first and second, have been recorded. Rose spots and a palpable enlargement of the spleen have been present in about one-half of the reported cases. The pulse is usually slow and irregular. Complications are common and certain of them which are very rare in typhoid fever have been repeatedly noted in paratyphoid fever. In the list are included pleurisy, endocarditis, meningitis, peritonitis, cholecystitis and cholelithiasis, orchitis, phlebitis, osteomyelitis, and others. An absolute diagnosis can be made only when the paratyphoid bacillus is obtained from the blood, the urine, the fæces, or some local lesion. In the light of present knowledge it may be stated that the diagnosis is justified if the paratyphoid bacilli are agglutinated by the blood serum of the patient in a high state of dilution and if typhoid bacilli are not agglutinated by it. The prognosis in paratyphoid fever is favourable. The term "paratyphoid fever" is to be regretted. Unless some definite connexion exists between this infection and that of typhoid fever some other name should be given to the disease. The symptoms of the two affections are certainly similar but the bacterial origin is different, and we should prefer to base the nosology of a fever more on its pathology and bacteriology than on the clinical picture.

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[1] Vide THE LANCET, Feb. 18th, 1905, p. 430.

LABOUR AND THE FERTILITY OF THE SOIL.

THE King out of his well-known kindness of heart has again given evidence of his sympathy with the genuine unemployed. Encouragement from such an august source is calculated to quicken the efforts of those individuals and public bodies who have power to help those out of work and we may therefore hope for some possible solution of this melancholy problem. Every indication points to our looking to the land as a means of relieving the present stress. If men cannot build, bake, or brew, they can dig and delve. An idle man and untilled land mutually absorb one another. A little arrangement and no able-bodied man willing to work need lack employment. Indeed, out of evil sometimes cometh good and when once men are set to work to develop the land public attention will be drawn in a surprising manner to its fertility and the easy means of maintaining the same. If there is not room in this little island for our surplus workers there is abundant opportunity further afield and Canada is probably the best example that could be quoted. The farmers there are, we understand, ready to take any number of able-bodied men. Only one doubt disturbs us: how long are we to expect the present extraordinary fertility of the Canadian wheat lands to last? There are already ominous signs of shortness of crop and evidence that the essential elements in the soil are "approaching a period." Any sudden failure will mean ruin to farmers who cannot "move on," like the old pioneers, to "fresh woods and pastures new" and privations to the farm hands. We should like to see in the multiplicity of pamphlets issued some figures in regard to the analysis of the soil and some evidence that the wonderful experiments and inventions of he late Sir John Lawes have been appreciated and utilised. "Back to the land" may be wholesome advice but the land must be fertile and kept so by scientific reasoning and application.

THE DEMONSTRATION OF TYPHOID BACILLI IN THE BLOOD OF CASES OF ENTERIC FEVER.

IT has long been known that the bacillus typhosus may be found in almost any part of the body, and may set up morbid changes there and also that cases presenting the clinical features of typhoid fever may occur without the characteristic lesions in the intestine. The occurrence of a typhoid septicæmia has therefore been inferred and proved by the discovery of the bacillus in the blood of the patients. Within recent years a large number of investigations have been made by different observers using different methods to determine the frequency of the occurrence of the bacilli in the blood, the general result of which seems to be that they occur in almost every case and that typhoid fever even in mild cases is a true typhoid septicæmia. The question is carefully discussed by Dr. Jean Perquis of the Faculty of Medicine of Paris in an exhaustive monograph[1] embodying his own researches and including a critical investigation of the value of "hæmoculture" as an aid to diagnosis compared with that of the Widal serum reaction. The first observer to find the bacilli at all frequently was Castellani[2] who obtained them in 12 cases out of 14. The method which he adopted was to use a large quantity of the nutrient medium in order to lessen the bactericidal power of the serum of the patient. He used five or six flasks containing 300 cubic centimetres of ordinary peptone bouillon made slightly alkaline, adding to them quantities of blood varying from five to 50 drops, then putting them in the incubator at 37° C. Positive results were obtained in from 12 to 36 hours. Dr. Perquis has modified this method as follows: the arm of the patient is prepared as if for venesection, especial care being taken to insure the disinfection of the skin, and the spot at which the syringe is to be inserted is touched with a fine cautery point to insure destruction of all organisms within the skin. The blood when withdrawn is put into sterile tubes and defibrinated, after which about from 15 to 25 drops are inoculated into two flasks, each containing from 80 to 120 cubic centimetres of peptone bouillon; these are placed in the incubator at 37° C. and examined every 12 hours. He claims that this method is cheaper and more trustworthy than that of Castellani, the defibrination being especially important. The method was applied in 40 cases of typhoid fever, of which details are given, some being very severe, others mild in type, while in three there was a relapse. Positive results were obtained in 38 cases, while two were negative; these were, however, of great interest, since in them the blood was not investigated until after the twentieth day and it was found in the other cases that the later in the course of the disease the blood was taken the slower the growth of the organism was, while in the cases with relapse the bacillus disappeared after the primary attack to reappear during the course of the relapse. So far no constant relation has been found between the occurrence of the organisms in the blood and the occurrence of the Widal agglutination reaction, although the increasing difficulty of growth of the organism from the blood in the later stages of the disease suggests the development of more and more bactericidal substances in the serum. The occurrence of the bacillus in the blood is an early incident in the disease. Dr. Perquis found it in one case as early as the second day of the fever, Busquet found it in the fourth, and Hewlett, Courmont, Widal, and Pinat on the fifth. The bacilli are generally supposed to disappear from the blood towards the end of the third week but they have been found by Courmont on the twenty-eighth day, by Rnata on the thirty-fourth, by Pinat on the thirty-sixth, and by Auerbach and Ungar on the forty-second; but all these cases were of severe or fatal character. Comparing the utility of this method with that of Widal Dr. Perquis admits that the latter is easier, more rapid, and more convenient for ordinary cases, but he points out that the method of hæmoculture affords valuable information in the very conditions where Widal's reaction fails—namely, in the early days of the disease and in those cases where there has been a previous typhoid infection. Widal's reaction, moreover, cannot be regarded as an absolute proof of the typhoid nature of any given case, whereas the demonstration of the organism in the blood is conclusive. The main disadvantage is the time necessary for the method, which, allowing for the time required for control cultures when a positive reaction is obtained, varies from 36 to 60 hours. Dr. Perquis's work forms a valuable contribution to the literature of typhoid fever since it confirms the view that the disease is in all cases a general infection, includes a simple and practical method of culture of the organism from the blood, and demonstrates that the organisms may be obtained from cases not giving Widal's reaction.

PUBLIC HEALTH IN BRITISH GUIANA.

MUCH information relative to the various departments of the public medical service of British Guiana will be found in the recently published report of Dr. J. E. Godfrey, the surgeon-general of the colony. The principal institutions for the reception of patients are the public hospital in Georgetown, with 700 beds; the public hospital in New Amsterdam, with 150 beds; the lunatic asylum; and the leper asylum. Besides the two hospitals above mentioned there are also smaller ones in Suddie, in Bantica, and in Morawhanna. During the year ended March 31st, 1904, there were treated in these five hospitals 17,617 in-patients with 1728 deaths, while the number of out-patients for the same period was 67,189. Among the in-patients some of the more prevalent diseases shown in the statistics were as follows: dysentery, 513 cases, with 137 deaths; malarial fever, 3029 cases, with 92 deaths; pulmonary tuberculosis, 576 cases, with 233 deaths; diarrhœa, 541 cases, with 102 deaths; Bright's disease, 667 cases, with 255 deaths; ankylostomiasis, 428 cases, with 48 deaths; and filariasis, 176 cases, with five deaths. In the lunatic asylum 184 patients were admitted during the year and there were 104 deaths, the daily average number under treatment being 773. In the leper asylum 107 patients were admitted 51 were discharged, and 76 died, the daily average number under treatment being 424. The birth-rate and the death-rate of the whole colony were respectively 29·3 and 28·9 per 1000, the deaths of infants under one year of age being at the rate of 205 per 1000 births. The death-rate for the city of Georgetown and its environs, exclusive of the country patients at the public hospital, was 44·1 per 1000, the deaths of infants under one year of age being at the rate of 334 per 1000 births. Small-pox of a mild type was prevalent throughout the colony; 1821 cases were reported and 1434 cases were treated at the isolation hospital; there were 14 deaths from the disease—i.e., a mortality of less than 1 per cent. A few of the small-pox patients were aboriginal Indians, one of whom gave her age as 112 years and several claimed to be well over 70 years. Dr. Godfrey gives a short account of endeavours which are being made, but with only limited success, to induce trained nurse-midwives to settle in the villages and rural districts.

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[1] Contribution à l'Etude de la Présence du Bacille d'Eberth dans le Sang des Typhiques. Paris, Librairie des Facultés. 1904.

[2] Riforma Medica, 1900.

CHYLOUS ABDOMINAL CYST.

In the *Boston Medical and Surgical Journal* of Feb. 9th Dr. M. H. Richardson has reported a case of the rare condition of chylous cyst of the abdomen. A boy, aged 11 years, was referred to him in October, 1904. A practitioner sent a letter with the opinion that there was fluid of some kind in the abdomen which was not free in the peritoneal cavity. In the summer of 1903 fulness in the abdomen, especially at the navel and on the right side, was first noticed. There were nervous symptoms and at times acute indigestion. In the first week of October, 1904, there were nausea, vomiting, and diarrhœa for a number of hours but there was no pain. On examination the boy was found to be thin and cachectic with a very prominent abdomen. The lower ribs were pushed outwards. The abdomen was much distended and full of fluid which appeared to be free. The temperature was 100° F. Dr. Richardson diagnosed tuberculous peritonitis and opened the abdomen by a small incision between the umbilicus and the pubes. On incising the peritoneum he came upon a white fragile cyst which filled the peritoneal cavity. It was covered with small blood-vessels, most of which ran transversely. The incision was enlarged sufficiently to admit the hand. The cyst was then seen to be retroperitoneal and to extend up under the liver and to the right. It seemed at first to be a hydronephrosis; close to its upper part the right kidney was felt. Dr. Richardson decided to attempt enucleation of the cyst after tying the vascular peritoneal covering in sections. The cyst was then easily separated but the thin wall was ruptured here and there allowing a milky fluid to escape. It was emptied through an incision and the contents amounted to a gallon. The sac was carefully separated from all attachments, the dissection being made with blunt curved scissors and gauze. The ascending colon, the hepatic flexure of the colon, and the vertical portion of the duodenum were successfully separated. Whether the cyst was a dilatation of the receptaculum chyli or of one of its tributaries could not be made out. The boy rapidly recovered. He gained flesh and strength and was restored to perfect health. Microscopic examination of the cyst wall showed that it was composed of fibrous tissue. The contents were a milky liquid of the specific gravity of 1020, containing abundant albumin. On testing with osmic acid a slight blackish discolouration was obtained. Microscopic examination showed fine granules and numerous large granular corpuscles. Dr. Richardson emphasies the fact that before the operation the diagnosis of tuberculous peritonitis seemed quite certain and that relief of the condition present was possible only by operation. In many other cases of apparently hopeless disease of the abdomen he has operated and found an easily remediable condition. The moral is that in such cases the surgeon should explore the abdomen unless incurable disease can be certainly diagnosed.

THE PUBLIC HEALTH BILL OF THE BRITISH MEDICAL ASSOCIATION.

We have received a copy of this short and simple Bill the main objects of which are to insure that none but those properly qualified shall be appointed as medical officers of health or sanitary inspectors and to give to all such officers and inspectors similar security in their tenure of office to that enjoyed by Poor-law medical officers and metropolitan medical officers of health. As the law stands no qualification is required for a sanitary inspector except in London; and as a general rule a medical officer of health or sanitary inspector is appointed from year to year only and thus has no true security of tenure. Poor-law medical officers and metropolitan officers of health are not appointed for limited periods only and are removeable only by, or with the consent of, the Local Government Board. "The duties of medical officers of health and inspectors," says the memorandum of the Bill, "are so important and responsible that they ought to be entrusted only to fully qualified persons whose position is satisfactorily secured." All our readers know our views upon this matter. No one with any knowledge of the local government of this country—apart from all medical bias—can doubt that the public health should now be placed in the care of a properly paid service the members of which should enjoy security of tenure and should only feel responsible to their authorities for any action that they may desire to take in the public interest.

AMAUROTIC FAMILY IDIOCY.

Since the description of amaurotic family idiocy by Sachs (1887) the occurrence of this disease has been noted by an increasing number of observers, but its pathology has only recently been studied. Dr. James McKee, professor of children's disease at the Philadelphia Polyclinic, has published in the *American Journal of the Medical Sciences* for January an interesting clinical and pathological study of a case. The patient was an infant, one year old, the child of healthy parents. There was no history of tuberculosis, syphilis, or insanity on the father's or mother's side. The child was considered a normal baby but he suffered much from constipation and took cold easily. At the age of one year he showed a square rachitic head, craniotabes, and a widely open fontanelle. He had a marked lumbo-dorsal curve and showed beaded ribs and both enlarged liver and spleen. The muscles of the neck were weak. The child was mentally backward and never learnt to speak. The rachitic symptoms improved slightly under treatment but during the early part of the second year blindness gradually set in. The child "took no notice of his surroundings and did not use his arms for grasping." Ophthalmoscopic examination showed the characteristic retinal lesion of amaurotic family idiocy—pale areas of atrophy in the macular region of the eye. The upper and the lower limbs grew spastic with the progress of the disease and "claw-hand" showed itself. The great toe extended and the other toes flexed as in Babinski's symptom. The tendon reflexes were exaggerated and ankle clonus prevailed. Both Babinski's reflex and excess of plantar reflex were recorded. The pupils were dilated, unequal in size, and did not respond to light. There were slow nystagmoid movements of the eyes. Consciousness was dulled and the child was exceedingly somnolescent. The respirations were 36 per minute, the pulse was 136, and the temperature (in the rectum) was 95·6° F. The child eventually died from adenopathy, pneumonia, and bronchitis at the age of two and a half years. Professor McKee records the curious fact that since Sachs's observations it has been noted that all recorded cases of this affection were members of the Jewish race, a remarkable instance of racial proclivity. The disease is essentially one of infancy and affects girls more than boys in the proportion of 2 to 1. Its onset is generally between the second and tenth months of infancy. "In amaurotic family idiocy," concludes Professor McKee, "the cerebral development, till then normal, ceases at a very early age. The cerebral cells degenerate and idiocy results." That the disease should be common in the progeny of a hard-working self-denying race, a race in which the neuropathic factor is prominent, is, says Professor McKee, intelligible. Microscopic examination showed increase in size and a globular condition of the retinal ganglion cells and an entire absence of Nissl's bodies. The optic nerve showed absence of myelin in many of its fibres and the neurolgia of the nerve was increased (simple degeneration). The pathology of amaurotic family idiocy, its clinical characters, and its special proclivity to affect the Jewish race, are now fairly well known; its etiology still awaits discovery.

STERILISED MILK DEPÔTS IN PARIS.

Dr. Richard Caton, on behalf of a special subcommittee of the Liverpool town council, which has devoted considerable attention to the question of providing sterilised milk, has recently issued a memorandum in which he gives an account of his visit to some of the principal institutions of Paris in which sterilised milk is prepared and distributed for the benefit of the children of the poor. The method, he points out, is much more widely diffused in France than in England, being in active operation in no less than 65 French towns (as well as in 36 in other parts of Europe). In no place was he able to find that the system was a success commercially. Though, however, the adoption of the method is a considerable cause of expenditure—in many places the milk being given gratuitously and in others sold at half price—the results in saving life are so important that in no place is there any intention of abandoning the method on the score of cost. The sterilised milk is distributed at hospitals or dispensaries and every child receiving it is seen and examined from time to time by the medical officers of the institutions. According to Dr. Caton's observations two different types of distribution exist in Paris. The so-called "Goutte de Lait" method is carried on at the Belleville Dispensary which is situated in the midst of the poorest population of Paris. The milk is derived from a farm (where a sterilising apparatus is kept) in Normandy. The milk is sterilised at 108° C. and under pressure. The milk keeps perfectly good for a week or more and so some economy of distribution is effected. The milk is sterilised as soon as it is obtained from the cow. Dr. Caton suggests that if it were possible to obtain the milk from a farm close to Liverpool and to have the sterilising done at the farm Liverpool might secure the same advantage that is enjoyed at the "Gouttes de Lait." This system of Dr. Variot has been in operation for ten years and he is thoroughly satisfied with it; he has never seen a case of infantile scurvy attributable to the milk and he states that in about 4 per cent. of the children sterilised milk does not agree, that in a few its use is followed by anæmia, and that in others it causes constipation. In the other form of distribution in Paris, carried out amongst other places at the great Charité Hospital, the cans of milk are purchased from the ordinary dealer and the sterilisation takes place at the depôt at 208° F. in the hospital from which the milk is distributed. Dr. Caton points out that the one respect in which both these methods of distributing sterilised milk is superior to ours is in the fact that every child is under medical supervision. It may often happen, he adds, that some other ailment in addition to dyspepsia is present and in that case the giving of sterilised milk may not meet the circumstances fully. Though there may be great difficulties in providing medical attendance at the milk-distributing depôts in this country the question arises, he thinks, whether in bad cases it would not be well as a principle of routine to advise the mother to seek medical advice for the child.

PAPAIN.

In a paper published in the *Annals of Botany* for January, under the heading of "The Proteases of Plants," Professor S. H. Vines records the results of some interesting experiments on the action of papain. Papain is the dry powder prepared from papaw, the "milk" obtained from carica papaya. It would appear that papaw has been somewhat difficult to obtain owing to the fact that the Americans took steps to secure for themselves all that could be found. It is now, however, "an open article" on the market in this country. The samples of commercial papain tested by Professor Vines were obtained respectively from Messrs. Christy, Finkler, and Merck. The action on fibrin of these different samples of papain was not uniform, Christy's proving to be the most active. All the samples of papain tested, however, proved capable of effecting complete proteolysis or, at any rate, peptolysis in various degrees. The action was more vigorous in the presence of hydrocyanic acid than in the presence of toluol and it was, on the whole, stronger in the alkaline than in the acid liquids though the difference was not great. With regard to autolysis, the results bring out again the specific differences in activity between the three samples of papain. The most striking tryptophane reaction was given by Finkler's papain, on account, probably, of its containing the largest amount of readily proteolysable proteid. With respect to the reaction of the liquid, Christy's and Merck's samples gave better results in acid than in alkaline liquids, whilst Finkler's was more active in an alkaline than in an acid medium. Experiments were made also in which the result could be compared between the fibrin-digesting and the peptolysing activity of the papain in each case. The results go to show that the various samples of papain experimented upon differ widely in their general proteolytic activity and in their relation to acid and alkali as well as to the various antiseptics employed. "One thing at any rate," concludes Professor Vines, "is made clear, that the last word as to the properties of papain will not have been pronounced until a series of careful observations shall have been made with perfectly fresh materials so as to avoid all those modifications that must necessarily accompany the preparation of the varieties of dried papain which have hitherto been used for investigation." The interesting conclusion is suggested that papain contains a fibrin-digesting but not peptolytic protease of the nature of pepsin as well as a peptolytic but not fibrin-digesting protease of the nature of an erepsin. If this be so it will be the first clear demonstration of the existence of a pepsin in the vegetable kingdom. The experiments, though they may not absolutely establish this conclusion, at least indicate a method by which a physiological analysis of possible mixtures of enzymes may be effected. Probably by the application of this method to the fresh juice of the papaw the question will be settled for that plant. In the meantime, Professor Vines is investigating other plants and has already obtained some confirmatory results in the case of the hyacinth bulb, of the pineapple, and of yeast. In the early "sixties" Mayne Reid wrote a book called "Bruin," in which he gave an account of a "barbecue" held in the Southern States. One of the features of this was an ox roasted whole upon a kind of gridiron made of papaw wood, the sap of which Mayne Reid said had for years been kownn as imparting a peculiar tenderness to meat with which it came in contact.

FATAL RESULT OF A FALL OUT OF BED.

IN the *Journal of the Royal Army Medical Corps* for December, 1904, Major H. S. Peeke has reported a striking illustration of the fact that a fatal injury of the head or neck may result from a very slight cause. A private was taken to a military hospital on a stretcher at 1 A.M., complaining of pain in the neck and inability to walk. He was sober. A comrade occupying the next bed stated that about midnight the patient, who had retired early, rose, sat up in bed, lost his balance, and fell over on to the floor on his head. This statement was corroborated by the patient. Examination showed tenderness and pain in the neck and complete motor and sensory paralysis of the lower limbs. The temperature was 99° F., the pulse was 65, and the respirations were hurried and diaphragmatic. He was placed on a water bed and the pain was relieved by hypodermic injections of morphine and cold applications to the neck. The dyspnœa increased and he became comatose and died on the following morning. At the necropsy the body was found to be heavy and muscular. An incision was made from the occiput to below the seventh cervical vertebra, exposing the spinous processes. On inserting the finger a spinous process was found detached. There was a fracture through the base of the fifth cervical spinous process. There were also extensive hæmorrhage and rupture of the dura mater and anterior spinous ligament. The cord was not pressed on by bone but pressure from the hæmorrhage and from inflammatory effusion evidently was the cause of death. As the bed was only 18 inches from the floor fracture of the spine had not been suspected. It was thought that the patient was suffering from concussion of the spine or from hæmorrhage causing pressure on it. Therefore no operation appeared to be indicated and a rapidly fatal injury was not anticipated. The paraplegia at first extended as high as the middle of the breast. From the situation of the injury paralysis of the upper limbs might have been expected but they lost scarcely any power until just before death.

CHLORÆTHOFORM.

THE name chloræthoform has been given to a new anæsthetic containing chloroform and a small proportion of ethyl chloride suggested[1] by John Wade, D.Sc., and Horace Finnemore, A.I.C., of the chemical and pharmaceutical departments at Guy's Hospital. It has long been noticed that chloroform prepared from acetone is inferior in anæsthetic properties to chloroform derived from alcohol; with the former the patient shows a tendency to cough and to hold the breath, while the prolongation of the time of induction increases the risk of administering an overdose. A series of careful fractional distillations gave the writers the clue to this difference, for whereas acetone chloroform begins to distil at 55° C., that from alcohol begins to distil at 54° C. The fraction distilling at from 54° to 55° C. was proved to be ethyl chloride, which is present to the extent of about 0·05 per cent. and is formed during the process of manufacture by the action of chlorinated lime on alcohol. It is not formed, however, in the preparation of chloroform from acetone. As ethyl chloride induces anæsthesia rapidly, thus removing the irregularity of breathing and diminishing the time of induction, the conclusion was drawn that the difference in anæsthetic effect between the two kinds of chloroform is due to ethyl chloride. A small quantity of ethyl chloride was therefore added to chloroform prepared from acetone and the mixture was proved clinically to be equal to chloroform derived from alcohol. In a later note[2] the writers remark that pure chloroform acts rapidly and in a trustworthy manner in perhaps four cases out of five but the risk of accident is always present. This risk, it is probable, is less with chloroform made from alcohol. The 0·05 per cent. of ethyl chloride present in alcohol-derived chloroform is not sufficient, however, to eliminate all uncertainty and the addition of a further quantity is recommended. Chloroform derived from acetone mixed with 0·25 per cent. of ethyl chloride is stated to act satisfactorily and to give as good or better results than does chloroform made from ethyl alcohol.

THE CORRECTION OF LOCAL BIRTH STATISTICS.

IT is one of the anomalies of our modern methods of local self-government that, after considerable circumlocution, public bodies have to obtain at a price from local registrars facts which have already been gleaned at the expense of the public. Thus, at present, the medical officer of health must pay considerable sums out of the local rates in order to discover and to classify the causes of death of citizens within his district. His is often the first medical eye to see the record of "uncertified deaths," and occasionally after much delay he discovers a case which should without doubt have been promptly reported to the coroner. With the information so acquired the medical officer of health is enabled to apportion to their appropriate localities the deaths occurring away from home; this correction is an item of no small moment if his local sanitary authority has within its jurisdiction several public institutions for the care of the sick and the dying. Lately it has been recognised that birth statistics are vitiated from a similar source, for many strangers are delivered in lying-in homes and infirmaries for the poor, thus unduly raising the local birth-rate. The recognition of this fact led to a desire that sub-registrars should for a small fee issue to the medical officer of health a return of the residence of all such mothers. For a time this inexpensive and unofficial system was practised, until the Registrar-General issued a circular to his registrars instructing them that in future if a return of all the births were desired they may exact for it the same remuneration as in the case of deaths. This instruction appears to have been the unforeseen outcome of a resolution of the public health committee of Southwark passed in October, 1904, and circulated among the other borough councils in London. It is evidently to the interest of sub-registrars to insist on a high fee for limited returns in the hope of securing a request for complete information, and already 14 metropolitan local sanitary authorities have deemed it wise to order a full weekly return. It is found in practice that maternity institutions are unwilling to afford the necessary information to the medical officer of health direct and thus it appears to be a wise innovation to receive official details of the current births. Beyond the mere correction of the statistics of birth which this periodical return will effect, provided, of course, that there is a general interchange of information, the adoption of such measures should facilitate and check the investigation of the local prevalence of puerperal fever and of infant mortality as well as afford evidence of the existence of secret lying-in homes with their associated illegitimate births; it should also aid the working of the recent Midwives Act.

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[1] Journal of the Chemical Society, July, 1904.

[2] Chemist and Druggist, 1904, vol. ii., p. 611.

THE INTERNATIONAL CONGRESS OF MEDICINE AT LISBON.

IN connexion with the Fifteenth International Congress of Medicine to be held at Lisbon in April next year Messrs. Thomas Cook and Son have chartered a first-class ocean passenger steamer to convey members of the Congress and their friends from London. The vessel will be moored near the quay and in view of the pressure on hotel accommodation usual on such occasions will be used as a floating hotel during the period of the Congress—April 19th to 26th—an arrangement which will doubtless be appreciated by delegates.

THE FUTURE OF THE LONDON MEDICAL SCHOOLS.

UPON the moving of the annual report at the Court of Governors of Middlesex Hospital last week Dr. J. Kingston Fowler, senior physician to the hospital and dean of the Faculty of Medicine in the University of London, made a most important speech. His words arose out of the existing position at Middlesex Hospital, as one of the smaller medical schools of the metropolis, but they have a significance for every London medical school and, indeed, for everyone concerned in the future developments of the medical profession. Referring to the admitted gross abuse that exists in the out-patient departments of the London hospitals—an abuse by no means confined to the metropolis—Dr. Fowler mentioned an extension of the provident dispensary system as being the solution of the present position. By utilising the out-patient departments of hospitals as consulting-rooms for the poor and making the provident dispensaries feed the out-patient departments only with suitable cases two things would be at once gained. The general practitioners would no longer feel that the gratuitous treatment of all and every case by the hospitals was subjecting them to unfair rivalry, while the out-patient departments would only receive in *bulk* the number of cases that they were able to treat and in *quality* the kind of cases that they ought to be asked to treat. From this subject Dr. Fowler passed to a consideration of the present critical position of many of the London medical schools. He took it for granted that his audience was acquainted with this position owing to the report of Sir Edward Fry's committee which had been so recently published.[1] That report must have convinced many who were still doubtful that it was not only absurdly uneconomical but practically impossible for the 12 separate medical schools of London each to support a teaching staff able to deal completely with all the ancillary subjects and possessing all the necessary laboratories and class-rooms implied. The University of London will, it is hoped, soon possess a central school of science where every medical student can pursue the studies antecedent to his purely professional curriculum, but money, much money, is still wanted before that time arrives. But in the meantime the situation at some of the hospitals is acute and the number of medical students in London, despite the unrivalled clinical material of the metropolis, is rapidly diminishing. Dr. Fowler, who is in accord with many of those best acquainted with educational matters, considers that during the interregnum University College, London, and King's College, London, being definitely separated from their hospitals should form centres for teaching the ancillary sciences. This is the view that is supported by an influential group of London teachers, and, as is well known, steps have already been taken to give effect to it. There are contrary opinions upon the point, but such clear pronouncements as have already come from Dr. Fowler will go far to create a trust in the University of London and general agreement with the Dean of the Medical Faculty of that University.

A FATAL case of plague occurred in Brisbane on Jan. 2nd, being the first case since Sept. 15th, 1904. Up to Jan. 21st no other case had been reported but from Jan. 6th to 21st 1730 rodents had been destroyed and 861 had been bacteriologically examined. Of these latter three rats were found to be infected. As regards the Cape Colony the medical officer of health of the colony states that for the week ending Feb. 4th the condition of the colony as to plague was as follows. At Port Elizabeth no case was discovered but of 209 rodents bacteriologically examined 1 rat and 3 mice were found to be plague-infected. At East London 1 native male found dead was considered as being a "case suspicious of being plague." There were 301 rodents and 1 cat examined, of which 1 mouse was plague-infected. In other districts no case of plague in man or other animal was found. In the Mauritius 1 case of plague and 1 death were reported during the week ending Feb. 23rd.

THE adjourned discussion at the Royal Medical and Chirurgical Society on the Subsequent Course and Later History of Cases of Appendicitis after Operation will be held on Tuesday next, March 7th, at 5 P.M. Sir Richard Douglas Powell, the President, will open the discussion and will be followed by Dr. H. P. Hawkins, Mr. C. B. Lockwood, Mr. W. H Battle, Sir William H. Bennett, Mr. A. W. Mayo Robson, and other speakers. Some further statistical tables will be provided at this adjourned meeting in addition to those which were provided at the meeting on Tuesday last. A demonstration with the epidiascope will be given by Mr. Lockwood. The change from the usual hour of meeting may be reckoned as an experiment, made in the belief that the majority of the Fellows would prefer the earlier hour.

ON the occasion of Dr. F. T. Roberts's resignation of the post of physician to University College Hospital, which he has held for more than a quarter of a century, his former house physicians are arranging to entertain him at dinner. Dr. F. W. Mott will take the chair and twenty-five of Dr. Roberts's old house physicians, including Mr. Stonham, Dr. Walter W. H. Tate, Mr. Percy Flemming, Dr. F. R. Blaxall, and Dr. T. Wilson of Birmingham, have already signified their intention to be present. The dinner will take place on March 29th. Further information can be obtained from Dr. Bertram L. Abrahams, 14, Welbeck-street, W., or Mr. R. G. Elwell, University College Hospital, W.C.

WE have received a cablegram from Professor W. Osler asking us to repudiate for him words that he has been described as using in his farewell address to the students of Johns Hopkins University. Professor Osler, in a speech which seems to have been considerably misunderstood on both sides of the Atlantic, referred to a humorous suggestion in a novel, but expressed no views of his own, as to the chloroforming of persons who have reached the age of 60 years.

THE annual clinical debate of the Chelsea Clinical Society will take place on March 14th and 21st in the Chelsea Dispensary, Manor-street, King's-road, London, S.W. The debate will be opened by Mr. W. A. Lane and amongst the speakers announced are Dr. W. Collier (Oxford), Dr. F. J. Smith, Dr. H. Campbell Thomson, Dr. W. H. Goddard, and Dr. Leonard Williams.

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[1] THE LANCET, Feb. 25th, p. 520.

Professor Sheridan Delépine will open a discussion upon the causes of the increased prevalence of anthrax in Great Britain at a meeting of the Incorporated Society of Medical Officers of Health to be held at 9, Adelphi-terrace, Strand, London, on March 10th, at 7.30 P.M. The chair will be taken by the president of the society, Dr. J. F. J. Sykes.

A PRESENTATION of a testimonial will be made to Dr. W. W. Ireland in the new library of the Royal College of Physicians of Edinburgh to-day, Saturday, March 4th, at 4.30 P.M., on the occasion of the fiftieth anniversary of his medical graduation.

THE MEDICAL MAN AS EXPERT WITNESS.[1]

BY W. B. RANSOM, M.A. CANTAB., M.D. LOND., F.R.C.P. LOND.

THE laws that of late years have been passed for the better protection of workmen from injury or disease produced by their work and the increasing tendency of all members of the public to fix responsibility upon and procure compensation for mishaps that befall them from others, whether individuals or companies, have undoubtedly led to a great increase in litigation in which medical evidence plays an important, if not a predominant, part. And however beneficent this tendency may be, in that it procures employment for a deserving body of men, it cannot be denied that the result is not altogether satisfactory to the medical men, the plaintiffs, or the defendants. The lawyers alone may possibly benefit from the complex mixture of medicine and law which is not proving restorative to either the physical or moral health of the rest of the community. While the whole blame for this state of affairs cannot fairly be laid at the door of the medical profession, yet I fear the attitude we have generally taken up when appealed to for expert opinion in connexion with litigation has not, as was hoped, greatly helped to the right solution of disputed points, has not simplified the administration of justice, and last, but not least, has not conduced to the dignity of our profession as one of science and honour. Let me, however, here state that in what I have to say I make no claim to purer ethics or a higher code of honour than the rest of my brethren and that although I think that often they have adopted an unfortunate attitude and found themselves in a false position, yet I believe that it is not from a blunting of the moral sense but from a mistaken notion of what honour requires from them.

That there are unscrupulous and venial men among us, as there are in all professions, is undoubtedly true, but of them I here take no note. We are, I believe, as a body neither better nor worse than other men of liberal education and have a sense of honour at least as acute as the average citizen. And yet things are not right. We need not go so far as the well-known classification of the followers of Ananias into liars, damned liars, and expert witnesses, but it must have struck many as a curious fact that while in an ordinary consultation it is the rarest thing in the world for medical men to differ, in the witness box they never agree. In the drawing room, talking to the anxious friends of the patient upstairs, Dr. A indorses the diagnosis and delicately praises the treatment of his friend Dr. B, but in the county court he exposes to an indignant public the superficiality of his observations and the fallacies of his conclusions, insinuating at the same time the profound importance of his own vast experience. Dr. B naturally gives him a Roland for his Oliver and so the public are impressed with the accuracy of medical science and the impartiality of its exponents. The same pleasing spectacle is seen where we have a number of more or less eminent medical men on either side. To a certain extent there may be different testimony about matters of fact but to a much greater degree the differences turn on the relative significance of observed facts and in the absence of anything like mathematical exactitude in the present state of medicine there is here ample scope for the ingenuity of the witnesses. Thus a sarcoma is found in the abdomen of a man who alleges that he strained himself lifting a piece of coal. The medical men on the one side rake up all the cases in which a growth has followed an injury and suggest to the jury that nothing is more likely to occur, while those on the other pour scorn on the notion and discourse learnedly on cancer as a parasitic disease or a miscarried germ cell. Not long ago some distinguished and honourable medical men persuaded a jury that a man who died thin and pale succumbed to pernicious anæmia caused by an injury in the pit over two years previously. I venture to think that they would not have given that diagnosis or arrived at that etiology in an ordinary consultation in the patient's house. In another case of pain in the back the court was edified by the medical men on one side swearing to the existence of periostitis of the sacrum, which was flatly denied by their opponents. In those frequent cases of "railway" and "miners'" spine the opposing confident diagnosis of organic and functional disease, or even malingering, can always be counted on to puzzle a jury. The action of a sick club which, being dissatisfied with the continued backache of one of their members, called in a veterinary surgeon and had him examined before them is more to be commended than going to law. "Why, man," said the veterinary surgeon, "you've got rinderpest; you'll have to be shot!" The man bolted home. "Fetch out my pit clothes," he said to his wife, and went to work the next day. The result of these scenes in court, of course, is that the medical evidence is more or less ignored and the judge and jury form their own opinion on other grounds. The labour and cost of collecting the so called expert evidence are wasted truth is not furthered, and an honourable profession is thrown into contempt.

Now what is the reason for this lamentable position in which men of at least average honour and intellect find themselves? The answer is that it arises from the predisposition and temperament with which each approaches the case. It is an obvious fact that it is not the intellectual powers which mainly decide what view a man will take of most problems, at least of those other than mathematical. Whither our guesses at truth will lead us depends on the [illegible] The same facts were at the disposal of Cardinal [illegible] encer, and perhaps [illegible] Yet the same facts [illegible] cology. The same [illegible] to flatly [illegible] common [illegible] Arthur Balfour agree with Mr. John Morley. There must be some radical difference in temperament which leads them to draw such different conclusions from the same facts. What [illegible] excites the predisposition of [illegible] n expert witness? It [illegible] to do his best for the [illegible] mself as an advocate, bound to work up the case from the one point of view, leaving the opposition to find the weak spots in his armour. He imagines himself a medical lawyer whose duty it is to defend his client. This is undoubtedly a code of honour, but it is, I hold, a wrong code and one which has led to disastrous results. I venture to assert exactly the opposite, that the medical man, when consulted as a scientific witness, is not concerned as to which side wins, but has merely to testify to the exact facts and the conclusions logically deducible from them with as near an approach to mathematical accuracy and clearness as he can and entirely without regard to the success or failure of the party which pays him. The scientific expert is not called in to judge the case or to exhibit human sympathy or the reverse; he should be merely an instrument of precision to exhibit the true state of affairs to judge and jury. He is the microscope which reveals things invisible to the common eye, the balance of delicate poise; but if the lenses distort or if the weights be untrue he is worse than useless to the common sense. As the medium of truth he must sink his personality; of predisposition there should be none; his temperament must not come into court.

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[1] A paper read before the Nottingham Medico-Chirurgical Society on Feb. 15th, 1905.

Yet how can this be when Drs. A, B, and C are asked to report for one side knowing that Drs. D, E, and F are doing so for the other and all their *amour propre* is excited to make a valiant effort to minimise the value of the facts and ridicule the conclusions of their opposing colleagues? The climax of absurdity is reached when each side permanently retains a medical man to fight its claims. The medical men in such a position are advocates, able and honourable advocates it is true, but cannot be looked upon as expert witnesses.' That each side should have such expert advice is fair enough but it should not come into court as an expounder to the laity of scientific truth.

The present methods of adjudicating these cases are in short fundamentally rotten and stand self-condemned by the pitiable scenes that occur in our law courts and the general travesty of justice to which they lead. The system of Crown referees was intended to avoid this state of things, but for some mysterious reason judges have ignored their existence. Either their activity must be called into being or in some other way independent technical exponents of truth must be found and the scientific expert witness no longer be mixed up with the medical advocate.

Looking Back.

FROM

THE LANCET, *SATURDAY*, March 3, 1827.

TO THE
RIGHT HON. ROBERT PEEL, &c., &c.
(From THE TIMES *of February 26.)*

SIR,—The high ministerial station which you deservedly occupy, must often expose you to various kinds of applications respecting the condition and management of our national institutions, and also to personal or partial interference about their several real or pretended interests. In all such instances you must perceive the fairness and the ultimate advantage of preferring direct information from the respective constituted authorities, of requiring advice from rival institutions upon doubtful measures, and of regarding with jealousy the private communications of interested individuals. It is, however, reported that you are, at this time, beset upon the subject of introducing an ordeal for licensing man-midwives, by certain members of the London College of Surgeons, and that you are urged by popular men (whose wisdom and disinterestedness may be questioned) to favour their scheme with your powerful influence.

As the prevalent vice of avarice may have some share in this professional movement, it is fit that you and the public should be acquainted with the probably concealed effects of granting the solicited privileges; and for the reasons already given, I am induced to address you through the press.

Man-midwifery has only been practised in England during the last hundred years, and it was introduced as a French fashion. From the beginning it has been strongly opposed on the score of its indecency, by many distinguished and scientific medical men, and also, because the birth of mankind appeared to them to be a purely natural process, so wisely ordered, that it very rarely demands any other aid than experienced mothers can safely give. Even so late as the time of the illustrious mother of his present Majesty, that exemplary Queen was personally attended by good Mrs. Draper, without difficulties or misadventures; whereas the contrary result, under male management, in the fatal affair of the Princess Charlotte and her infant, will be long remembered.

If it should be asked why so many professional men addict themselves to a degrading vocation, it may be answered, that the practice of man-midwifery leads to unlimited power in every family, and thence to lucrative ends. Women, naturally timid, and ignorant of their own structure, are peculiarly exposed, during the most important office of their existence, to the persuasions or menaces of more knowing persons, and they are thence easily made to believe, that the natural and wholesome delays and pains of child-bed are within the control of medical or surgical art,—an assumption which is too generally acted upon, and with unvarying evil consequences; because it is a violation of the ways of nature. Man-midwives have continually alleged, that ignorant women practitioners commit many fatal mistakes, and now they present similar objections against unlicensed men. If, as I believe, the safeguards of child-birth are amply provided by nature, and that not one instance in a thousand calls for any other help beyond what any moderately experienced woman can safely give, why are we to license adventurers, who may seek notoriety by desperate acts, often involving manslaughter—operative acts, the moral propriety of which is very doubtful, and the time and the methods for performing them, still subjects for rancorous disputes? But the present affair is not respecting the utility of man-midwives, but the impropriety of empowering any special corporate medical body to coerce the rest; to further impede female-midwives in a becoming duty, and to deprive delicate women of that great resource of self-respect. Already the prevalence of man-midwifery has driven country surgeons and apothecaries to adopt this humiliating office, and the number of women practitioners has been thence so reduced, that paupers are in many places delivered by apprentice boys under 16 years of age. The Royal College of Physicians in London, who rank the highest for learning and for decorum, have lately rescinded their admission of licentiates in midwifery, whether from considering the practice as derogatory to a physician, or as an overweening privilege toward females and children, is not avowed; but it seems that no London physician educated at Oxford or Cambridge, has yet condescended to be a man-midwife. The Royal Colleges of Surgeons in London, in Dublin, and in Edinburgh, have likewise hitherto renounced every connexion with man-midwifery.

The teachers of midwifery are indiscriminately doctors and surgeons, but at this moment the majority of lecturers and superintendents of lying-in charities are physicians, while a multitude of legally appointed sub-physicians (styled apothecaries) are equally entitled, with the other classes of the faculty, to establish tribunals for examining and licensing candidates for man-midwifery, if they could deem it expedient. Finally, it may be noted, that the different classes of man-midwives have never yet agreed among themselves to adopt a common ordeal for certifying the qualifications of their calling, and you may be assured, Sir, that many worldly interests will rage against the establishment of any monopoly of this kind in any single institution, because man-midwifery is the covert way to medical fortunes. If, however, the greediness of a few individuals should expose this subject to free discussion, and the judgment of married men and modest women should be copiously awakened, perhaps the general custom of employing women may be again resorted to, and their competent instruction publicly enforced.

It is said, that our changeable neighbours at Paris are already tired of their fashionable freak, and when our countrywomen reflect, that not one in ten thousand of their sex throughout the globe allow of the presence of a man during the rites of child-bed, they may acquire courage, and unite their efforts to replace the routine of midwifery among themselves. I will not offend you and the public by any observations upon the outrageous stories collected on this occasion, to prove the violent and fatal injuries committed by unlicensed man-midwives, because I think the privilege sought for would increase those evils.

With the greatest respect,
I have the honour to be,
Your very obedient servant,
ANTHONY CARLISLE.

Langham-place, Feb. 19.

NOTE:—The above letter, which became notorious, was printed on page 701 of THE LANCET. The following appears at the bottom of page 712:

"THE Letter of Sir ANTHONY CARLISLE, at page 701, is a curiosity, and just the testaceous sort of thing one would expect from the pen of an OYSTER."[1]

[1] Sir Anthony Carlisle was dubbed "Oyster" because during the delivery of his Hunterian Oration before the Royal College of Surgeons on Feb. 14th, 1826, he produced inappropriately a large oyster and dissected it and descanted on it with the "most obstinate and tedious minuteness." "Sir A's OYSTER so completely *sickened* his auditory, that their frequent ejections of it, by *coughing* and *gulping*, hurried him to an abrupt conclusion." (Vide THE LANCET, Feb. 18th, 1826.)

A CENTENARIAN.—At a recent meeting of the Long Ashton (Somerset) board of guardians it was decided to grant extra relief to Mrs. Honor Coleman who attained the age of 104 years on Feb. 22nd.

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS.

CHAPTER III.[1]

THE FIGURES OF THE MEDICAL PROFESSION AND THE CHANCES OF SUCCESS.

The Ratio of Medical Men to Population.—The Figures in Austria-Hungary, France, and Germany.—The Average of Success.—Sir James Paget's Investigation.—A Supplementary Investigation.—The Fallacy of Figures.

THE numerical ratio of employed to employer is one of the first things to look at in an attempt to estimate the material or financial position of the members of any section of the community. There is particular reason to do this in respect of the medical profession because it is alleged that many of the grievances which medical men can show to exist in their professional life are due to the down-grade tendencies of competition. Of course, the services of an overcrowded profession will be obtained more cheaply by the public, but it will not do to assume without inquiry that the medical profession is overcrowded, if only because a *general* excuse for *many and particular* ills should never be accepted without rigorous test. If it once becomes a matter of assumption that unprofessional practices must occur, that low remuneration must be received, and that humiliating contracts must be entered into because of the demoralising influence of overcrowding, the desire to remedy abuses will be killed by a fatalistic tendency to put up with a condition of things which is supposed to be due to some unalterable law of supply and demand. The figures do not bear out the statement so frequently made that the profession of medicine in this country is grossly overcrowded.

The first of the tables which follows gives a numerical analysis of the members of the medical profession taken from back numbers of the Medical Directory. I have given the figures for the last six years consecutively and have then added those for 1861, 1871, 1881, and 1891, so that the respective figures in these columns may be compared with the population of the United Kingdom according to the decennial census for those years.

The second table gives the population of England (including Wales), Ireland, Scotland, and the Islands for the years 1861, 1871, 1881, 1891, and 1901.

Taking as a guide the decennial increase of England and Scotland and the decennial decrease of Ireland it is probable that for the present purposes 42,750,000 represents sufficiently nearly the population of Great Britain and Ireland. We therefore see that in 1861 there was one registered medical man to 1271 inhabitants; in 1871 there was one medical man to 1370 inhabitants; in 1881 there was one medical man to 1558 inhabitants—the population having taken an upward leap; in 1891 there was one medical man to 1283 inhabitants; in 1901 there was one medical man to 1144 inhabitants; and in 1904 there was one medical man to 1133 inhabitants. These figures must further be corrected to the advantage of the medical man by subtracting the registered practitioners resident abroad and a certain number of the medical men holding commissions in one of the three services. By making these necessary allowances it becomes clear that the ratio of medical men to the public to-day is really much the same as it was in 1861 or 1871. May it not be taken for granted that a numerical ratio which has held good, with but one considerable variation, for 40 years or more has something inherently right about it?

That the members of the medical profession in England (including Wales), Scotland, and Ireland are divided in such a way as to create a plethora in one place and a dearth in another is a different matter altogether, though here we are at an advantage over other countries. In Austria-Hungary, for example, where 18,000 medical men minister to the needs of 47,000,000 people, it will be seen that the ratio of medical men to population is only half

TABLE I.[2]

Year.	1861.	1871.	1881.	1891.	1899.	1900.	1901.	1902.	1903.	1904.
London list	—	—	3,994	5,095	6,117	6,102	6,211	6,292	6,309	6,328
Provincial list, England	18,642*	18,884*	11,319	13,926	15,497	15,794	16,095	16,232	16,422	16,553
List for Wales	—	—	‡	‡	1,100	1,127	1,165	1,183	1,186	1,207
List for Scotland ...	1,870	1,780	2,003	2,739	3,394	3,462	3,569	3,645	3,680	3,696
List for Ireland	2,357	2,420	2,416	2,489	2,551	2,559	2,575	2,587	2,641	2,629
Registered practitioners resident abroad	§	§	2,252	2,795	3,795	3,875	3,910	3,952	4,117	4,292
Naval, Military, and Indian Medical Services	§	§	2,445	2,440	2,528	2,705	2,798	2,886	2,917	3,016
Too late list additional names...	§	§	43	40	12	27	31	11	19	9
Total	22,869	23,084	22,472	29,524	34,994 (increase 91)	35,651 (increase 534)	36,354 (increase 703)	36,788 (increase 434)	37,291 (increase 503)	37,730 (increase 439)

* The figures for England and Wales are given *en bloc*.
‡ The Medical Directory gave no separate figures for Wales in these years.
§ Details not forthcoming.

TABLE II.[2]

Years.	England.	Ireland.	Scotland.	Islands.	Total.
1861	20,066,224	5,798,967	3,062,294	143,447	29,070,932
1871	22,712,266	5,412,377	3,360,018	144,633	31,029,299
1881	25,974,439	5,174,836	3,735,573	141,260	35,026,108
1891	29,002,525	4,704,750	4,025,647	147,842	37,890,764
1901	32,527,843	4,458,775	4,472,103	150,370	41,609,091

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[1] Chapters I. and II. were published in THE LANCET of Feb. 18th (p. 447) and Feb. 25th (p. 517), 1905, respectively.
[2] The proprietors of the Medical Directory, Messrs. J. and A. Churchill, kindly furnished the information for compiling these tables.

that which obtains in Great Britain and Ireland. But, as a matter of fact, there are many districts in the provinces of the dual empire with no medical men at all, all the practitioners being crowded into the cities and watering places. The 18,000 medical men do not serve a population of more than 25,000,000 or so and the real proportion does not differ much from that found among ourselves. In France the figures are a little different, the same number of medical men approximately (18,871) having the care of a population of 39,000,000. But in France also there are vast tracts of country where medical men are very few, though homogeneity of race and language prevents the complete isolation of districts which prevails in Austria-Hungary. In Germany there is one medical man to 1934 of the population, the great towns being especially over-provided with physicians and surgeons. In Berlin the proportion of practitioners to population is 1 to 766, in Munich it is 1 to 608. But in some of the outlying provinces there are no medical men at all. Take the province of Gumbinnen, for instance, a district in Eastern Prussia, near the Russian frontier. Here the proportion of medical men to population is 1 in 4100. It is such inequalities in distribution that produce the problem of overcrowding in certain places, and in England and Scotland and Ireland these inequalities are less marked than in Germany, France, and Austria. Of course, our capital towns, our best known watering places, and the sites of our medical schools attract many as family practitioners, as consultants, or as teachers, but the general social and geographical conditions with us conduce to a more or less even distribution of medical service. The contention that the serious overcrowding of the medical profession makes it impossible to remove many of the grievances which are certainly present in the medical life cannot be sustained. Here and there the stress of competition tells, and tells forcibly, but on the whole it has been exaggerated.

We come now to another consideration showing the medical profession to be not such an arduous and wretched life as it has been described sometimes by doleful writers. In 1869 Sir James Paget undertook, with the assistance of a colleague at St. Bartholomew's Hospital, an investigation into the chances of the medical student as shown by his subsequent career. The investigation resulted in the publication of figures showing that a medical student had at least as good a chance of worldly success as a lad embarking in any other career. Sir James Paget followed up the lives of 1000 medical students who had joined the medical school of St. Bartholomew's Hospital with the following result:[3] 23 met with distinguished success, 66 met with considerable success, 507 met with fair success, 124 met with very limited success, 56 failed, 96 discontinued medical studies while in pupilage, 41 died during pupilage, and 87 died within 12 years of commencing practice.

Sir James Paget defined "distinguished success" as the attainment within 15 years of qualification to a leading position in practice in great cities, to a scientific professorship at a university, to a place on the staff of a large hospital, or to the tenure of some important public office. He ascribed "considerable success" to those who gained high positions in the services, obtained good provincial and country practices, and enjoyed more than ordinary esteem and influence in society. "Fair success" he defined as being in the possession of a practice sufficiently large to maintain a professional man in adequate style, or the tenure of an advancing position in the naval, military, Indian, or colonial services. "Very limited success" he assigned to those who never attained to moderately good practice, but who were able just to maintain themselves by their work either as principals or as assistants. Of the 56 who failed 15 could not pass their examinations, five were convicted of misconduct, ten were dissipated both as students and afterwards, and ten had bad health. The remainder were known to have come to grief without any particular reason being assigned for their misfortune. It will be seen that out of the 1000 students 41 died during pupilage and must be left out of count. Again, the 96 who discontinued their medical studies while in pupilage can hardly be brought into calculation when we are considering the chances of making a livelihood out of the practice of medicine. They cannot be said to have failed in a medical career as they never attained to professional rank. The fact that nearly 10 per cent. of the 1000 students left the profession during their studies is not without significance, as it would seem to imply that the medical profession was not one to be undertaken lightly even in days when examinations were comparatively simple and infrequent, but this is a different matter altogether. A parent when sending his son into the medical profession ought to know that there is a chance of that son never obtaining any qualifications. But this should not be mixed up in his mind with apprehensions as to the future, after qualifications have been obtained. The 41 who died during pupilage, and the 87 who died before they had been in practice 12 years were also debarred by sad fate from obtaining any position in their profession, and they can be left out of calculation for practical purposes. We have then 776 students to consider who actually reached practice, and of these 507, or about 66 per cent., attained to fair success. These are the figures that we must look at when we try to frame our opinion as to the chances that a boy has of becoming a useful, happy, and responsible citizen if he elects a medical career.

The figures that signify success above the average or total want of it are not without their lessons, the number and magnitude of the prizes to be attained being an inducement to join the profession, exactly as the risks of failing utterly at the beginning form drawbacks to a start in the race. The early wastage is a matter of grave importance both to parents and to aspirants to the medical profession and there is every reason to believe that it has increased of late owing to the multiplicity of examinations. Again, the dearth of lucrative appointments and the comparatively small pecuniary gains that accompany distinguished success are matters that must not be disregarded. The successful medical man may attain to a high position and a large fortune, but he does so very rarely, and many men who conform to Sir James Paget's definition of distinguished success live and die without popular favour, their names being unknown to the majority of their fellows, their incomes being small, and their public influence negligible. It stands to reason that a profession where so many of the prizes resemble blanks will not be selected either for themselves or for their children by those who have a keen eye to the material opportunities of life. But if the young medical man sees no high position within his possible grasp comparable to that of the judge or the bishop, if he has not the golden expectations of the man of affairs, still he may have visions of scientific fame, altruistic dreams of serving his generation, and generations to come, immortally well, and such a man would not exchange his hopes for the chances held out by other callings. Alas, that his hopes must, in the nature of things, be so seldom realised, but distinguished success, as gauged by pecuniary standards, can visit but few of the followers of medicine. The owners of oil, the operators in wheat, the directors of fleets and railways may work their monopolies against the public but any advance in medicine is at once placed freely at the public disposal.

But although the money rewards in the medical profession are small, and although the public offices filled by medical men do not appear important to those ambitious for popular authority, the very significant fact appears from Sir James Paget's figures that 66 per cent. of medical men make a fair success in England, Scotland, and Ireland out of the practice of their profession. This seems at once to place the medical profession quite high as a stable means of livelihood. The barrister, the clergyman, the architect, and nowadays the solicitor cannot claim the same for their callings. If an investigation on the lines suggested by Sir James Paget were undertaken into the careers of 1000 divinity or law students, it is certain that no such high average of comparative success could be shown. As, however, nearly a working lifetime has elapsed since Sir James Paget's research into the careers of a group of his numerous pupils at St. Bartholomew's Hospital was made, it might be thought that with the lapse of time and the alteration of conditions the figures would no longer hold good. Bearing this in mind permission was obtained from the dean of one of the best known English hospitals to make a brief investigation into the careers of a group of students who had been entered for education at the medical school of that hospital.

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[3] St. Bartholomew's Hospital Reports, vol. v., 1869.

The year 1879 was chosen and what happened to the first 250 students who entered after Oct. 1st at that institution was ascertained superficially. The date was selected because the writer joined the school a little later and was able from personal knowledge to remember facts and circumstances in the lives of a large proportion of the men under consideration, some having been his teachers and some his comrades, while, where personal acquaintance failed, it was easy to find a friend who could supply the gaps in the information. Of the 250 students 187 qualified and 63 did not qualify. Of the 63 who did not qualify as medical men two obtained places in the dental register without diplomas and are doing well and two died as students; one is decently successful at the bar, one became a veterinary surgeon and enjoys a high reputation in that profession, one accepted a purely scientific post under Government and is steadily rising in his department, one became an artist, three went on to the stage with no success, two enlisted in the army and both obtained commissions, and one became proprietor of a boarding house. Four of them who gave up the struggle were men of private means to whom the practice of a profession was not necessary as a livelihood. Of the remaining 45, 15 of them never showed the least aptitude for medicine, and among these are classed five or six lads who lived mainly for the sensual pleasures of a life in a great city.

Of the 187 students who qualified nine may be said to have met with distinguished success as defined by Sir James Paget, five of them secured after more or less waiting positions on the medical or surgical staff of their own hospital, and two became teachers at the hospital. Two others are on the staff of large general hospitals in the provinces. 45 have met with considerable success in practice. They hold good appointments, have earned a local position, and are respected and prosperous citizens. 25 hold commissions in the services, 19 in the army and six in the navy. Of these, two have distinguished themselves and have been decorated, one having become head of an important department. Of 56 men in general practice in England, including five who practise dentistry, I have been able to learn that they are living by medical practice in a manner compatible with a professional position; out of nine who are abroad two have been distinctly successful. Five men who obtained qualifications left the medical profession, of whom one is a journalist, one is an actor, one has also been on the stage, and two are men of private means. I know of only six men who came distinctly to grief, of whom two went to prison. 23 men died before they had been qualified 12 years and must be disregarded in making any estimate as to the chance of success by the practice of medicine. Of the rest, about 12 per cent. of the total, I have been unable to learn anything, though their position on the Medical Register would imply that they are still in practice.

The following are the figures which can be compared with Sir James Paget's figures: nine have met with distinguished success; 45 have met with considerable success; 25 have met with fair success in the services (two of these might be included in a higher class); 46 have also met with fair success in practice; five left the profession after qualification; six discontinued medical study as pupils; two died during pupilage; 23 died within 12 years of commencing practice; and six failed entirely. Liberality has been shown in awarding places in the higher classes, but if we add the "considerable" and "fair" successes together we get by the combination a section of 116 men out of 187. That is to say that the figures, like Sir James Paget's figures, though with much less certainty because of their incompleteness and the smaller range of the investigation, go to show that 66 per cent. of qualified medical men from one metropolitan medical school have reason to be satisfied with their professional careers.

Too much stress must not be laid upon the meaning of any of the foregoing figures. That figures, particularly if large deductions are attempted from small data, can be made to prove most things is illustrated in many controversies and it is safer to claim proof for as little as possible through their agency. But the figures can fairly be used as replies to two vague but common assertions: (1) that the medical profession is overcrowded; and (2) that in following the medical life the game is not worth the candle. These two statements have been made so often that they are beginning to receive unquestioned acceptance. As a matter of fact, the medical profession in England, Scotland, and Ireland is not overcrowded so much as badly distributed. There are services where medical men are sorely needed and where they would be found if the conditions were fair; there are large districts where medical work is waiting to be done until proper arrangements have been made by the State for doing it. When the administration of the Poor-law and the sanitary service in the three countries is considered, as well as the warrants of the naval and military services, it will be seen that certain necessary measures of reform would at once create a demand for medical officers. The employment is ready, but as yet no proper provision exists for the employed. This is not the same thing as saying that the medical profession is overcrowded.

Again, the percentage of medical men who attain a good and stable position through professional practice disproves the view that the medical profession as a whole is wrongly paid. But the figures must not be taken to show that there are no grave professional hardships. In both cases they refer to students at first-class London hospitals, students of the class who enter the profession with fine introductions and whose natural sphere of practice presents the maximum of opportunities. It would be possible by selecting students of other schools to obtain somewhat different results, though not results that would contradict the general inference that by comparison with many other callings the medical profession promises much.

(To be continued.)

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7826 births and 4704 deaths were registered during the week ending Feb. 25th. The annual rate of mortality in these towns, which had been 18·0, 17·4, and 17·3 per 1000 in the three preceding weeks, further declined to 15·7 per 1000 last week. In London the death-rate was 16·0 per 1000, while it averaged 15·6 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 3·7 in Hornsey, 8·2 in King's Norton, 8·3 in Wallasey, 8·5 in Rochdale, 9·3 in Handsworth (Staffs.), 9·9 in Walthamstow, and 10·1 in East Ham; the highest rates were 21·0 in Hanley, 21·4 in Warrington and in Bury, 22·8 in Ipswich, 24·7 in Wigan, 26·3 in Portsmouth, and 29·8 in Stockton-on-Tees. The 4704 deaths in these towns last week included 365 which were referred to the principal infectious diseases, against 368, 401, and 410 in the three preceding weeks; of these 365 deaths, 110 resulted from measles, 102 from whooping-cough, 61 from diphtheria, 38 from scarlet fever, 27 from "fever" (principally enteric), and 27 from diarrhœa, but not any from small-pox. No death from any of the principal infectious diseases was registered last week in Hornsey, Bournemouth, Norwich, Handsworth (Staffs.), King's Norton, Smethwick, Coventry, Wallasey, Warrington, Barrow-in-Furness, York, or Swansea; while they caused the highest death-rates in East Ham, Portsmouth, Southampton, West Bromwich, Nottingham, Middlesbrough, West Hartlepool, and South Shields. The greatest proportional mortality from measles occurred in East Ham, Portsmouth, Southampton, West Bromwich, Leicester, Nottingham, Stockport, Middlesbrough, West Hartlepool, South Shields, and Cardiff; and from whooping-cough in Hastings, Hanley, *Nottingham, Preston, and Hull. The mortality from each* of the other principal infectious diseases showed no marked excess in any of the large towns. No death from small-pox was registered either in London or in any of the 75 other large towns. The number of small-pox patients under treatment in the Metropolitan Asylums Hospitals, which had been 13, nine, and eight on the three preceding Saturdays, had increased again to 15 on Saturday last, Feb. 25th; seven new cases were admitted during the week, against one, one, and three in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital at the end of the week was 1987, against 2070, 2077, and 2016 at the end of the three preceding weeks; 224 new cases were admitted during the week, against 229, 260, and 241 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory organs, which had been 444, 400, and 378 in the three preceding weeks, further declined to 335 last week, but were 13 above the number in the corresponding period of last year. The causes of 62, or 1·3 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Nottingham, Salford, Bradford, Leeds, and in 44 other smaller towns; the largest proportions of uncertified deaths were registered in Ipswich, Birmingham, Grimsby, Liverpool, Warrington, Barrow-in-Furness, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the prin-
of l Scotch towns, which had been 19·9, 18·2, and 18·9
00 in the three preceding weeks, declined again to
23 met with dis during the week ending Feb. 25th, but
success, 507 met in excess of the mean rate during the
success, 56 failed, 76 large English towns. The rates in
in pupilage, 41 diedowns ranged from 13·4 in Paisley
years of commencing pgh to 23·8 in Dundee and 25·9
aths in these towns included 27
Sir James Paget definwhooping-cough, 13 to diarrhœa,
attainment within 15 yea. measles, six to diphtheria, and
position in practice in great not any to small-pox. In
ship at a university, to a place these principal infectious
49, and 52 in the three
or to the tenure of some importas were equal to an annual
"considerable success" to those 0·7 per 1000 above the
in the services, obtained good me diseases in the 76
practices, and enjoyed more thans of whooping-cough,
influence in society. "Fair success" wo preceding weeks,
the possession of a practice sufficiently ch 16 occurred in
in Paisley. The
professional man in adequate style, or n 19, nine, and
advancing position in the naval, military, h again 13 last
services. "Very limited success" he assigner in Aberdeen.
never attained to moderately good practice, fever," which
able just to maintain themselves by their weding weeks,
h four fatal
principals or as assistants. Of the 56 who faind four of
which had

been six, seven, and four in the three preceding weeks, rose again to seven last week and included four in Glasgow and two in Edinburgh. The fatal cases of diphtheria, which had been three in each of the two preceding weeks, increased last week to six, of which three were registered in Edinburgh and two in Dundee. The two fatal cases of scarlet fever occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 146, 130, and 119 in the three preceding weeks, further declined last week to 116 and were 49 below the number in the corresponding period of last year. The causes of 21, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN

The death-rate in Dublin, which had been 24·2, 25·2, and 23·5 per 1000 in the three preceding weeks, rose again to 25·5 per 1000 during the week ending Feb. 25th. During the past four weeks the death-rate has averaged 24·6 per 1000, the rates during the same period being 17·0 in London and 18·1 in Edinburgh. The 185 deaths of persons belonging to Dublin registered during the week under notice were 14 in excess of the number in the preceding *week and included five which were referred to the* principal infectious diseases, against nine, seven, and eight in the three preceding weeks; of these, three resulted from measles, one from whooping-cough, and one from diarrhœa, but not any from small-pox, scarlet fever, diphtheria, or "fever." These five deaths were equal to an annual rate of 0·7 per 1000, the death-rates last week from the principal infectious diseases being 1·0 in London and 1·7 in Edinburgh. The three deaths from measles, were slightly in excess of the number in the preceding week; the mortality from whooping cough and from diarrhœa corresponded in each case with that recorded in the preceding week. The 185 deaths in Dublin last week included 43 of children under one year of age and 43 of persons aged 60 years and upwards; the deaths of infants and of elderly persons were 16 and four respectively in excess of the numbers in the preceding week. One inquest case and two deaths from violence were recorded; and 61, or nearly a third, of the deaths occurred in public institutions. The causes of 13, or more than 7 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES

Royal Navy Medical Service

The undermentioned Staff Surgeons have been promoted to the rank of Fleet Surgeon in His Majesty's Fleet: Lawrence Bidwell, Edward Henry Hodnet de Courtmacsherry, Walter James Bearblock, William Hackett, Charles Geekie Matthew, Thomas Austen, and Joseph Chambers.

The following appointments are notified:—Fleet Surgeons: H. F. Iliewicz to the *Cressy* on commissioning with nucleus crew; R. Miller to Bermuda Hospital and Dockyard on reduction of establishment; G. E. Kennedy to the *Royal Oak*, on recommissioning; and O. Bradley to the *Cæsar* on commissioning. Staff Surgeons: G. Ley to the *President*, additional, to assist in the survey of stores at Yarmouth Hospital, temporary. Surgeons: H. R. Gardner to the *Cæsar* on commissioning; F. C. B. Gittings to the *Wildfire* for Sheerness Dockyard; E. S. Reid to the *Hannibal*; and D. V. Lowndes to Bermuda Hospital and Dockyard on reduction of establishments.

Royal Army Medical Corps.

Lieutenant-Colonel G. F. Gubbin, Major A. Hosie, Major E. Eckersley, and Major C. W. H. Whitestone are appointed to the Eastern Command. Major W. W. O. Beveridge, D.S.O., from Cape Colony, is appointed to the London District for duty. Surgeon-General W. H. Macnamara, C.B., C.M.G., Principal Medical Officer, Aldershot Army Corps, proceeds on leave of absence, with permission to travel in France and Switzerland. During his absence his duties are being performed by Colonel G. W. Robinson, commanding the Depôt and Training School, Royal Army Medical Corps.

Indian Medical Service.

Lieutenant-Colonel H. K. McKay, C.I.E. *(Bengal)*, has been appointed Inspector-General of Civil Hospitals and

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[3] St. Bartholomew's Hospital Reports, vol. v., 18

Sanitary Commissioner, Burmah, vice Lieutenant-Colonel S. Little. Major C. H. Bedford is posted to the Finance Department.

ARMY REFORM.

In the debate on the Address the question of army reform was bound to occupy a prominent position and such has been the case. Mr. Arnold-Forster's scheme was severely criticised in the House of Commons but the Minister of War nevertheless defended the position he had taken up with great ability and no semblance of having any misgiving in his mind. With all the characteristic enthusiasm that he has hitherto shown in defence of his scheme he traversed with a direct negative all the assertions that had been advanced against it. The debate was nevertheless disappointing owing to its discursive nature and to the fact that it embraced too many subjects on almost all of which further and fuller information is still needed. The whole subject will be again taken up when the Army Estimates are considered and it is to be hoped that Mr. Arnold-Forster will then be able to give fuller and more satisfactory assurances than he has hitherto done—especially in regard to the position which army hygiene and our army medical system and service are to occupy in the wars of the future. Meanwhile we may refer to what the War Minister said in the course of his speech in which he very fairly pleaded for further time for the carrying out and development of his reforms. As regards the construction of barracks, which crucially affects the welfare of the soldier, he said: "We have put the business of barrack building under the supervision of an experienced civilian who has had the control of the erection of such buildings as the Rowton Houses in London and Birmingham. The experience he has had well qualifies him for devising barrack accommodation for the comfort and welfare of the soldier. The hon. Member for Ilkeston asked whether we have made any progress with the medical service. When I tell him that not only have careful observers made themselves acquainted with developments during the Russo-Japanese war, but we have at last commenced the erection of the medical college in which he is interested, I do not think there is altogether a bad record," and Mr. Arnold-Forster subsequently added that the Royal Army Medical Corps had been increased by 462 officers and 1210 men. In view of all that has taken place in the Russo-Japanese war the nation and the medical profession will look forward to the medical reforms which Mr. Arnold-Forster has to propose with anxious interest.

SOLDIERING IN SCHOOLS.

The subject of the military training of the youth of this country was recently brought forward by the Earl of Meath in the House of Lords where it gave rise to a brief but interesting discussion which led, however, to no practical result. All who took part in the debate were apparently agreed about some sort of military training being essential to secure the physical fitness of the rising generation and for developing among them a spirit of patriotism and sense of discipline and national duty. But while measures taken by the Education Department for improving voluntary drill had been attended with satisfactory results, the Earl of Donoughmore urged that there was plenty of evidence forthcoming that offers of the War Office to supply instructors on a compulsory basis would not be favourably met by the headmasters of secondary schools. In the present circumstances and as a result of their experience, the War Office was not encouraged to attempt any compulsory drilling in the schools.

PHYSIQUE IN THE ARMY.

The *Standard* of Feb. 28th states that "important appointments not previously contemplated have been made in connexion with the new organisation of army commands in respect of recruiting. The War Office have announced that a medical inspector of recruits is to be stationed at the headquarters of each command charged with the responsibility of securing recruits for the army of the requisite physique, and his duties are to extend to the militia, yeomanry, and volunteers. He is to visit the regimental depôts of the regular forces and militia, inspect the recruits, and superintend their physical training, and he is also to attend at the drill halls of volunteer corps and examine the recruits as to their stature and chest measurement, and report as to those for whom the capitation grant should be withheld. The announcement of the appointments for these duties have been favourably received in military circles. Lieutenant-Colonel Reid, R.A.M.C., has been appointed to the southern [illegible]mmand."

THE WAR IN THE FAR EAST.

The recent publication of the decision of the North Sea Commission, added to the reports regarding the internal condition of Russia and the rumours about peace, has tended still further to divert public attention from what is going on at the actual seat of war in Manchuria. Summarily stated the news from there amounts to this: that the Japanese are making attacks on the mountain passes and are pressing forward and threatening the Russian extreme left which is giving way before the Japanese advance from the south-east. It is noteworthy that at the present time nearly all the military news appears to be coming from Russian sources; the Japanese do not, as a rule, report any movements until they have something decisive to declare officially. As regards the medical events of the war, on the other hand, the Russian authorities are very reticent. We know officially little or nothing of the health conditions of the Russian forces in the field, but it is certain that their losses, and especially those from disease, have been very great and in striking contrast with the highly favourable statistical results which have been recorded of General Oku's force. As far as can be gathered from independent sources the Russian forces in the field have greatly suffered from preventable causes of disease and from lack of timely foresight and supplies as well as from overcrowded hospitals arising from the overwhelming number of sick and wounded. Added to these causes the nervous depression arising from repeated defeat is also a factor which must not be forgotten. A beaten army is almost invariably a sickly one—a prey to any prevailing diseases. The weather until quite recently has been extremely cold but the Japanese state that their troops have not suffered from frost-bite.

Whilst the outrage by a Russian general on a medical man is still the subject of columns of discussion in the Russian press the *Vostotchnoe Obosrenie* publishes an order by General Nadaroff, setting forth that on the night of Nov. 24th last three medical men in Kharbin hailed a cab but the coachman would not move. The dispute brought about a crowd of people and policemen who took the medical men to the police-station where they passed the night in a dirty cell amongst a degraded assortment of fellow prisoners. No attention was paid to their request to see the officer in charge of the [illegible] to him. They [illegible] into the cell. [illegible] t of the defective organisation in the local police force and notifies the dismissal of the chief officer nominally in charge of the station for not being within call. The sergeant has been sentenced to imprisonment and dismissal, the coachman has been sent away from Kharbin till the end of the war, the police who struck the medical men have been imprisoned and dismissed, and many more minor degrees of guilt in connexion with the occurrence have been visited with proportionate degrees of punishment." The order concludes with a special request to General Chorvata, who directs the Eastern Chinese railway, to make such disorderly proceedings impossible in future.

The officers of the Royal Military College, past and present, have presented as a farewell gift to Lieutenant-Colonel Alfred F. S. Clarke, R.A.M.C., on his leaving Sandhurst after 22 years' service as surgeon of the College, a silver salver with suitable inscription and an opal and diamond ring for Mrs. Clarke.

ROYAL INTEREST IN FOOTBALL.—Amidst considerable [illegible] King and the Prince of Wales we[illegible] ice football match on Saturday [illegible] the match interested spectators. [illegible] Officer Stirland met with [illegible] the field by Mr. F. G. Lloyd [illegible] ies from the King and the Prince [illegible] patient whose injuries were not of a serious character.

UNIVERSITY OF CAMBRIDGE.—Mr. A. W. Hill, King's College, has [illegible] university lecturer in Botany.—Mr. F. F. [illegible] ge, has been appointed an exami[illegible] —Dr. Joseph Griffiths, M.A., of King's College, has been approved for the degree of Master of Surgery.—Mr. E. H. Hankin, M.A., St. John's College, bacteriologist to the North-West Provinces and Oudh, has been approved for the degree of Doctor of Science.

Correspondence.

"Audi alteram partem."

THE INDIAN MEDICAL SERVICE.

To the Editors of THE LANCET.

SIRS,—I have read with much interest the leading article in THE LANCET of Feb. 18th, p. 441, on the position of the profession in India. The position is undoubtedly a difficult one both for the Indian Medical Service and for the graduates and licentiates of the universities and colleges in India. On the one hand the Indian Medical Service finds that the conditions which led in former days to lucrative consulting practices and to opportunities for making great reputations are being considerably curtailed and threaten in time almost to disappear. Many of the civil appointments in the mofussal or country districts which at one time were moderately lucrative are not so now and even the prize appointments in Calcutta and other large towns in India, which were held by such men as Fayrer, Guyer Hunter, Moore, McLeod, Freyer, Crombie, and a long line of distinguished men, are shorn of much of their value. As years go on matters will become worse in this respect because the more thoroughly the students are taught the less need will there be to call in the services of Europeans, while the chances of large fees from wealthy patients grateful for extraordinary services rendered are now forbidden, and very unfairly, I think, by a paternal Government. It is not surprising that in such circumstances medical officers are jealous of the privileges that remain to them and the time is fast approaching when I think, if the service is to be a contented one, a higher scale of salaries will have to be provided for its officers.

On the other hand, there are the ever-increasing number of qualified men, Indian and Eurasian, coming annually into the field and who are naturally employed by their own people. But this is not sufficient for many of the more talented and ambitious. They see the doors of the higher services of Government closed to them and this produces among them bitter discontent. No graduate of the Indian universities can hope to rise in Government service unless he first comes to England and then, after having undergone a course of study in an English medical school, competes with the young Britishers who are desirous of entering the Indian Medical Service. We may imagine what this means if we reverse the arrangement and insist on English students visiting India and undergoing a course there before being permitted to enter the competitive examination for the Indian Medical Service with Indians and Eurasians in their own country. I believe the regulation, however hard it may appear to be, is nevertheless a wise one and was conceived with the highest purpose in view. It is necessary that the young medical men entering the Indian Medical Service, which is primarily a military one and only secondarily a civil service for India, shall be well acquainted with English customs and shall be familiar with western civilisation. But while holding this view it is impossible to ignore the existence of the discontent engendered by the absence of an outlet for legitimate ambitions and I feel convinced that it would be wise in every sense to find a remedy. I was fully conversant with the position of affairs when I was editor of the *Indian Medical Gazette* and it was partly to meet this aspect of the case and to provide such an outlet for distinguished native graduates and open to them an honourable and proud position in Government service I proposed in 1894 that a public health service should be formed in India. This proposal met with the hearty support of most of the prominent men of the Indian Medical Service and was received with enthusiasm by the Indian graduates. The necessity of this service in the interests of the public health of India I need not dwell upon here. It is fully set out in my address on Preventive Work in the Tropics published in THE LANCET of August 27th, 1904, p. 577, in which it is shown that until India possesses such a service she will be the prey, as she is now, to epidemics of great magnitude.

Not belonging to the Indian Medical Service but by my position in India coming into intimate relationship with its officers, many of whom I count among my friends, and at the same time being friendly with the most influential native medical men, I have had exceptional opportunities of forming an unbiased opinion on the subject in question and it is because a remedy will require to be found to ameliorate a state of things which is becoming more acute every year that I venture to recommend that the Government of India should lose no time in carrying out the scheme suggested.

I am, Sirs, yours faithfully,
W. J. SIMPSON, M.D. Aberd.
King's College, Feb. 22nd, 1905.

THE UNIVERSITY OF LONDON AND MEDICAL EDUCATION.

To the Editors of THE LANCET.

SIRS,—Dr. Fowler's letter in the *Times* of Feb. 22nd would lead his readers to think that the question of centralisation of the medical schools is unanimously approved by all London medical teachers. This is far from the case. The larger number of the teachers of the preliminary medical sciences were not placed upon the Faculty of Medicine by the University Commissioners and had no voice in the matter when the resolution in favour of centralisation was passed. They were afterwards invited to consider the method of their own abolition. Many thoughtful men among the teachers have grave doubts upon this scheme of centralisation and consider that an alternative and far simpler plan has much to recommend it—to wit, that some of the smaller and more contiguous schools should fuse with others, as they will do under the struggle for existence, while the University of London should endeavour to raise funds to support the larger and most efficient schools by grants in aid. At the same time the University should carry out its real high function of promoting research and higher education by seeking to endow research laboratories such as the physiological laboratory already established in the University by the energy of Dr. Waller and the other London physiologists. Such laboratories would complete the work of the constituent colleges, train and coördinate the teachers.

The members of the centralisation committee suggest that the falling off in number of the medical students in London is due to the inefficiency of teaching and of lack of equipment on the scientific side of the medical schools. Charges of inefficiency might with greater justice be brought against eminent consultants who, having to divide their energies between enormous private practices, hospital practice, and teaching, not infrequently fail to keep in touch with the rapid advances of medical research. The greater decrease in the number of medical students in London has, however, nothing to do with the teaching. It has resulted from the establishment of local universities, whereby students who formerly had to seek London can now live at home and carry out their education at Liverpool, Manchester, Cardiff, or Birmingham, and their parents are saved the expenses and risks of their lodging in London. No centralisation scheme will attract back these students. Great laboratories, high salaries, expensive equipments, and professors with well advertised names neither lead to more research nor to more efficient teaching. A plain room, rubber tubing, glass and wire, and the man may make a Faraday. Medical students require the individual attention and personal influence of their teachers as exerted in small classes and the *esprit de corps* of a hospital; they would not benefit by being herded into vast central lecture halls.

The medical research work published year by year from the laboratories of the London hospitals exceeds in value and amount that put forth by any of the universities of this country, and yet those in favour of centralisation constantly speak of the teachers and laboratories as inefficient. That the teachers are ill paid is true enough, but that has not prevented many men of marked ability and of scholarly tastes from enthusiastically following their science with great advantage both to their students and to the progress of medicine. To many of us it seems unwise to dissociate the preliminary sciences from the hospitals because we recognise that practical medicine is with astonishing rapidity becoming every day more and more a matter of laboratory inquiry and less of clinical experience. The biologist, physical chemist, chemist and physiologist are constantly required to aid the inquiries of the pathologist in the elucidation of disease, and it would be a great loss to hospital patients and patients at large—a loss rapidly becoming ever greater—to remove these scientific *confrères* from daily contact with the clinicians and pathologists. Not only these teachers but the students require continually to imbibe the principles of chemical and physiological science and for the student this is especially needful when in his last years of study he applies his science to disease. I understand that in Sweden the opinion is now freely expressed that the bedside study of disease should come first and the scientific training later in the curriculum; that the empirical study of disease should excite the student to unravel by science both the cause and the cure. There is much to be said for this view.

The vastness of the London area from which medical students come precludes the possibility of one central institute from considerations of time and space. University College and King's College show every sign of intending to remain institutes for the teaching of the preliminary medical subjects, and there is much to be said for the retention of both these and those other schools which have shown by their energy and progress that they are efficient. These schools are conveniently placed north, south, east, and west, and have slowly been evolved to meet the needs of London. Let us improve and not destroy their evolution. If the friends of the medical schools and the University could raise between them enough to contribute £2000 a year to each efficient school to complete its maintenance the whole question would be solved and at a far less expense than the building and endowing of a new central institute.

I am, Sirs, yours faithfully,
LEONARD HILL, M.B. Lond., F.R.S.,
Lecturer on Physiology, London Hospital Medical College;
Examiner to the University of Oxford, Royal College of Surgeons, &c.
The London Hospital Medical College, Feb. 27th, 1905.

SCHOOL GREEK IN SOME OF ITS NATIONAL ASPECTS AND THE *VIA MEDIA*.

To the Editors of THE LANCET.

SIRS,—Lay opinion is not competent to judge of the technical merits of the question now submitted to its vote at Cambridge or of the details of the school reform which seems to be unavoidable; but it can perceive sufficient proof in the uncompromising division between the experts in school and university education that this cause in which national interests are involved is not ripe for sentence but is ripe for adequate investigation. Not less significant is the unanimity with which the experts agree: (1) that the value of Greek for the highest culture is unsurpassed; (2) that the effect of the proposals now made under the names of science, which is not excluded but [illegible] of the University, the tr[illegible] the custodian of lights ne[illegible] uproot it finally out of our [illegible] and spoliation of not the [illegible] intellectual *élite*;' and (3) that the excuse offered to the nation for these extremities is the failure of our present methods to cope with this difficult language without an unwarrantable waste of time The normal inferences which arise from these admissions must speak for themselves.

Hitherto the only profession practically familiar with the workings of the mind and its mechanisms has had no voice in matters of education. If only its experience were to be utilised, could we not command sufficient ingenuity and practical sense, even without looking to the other side of the Atlantic, for a redistribution of school subjects and for a simplification of the study of classics and also of the modern languages, avoiding any gratuitous waste in teaching the latter on the least practical plan, and securing easier and better Greek? The cause of school Greek is linked with that of the reasoned study of languages which must soon take its place among the indispensables for an English university education and to which our race stands specially committed as to a first duty of empire. Philology, the most ancient and also the most modern of the sciences, is itself a higher branch of physiology. It is the soul of our present Renaissance in modern languages and literature and of that *universalism* which is the prominent feature of our age though we are served by the indispensable machinery of *specialism*. Philology now leans upon Greek quite as much as it did at the first Renaissance and the nation and science itself are therefore pledged to place the tuition of Greek as well as of the modern languages upon truly practical lines.

National interests of a different order are served by the popular demand and by the growing facilities for rapid methods of fluency in modern languages, a tardy repentance for the ruinous policy of preferring always the easiest task under the motto "This is a free country." The revival of that policy *ad usum scholarum* would be an anachronism. The safeguarding of the highest educational standards is also claimed in behalf of the great profession of medicine, the interests of which are not indifferent to the State. Hitherto the least favoured, but not the least needed, it is the only profession which, drawing no subventions, contributes a large revenue in the value of the lives which it saves year by year. Its usefulness to the nation must grow in proportion to its influence and the measure of its influence must always be the degree of its culture. As its work is the highest, so should its culture be; and Greek happens to be inseparable from the highest medical education, for in medicine Greek is not a "dead" but a living language. *E pur si muove.* It lives and continues unceasingly its additions to the vocabulary of Hippocrates. Throughout the world its old words and the new are the current language of the profession, though too often their origin is hardly suspected by those who utter [illegible] than a little more [illegible] icient reason why [illegible] he ancient univer- [illegible] as well as of the profession, ever continue to require an undiminished literary and philological training. As to science, some *via media* should be discoverable to satisfy the aspirations of our "moderns" for Cambridge opportunities and degrees without entailing upon the *alma mater* any lapse of dignity or of trust.

In conclusion, our national advantage lies in the expansion of higher culture no less than of science. To science itself better Greek and more philology would be a positive gain. The popular cry for modern languages is the strongest argument in proof of the increasing importance of philology and therefore of Greek in the range of our higher education and is an indirect demand for their cultivation. We seem to have strayed and to have lost our compass but there are landmarks as bold as the Pyramids to help us to find safety in some middle course and to guide us towards a policy of reconstruction rather than of destruction.

I am, Sirs, yours faithfully,
WILLIAM EWART, M.D. Cantab.
The Athenæum, Feb 21st, 1905.

THE SALE OF PATENT MEDICINES ON THE CONTINENT.

To the Editors of THE LANCET.

SIRS,—I shall feel extremely grateful if any of your readers can give me any information with regard to the regulations that are made in continental countries respecting the sale of patent or proprietary medicines. I may add that as far as regards Italy, France, and Germany I have in my possession official information. It is with regard to Russia, Norway and Sweden, and Belgium that I desire some information.

I am, Sirs, yours faithfully,
T. GARRETT HORDER.
32, Windsor place, Cardiff, Feb. 23rd, 1905.

MEDICAL TEACHING IN THE METROPOLIS.

To the Editors of THE LANCET.

SIRS,—My reasons for saying that clinical medicine is ill-taught at the London medical schools are: first, my own observation; secondly, the testimony of others, and among them one who is in a unique position to give a just and disinterested opinion on the matter; and, thirdly, the fact that students from some of the schools are wont to seek elsewhere the teaching they cannot find at their *alma mater*.

I need hardly say that my letter had reference to the London schools generally, not to any school in particular. It would be a piece of impertinence on my part to institute comparisons between individual schools, but in view of Dr. Frederick Taylor's letter, and in justice to the medical school of which he is so distinguished a member, I feel I ought to say that if clinical medicine were as well taught in all the other schools as it is at Guy's (and at least one other) my letter would not have been written. It is just because at Guy's "no assistant physician during the last 40 years has been elected to the staff who has not had experience in teaching and whose capacity to teach has not been taken into consideration as a factor in his election" that this school maintains its high level of efficiency. It is gratifying to know that the school which has produced such a brilliant array of clinicians as Bright, Addison, Gull, Wilks, Pavy, and Moxon—to mention but a few of the long list—has escaped the blight of apathy which seems to have fallen on not a few others.

Dr. Nestor Tirard thinks it probable that at some of the schools medicine is better taught than surgery. This may be so; my contention had reference not to particular schools but to the schools generally. Dr. Tirard contends that the men connected with the non-teaching hospitals in London have all had the opportunity of showing their merits and their teaching powers. In my last letter I submitted that such was not the case. Nor must it be forgotten that many of these men received their education outside the metropolis. In regard to the mystifying quotations supplied by "A Student of 'Boz'" I fear I miss their application. Doubtless they contain some subtle implication but I cannot fathom it. In any case it is not easy to see what the somewhat incoherent utterances of dear old Captain Cuttle and his friend J. B. have to do with twentieth century clinical teaching in London. Much to the point are the practical suggestions of "R. C. H."

May I say, in conclusion, Sirs, that I am well aware that my letter was not of a kind likely to be acclaimed with enthusiasm by the powers that be. I shall be content if it gives food for reflection. "Those who say they have no sin deceive themselves" is no mere empty formula, but a truth pregnant with great issues, as many an individual and many a nation have learnt to their cost. Confession, at least to self if not to others, is a necessary prelude to reform. Let the fact freely and honestly be acknowledged and faced that there is room—great room—for improvement in the teaching of clinical medicine here in London and improvement will follow as a matter of course.

I am, Sirs, yours faithfully,

Wimpole-street, W., Feb. 26th, 1905. HARRY CAMPBELL.

DUODENAL ULCER.

To the Editors of THE LANCET.

SIRS,—I am glad to find from Mr. B. G. A. Moynihan's reply to my letter of Feb. 18th that we are virtually in agreement on the subject of the diagnosis and treatment of duodenal ulcers. The cases which I referred to as having been under my care were all seen by me soon after perforation had taken place and therefore were, as Mr. Moynihan admits, easy to diagnose and simple to treat. I quite agree with him that if peritonitis is present some cleansing must be practised, but even then I am inclined to do as little flushing as possible and to rely rather on one or more drainage-tubes placed low down in the abdomen. Mr. G. R. Turner, in the same issue, seems still to incline to flushing, and I presume therefore that his experience has been confined mainly to the treatment of those ulcers which have perforated some time before coming under his care. If he is advocating the flushing of cases in an early stage before peritonitis has supervened I can only say that I do not agree with him and regard the practice as quite unnecessary, not to say harmful.

I am, Sirs, yours faithfully,

Harley-street, W., Feb. 25th, 1905. W. BRUCE CLARKE.

THE GOUTY DIATHESIS.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me to make some remarks on Dr. D. Chalmers Watson's article which appeared in THE LANCET of Feb. 11th, p. 347? Carlsbad being the refuge of gouty patients I have had the opportunity of observing almost 400 cases of gout or, respectively, of uric acid diathesis and I think, therefore, that my experience ought to have some bearing on the subject.

Dr. Watson's article, however interesting it may be in itself, does not permit any conclusions to be drawn from it as far as gout is concerned. Dr. Watson fed fowls and rats —i.e., omnivorous animals—on an exclusive meat diet and observed some changes in the thyroid gland. Would he have observed the same changes if the omnivorous animals had been fed on a mixed diet—i.e., on a diet gouty people are in the habit of taking; or would he have observed the same changes had he fed carnivorous animals on an exclusive meat diet?

I am quite certain that the above questions may be replied to in the negative, and as no gouty subject, however fond he may be of meat, is living exclusively on the same Dr. Watson's experiment proves nothing as to gout. In the fairly great number of gouty cases I have had under my care I did not observe in a single case any symptoms which could have related to changes in the thyroid gland; I also found it that some very obstinate cases have never been great consumers of meat, and I had a good few patients under observation who practically abstained from eating meat.

As far as the administration of thyroid extract in gout is concerned I do not think we are entitled to avail ourselves of this drug. I have given it a fair trial in cases of obesity and have found that it is apt, even if very carefully administered, to produce very serious heart symptoms, and how careful must we be as to the heart in cases of gout? I hope to be in a position to publish a report on my cases of gout ere long, on which occasion I shall deal more extensively with the subject. I am, Sirs, yours faithfully,

S. A. ARANY, M.D. (of Carlsbad).

Royal Societies Club, Feb. 13th, 1905.

THE INTRUSION OF THE LAYMAN INTO MEDICAL PRACTICE.

To the Editors of THE LANCET.

SIRS,—In your issue of Feb. 18th there is a note with this title quoted from the title of a letter in *Medical Electrology and Radiology* in which the writer states that a medical man after arranging with him to make a required skiagraph afterwards cancelled the appointment, stating that the patient's brother, also a medical man, had been to our firm and found that he could have the skiagraph taken for a less fee. We have inquired into the circumstances and find that the facts are these.

We were asked by a very old customer simply to take a radiograph of his sister's chest and to do it for him at a specially low fee as expense was an object and being a medical man he looked for special consideration. Naturally we met his wishes, took the radiograph, sent the result to the doctor attending the case, and heard no more about it. There was never a question or suggestion of our making a "diagnosis of a mediastinal tumour."

On a former occasion we had to state that we do not, and never did, undertake the treatment of patients by x rays except at the request, and under the direction, of the medical attendant and in almost every instance the medical attendant of the patient has been present. We undertook this department of business with the hearty concurrence, if not at the actual request, of leading members of the profession and have had their support throughout. We fully understand our position as servants of the profession, heartily endeavouring to assist in all mere mechanical and subsidiary matters and without the slightest desire to encroach on the province of the profession. As a matter of business we find that the profits of radiography are entirely insignificant, though we are aware that ridiculously groundless statements to the contrary have been confidently put forth. If members of the profession prefer to take their patients to professional brethren who practise radiography it is perfectly open to them to do so but several have told us that they object to do this and are glad to avail themselves of our arrangements. Trusting to be able to avoid all reasonable ground of complaint, We are, Sirs, yours faithfully,

ALLEN AND HANBURYS, Ltd.

Bethnal Green, E., Feb. 25th, 1905.

THE INCIPIENT STAGE OF INSANITY.

To the Editors of THE LANCET.

SIRS,—In your issue of Feb. 25th you refer to a short essay of mine on insanity which has recently been published and take exception to some of the statements in it. First of all, you seem to object to my saying that if the signs and symptoms which indicate the approach of insanity were only generally known and the importance of their early detection recognised many persons could be prevented becoming insane. And yet I know from experience that the statement is true. Even during the last two or three years I can call to mind at least five or six cases where an attack of insanity was undoubtedly impending—in two of the cases the patients had actually been previously sent to asylums—and yet by early and energetic treatment they were restored to mental health in a short time and continue so still. This, then, is one of the reasons for the belief that is in me—namely, my own personal experience. Far more weighty, however, than any opinion of mine is that of Dr. T. S. Clouston, the eminent alienist, who in his able and exhaustive treatise on mental diseases thus writes: "If the first signs that betoken danger to the mind's health were observed, the first symptoms of disease noticed and their true significance apprehended, every physician in practice knows that their further onset and progress could often be arrested."

Seeing that I have quoted the above in my essay I think your review is hardly just to me on this point, for surely the [illegible] his unrivalled experience [illegible] holding the belief I do, [illegible] ot confirm it. Why even [illegible] ne would think, partially [illegible] one can hardly see the force of his opening statement—namely, "Among the many *problems connected with psychology one of the most important is the early recognition of symptoms of mental aberration.*" If it *is* important one reason, I suppose, is because if detected early the onset of the disease can at times be prevented.

You next seem to cast a doubt upon my assertion that insane delusions can often be successfully removed and complain that I do not give examples and explain the *modus operandi*. Seeing that the essay does not profess to deal with the *treatment* at all but *only with* the *signs* and *symptoms* of the malady I can hardly be blamed for not including these matters, but in another essay which I have written, and which will be published shortly, I have not only related many successful instances of the kind indicated but have described minutely the exact method of operation. As this second essay will so soon follow the other I think it hardly worth while to go into the matter now, but as the writer of your article seems curious on the point I may say at once that nearly all the methods he mentions are pressed into service, even "argument, entreaty, and cajolery" not being despised when likely to be of the least use in saving a fellow-being from a malady often worse than death itself—namely, insanity.

[illegible] rsons suffering [illegible] insane—I can [illegible] ad and all the [illegible] I have spoken on the subject have always held this view and I can call to mind more than one occasion when I have been politely [illegible] ng the contrary opinion. If, [illegible] alienists generally I should [illegible] lly be pleased at the admis- [illegible] should have allowed all my statements to pass unchallenged and the writer of your review be the first to discover their wholesale fallaciousness.

I am, Sirs, yours faithfully,
C. WILLIAMS.
Liverpool, Feb. 26th, 1905.

COFFEE AND SEWAGE.

To the Editors of THE LANCET.

SIRS,—It is unnecessary to labour the "Coffee and Sewage" question, but I must object to one remark in Dr. R. K. Brown's letter in your issue of Feb. 25th. I gave all my evidence in degrees of the Centigrade thermometer at the request of the magistrate. The bottles containing the coffee, roasted at different temperatures, were distinctly labelled in both scales; they were handed about the court and were in the hands of the sanitary officials. I gave a careful and somewhat long account of the temperatures reached and the changes accompanying each, all in Centigrade degrees. I could not know that the officials were under the impression that 300° *to* 400° Centigrade was reached by the coffee during roasting. In the Fahrenheit scale these become 572° to 752°. I know of no organised vegetable body, such as a coffee berry is, that could be heated to such temperatures, the mean of which is above the melting point of lead and the higher above that of zinc, without destruction.

Coffee is heated to roast not to carbonise it.

I am, Sirs, yours faithfully,
R. J. FRISWELL.
Great Tower street, E.C., Feb. 28th, 1905.

THE QUEEN'S JUBILEE HOSPITAL AND THE MEDICAL STAFF.

To the Editors of THE LANCET.

SIRS,—Referring to certain reports relating to this hospital which have appeared in your paper, I am desired by the board of management to inform you that from the numerous applications received the following gentlemen have been selected to fill the vacancies on the medical staff: George Herschell, M.D. Lond.; George W. F. MacNaughton, M.D., M.R.C.P.; E. Canny-Ryall, F.R.C.S.; F. W. Forbes-Ross, F.R.C.S. Lond.; J. Hutchinson Swanton, M.A., M.D., M.R C.P.; William Lloyd, F.R.C.S.; A. Gordon Wilson, M.D. Lond., F.R.C.S. Eng.; J. H. Pope, M.D., F.R.C.S.; A. H. Payan Dawnay, M.R.C.S., L.R C.P.

I am asked to say that all these gentlemen have accepted their appointments with a full knowledge of the recent facts connected with the hospital.

I am, Sirs, your obedient servant,
G. R. EVERITT, Chairman.
Queen's Jubilee Hospital, S.W., March 1st, 1905.

THE CLERKSHIP OF ST. BARTHOLOMEW'S HOSPITAL.

To the Editors of THE LANCET.

SIRS,—I find there is a widespread rumour to the effect that I was a candidate for the clerkship of St. Bartholomew's Hospital. As the report has been circulated with very circumstantial details I ask the hospitality of your columns to enable me to deny the report. I attach a letter from Mr. W. H. Cross confirming my denial.

I am, Sirs, yours faithfully,
SYDNEY PHILLIPS.
St Thomas's Hospital, Feb 28th, 1905.

⁂ Mr. Phillips incloses a letter from Mr. W. H. Cross who says: "No application from you to be appointed my successor was received here nor, so far as I am aware, was your name mentioned as a probable candidate."—ED. L.

THE RATIONAL TREATMENT OF FRACTURES.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Feb. 11th, p. 350, Mr. J. Stafford [illegible] ase of fracture of the leg [illegible] Hood's method by means [illegible] tion, light loosely applied splints, and voluntary movement of the adjacent joints, the actual seat of fracture being guarded during this last process. I have carefully read Dr. Hood's brochure and while the plan given for dealing with the stiffness and pain after sprains, &c., and due to adhesions is admirable, and one which I have profited by for many years, it seems to me that the plan sketched for fractures, although abundant for the simple cases which hardly require treatment, is wanting in the very cases which give the practitioner no end of anxiety, [illegible] the law-courts. [illegible] his guide. But [illegible] plan obtains, as among birds and quadrupeds [illegible] While after a time, in spite of muscular movement, a fracture in such animals may be made good, there is much overlapping with consequent shortening and deformity, effacement of the projection taking years to effect. The same may be seen in neglected or fractures difficult to deal with in man. In Dr. Hood's brochure, "The Treatment of Injuries," I can find no reference as to how to deal with the really troublesome cases where there is much overlapping, as in oblique fractures of the bones of the lower extremity (thigh and leg), or where after "reduction" (the necessity for which and for maintenance of correct apposition of the fragments seems to be either ignored or considered of no great importance) there is return of the displacement. May I ask Mr. Mellish if in such cases he would not apply "extension," *ipso facto* implying immobilisation with consequent risk of alleged stiffness and atrophy of muscles? or whether he would allow the malposition to remain for fear of taking means that would interfere with subsequent nutrition of the muscles, in spite of deformity, possible non-union, and the risk of an action for malpraxis? I may state that the last case of severe fracture of the leg bones which I treated carefully by the rubbing method turned out an un-united fracture. Is not the generalisation of so-called rational treatment from the simple cases of clavicle, ribs, Pott's, and Colles's fractures dangerous when applied indiscriminately elsewhere and is there any other rational treatment in the troublesome cases than bone carpentry by cutting down upon, and securing together, the fragments as in Mr. W. A. Lane's plan? I am, Sirs, yours faithfully,

Feb. 20th, 1905. DUBITANS.

THE EPIDEMIC OF TYPHOID FEVER AT LINCOLN.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

Lincoln, Feb. 28th.

THE present severe epidemic of typhoid fever at Lincoln gives rise to a number of problems in spite of the apparent simplicity of its origin. Possibly these questions will never be satisfactorily answered, particularly as there is a marked tendency to avoid taking them into consideration. At Lincoln, as at Maidstone, at Hamburg, and many other places, the word "water" is pronounced with solemnity and thereupon it is thought that the question is settled and that nothing more remains to be done. But "water" does not account for the whole situation. Surely if it be acknowledged that the water-supply was contaminated this is but the beginning of the problem. If it sufficed for the water to be contaminated then everyone who drank the water would have the fever and it would prevail in all the streets and districts where it is drunk. Such is not the case and there is as much or more to be learnt by studying the quarters and the class of persons who have escaped as of those who have been stricken down. To stop investigating when once it is proved the water is contaminated is to stop at the very threshold of the problem and to pass unnoticed what may prove the most interesting and, so far as future progress is concerned, the most fruitful indications. Why is it, for instance, that the poorest streets, courts, or alleys of Lincoln have been almost entirely spared? Why did the first cases occur in high-class houses situated on elevated ground and where the domestic drains, subsequently examined, have been found in perfect order?

There are slums in the lowest lying ground, so low, indeed, that they are subject to periodical flooding by the water of the river Witham, and this is the contaminated water. It enters the basements of some of these houses nearly every year. It leaves slimy deposits on the walls of the houses. This is the condemned water in all its foulness, more foul than at the intake for the drinking water-supply and absolutely unfiltered. This dirty water soaks into the walls, it saturates the subsoil, the streets, and the flooring of the houses. The inhabitants are very poor. It is a slum and the poor live and sleep in houses rendered damp by the contaminated and unfiltered water. They cannot touch the walls or floor of their homes without the risk of contaminating their fingers. Their boots are for a great part of the year caked with the mud made by this water. Is it imagined that they wash their hands each time they touch their boots or anything else that is moistened by the water of the much-condemned river Witham? If it be argued that such contact, though very frequent, does not suffice to convey the disease to these people, it must be borne in mind that these tramps, beggars, and hawkers also drank the town water-supply and yet escaped. Further, it may be urged that the water which they drank was more dangerous than usual because they must have taken it from water-pipes near a dead head. That is to say, they live near the end of the pipe where the water can flow no further and, of course, the nearer the end of the pipe the more stagnant the water and therefore the more likely is it to make deposits and to become foul. Consequently these people perhaps ran a greater risk of being contaminated by drinking the town water and they had the supplementary risk of being injuriously affected by the river itself when it flooded their houses. Yet these are the very persons who have suffered the least. Therefore it does not suffice to say that the water was polluted, though I have mentioned but one incident out of many tending to show that other circumstances as well as the water-supply have to be taken into consideration. Besides, is this the first time that the town supply has been polluted? Who would venture to make any such affirmation?

It is said that certainly the river Witham has always been subject to pollution but that no harm has resulted because the water was filtered. On this occasion, however, during the exceptionally cold weather which occurred in November and December, the inhabitants, fearing that their water-pipes would freeze, kept the water running all day and all night. Consequently the rate of water consumption increased about 50 per cent. To meet this increased demand, instead of allowing only 450 gallons to pass per square yard of filtering area, some 750 gallons ran through. Such rapid filtration was not efficacious and it is said that the typhoid bacilli passed through the filters. This probably was the case, though as no examinations were made at the time it will never be known what really did occur. Subsequently samples of water have been taken both before and after filtration. These have been submitted to expert bacteriological examination. The result has not been officially communicated but it is generally understood that the bacilli of typhoid fever were found in the unfiltered water but the result of the examination of the filtered water was doubtful. There is therefore every reason to believe that the water was contaminated with the specific pathogenic germ of typhoid fever. But will anyone in Lincoln answer for it that such an occurrence has never happened before? Also, it may be asked whether the only result of the extra consumption of water due to letting the taps run during the frosty weather was the over-working of the filters. If the estimates given are correct an excess of some 900,000 gallons of water must have flowed per day into the sewers at that time. But that is not all. Such water coming directly from the taps and being unused for domestic purposes, but passing during the freezing weather by surface pipes and drains before it reached the sewer, must have been very cold water. As the sewers, on the other hand, are generally too far below the surface of the streets to be affected by the outdoor temperature they are in winter, comparatively speaking, very warm. Therefore this great and exceptional inrush of very cold water must have produced unusual atmospheric conditions within the sewers. Then, again, there is no natural outlet for the sewage. It all goes to a pumping station and when there is more sewage than the pumps can lift the sewers become water-logged. Thus we find here two different causes working simultaneously to produce such atmospheric disturbances within the sewers as would result in the forcing upwards into the houses and into the street sewer air that differed from the normal conditions in volume and in quality.

So far there have been 745 cases of typhoid fever notified within the city of Lincoln, resulting in 63 deaths. Outside the city boundaries in what might be considered suburban districts there have been 15 notifications and one death at Bracebridge and 28 notifications and one death in the Branston rural district. Other rural outlying districts have had only one or two cases and then the patients were persons who worked in Lincoln. It is urged that the outlying localities where there has been a considerable number of cases are supplied with the Lincoln water and that the other localities, where there have been very few cases, are not supplied with the Lincoln water. This is a very striking and effective argument; but is it not equally necessary to state that those outlying localities where there has been a considerable number of cases drain into the Lincoln system of sewers, and the other localities where there have been very few cases are not connected with the Lincoln sewers? In other words, the neighbouring villages which have neither the water nor the sewers of Lincoln have escaped and those which have both the sewers and the water of Lincoln have not escaped. It will be seen from the figures given that the present is a severe epidemic, for the estimated population of Lincoln is only 50,500. But there were 39 deaths from typhoid fever in 1879 and the population did not then amount to 35,000. If there should be no further deaths from the present epidemic then the epidemic of 1879 will in proportion to the population have been almost as fatal. Unfortunately, it is probable that the difference between the two epidemics will become more marked before the present outbreak is over. The epidemic of 1879 had been preceded by a very dry year. The dangerous condition of the water-supply has been made the subject of repeated warnings uttered over and over again during the last quarter of a century. The present medical officer of health was particularly strong in his protest 20 years ago. Since then circumstances recalling the present conditions have occurred more than once but not with the same fatal effects. For instance, in his report for the year 1890 Dr. O. Harrison says:—

> As to the use of the [illegible] of water taken at vari[illegible] its way into the [illegible] in its passage d[illegible] the stream was [illegible] age as to be unfit *for domestic pu*[illegible] the water when fully exposed to the air it is easy to understand that the Witham being covered with ice several inches thick for three or four weeks, as it was lately, the water would contain a much greater amount of impurity.

This is very similar to what has occurred this year, yet in 1890 there were only seven deaths from typhoid fever and in 1891 not more than two deaths from this disease. But in the latter year there were some very severe cases of diarrhœa which were attributed to the water. This water was drunk by 750 occupants of the Bracebridge County Asylum and 73 cases of diarrhœa followed just at the time when the river Witham was frozen over. Inhabitants of Lincoln were also inconvenienced in the same way and the water was held responsible because the inhabitants of Upper Bracebridge, some of whom lived within 50 yards of the County Asylum, did not drink the Lincoln water and did not suffer from this epidemic of diarrhœa. The results were not, however, very serious, for including the deaths from infantile diarrhœa there were only 29 fatal cases in 1890 and 14 in 1891. In the following year, 1892, attention was called to the insufficiency of the filtering media and the increased consumption of water. We are not told that the inhabitants let their taps run during the frosty weather so as to prevent the pipes freezing and bursting, but if they did so this year there is no reason why they should not have taken the same precautions in 1890. If in such circumstances the filters were overworked on the present occasion perhaps the same thing occurred then, but these details were not investigated because though very similar causes, so far as the water-supply is concerned, seemed to have been in operation no [illegible]

[illegible] to the reports [illegible] conditions of [illegible] similar to the conditions prevailing during the present winter. Nevertheless there were only a few cases of typ[illegible] [illegible] asked, How did those few persons who suffered from typhoid fever contract the disease? Typhoid fever has always been present at Lincoln. During the ten years 1881 to 1890 there were 87 deaths attributed to this cause, or an average of 8·7 per annum. The population of Lincoln was estimated at 37,313 in 1881 and at 47,061 in 1890. Putting the average population for the ten years at 42,000 and the average annual number of deaths from typhoid fever at 8·7, this gives an annual average death-rate from typhoid fever of 0·2 per 1000 of the population. But it is necessary to remember that in the previous decade, during the year 1879, there was a severe epidemic when 39 deaths from typhoid fever occurred. This, for the population which then amounted to about 35,000, equalled for the one year a death-rate from typhoid fever of 1·11 per 1000. So far the deaths due to the present epidemic amount to 63 and this on the actual population of 50,500 is equal to a death-rate of 1·22 per 1000. The epidemic now prevailing threatens to be more serious than that of 1879 but up to the present the two are about equal in regard to the proportionate number of fatal cases per 1000 of the population. During the next decade, from 1891 to 1900, there were only 70 deaths attributed to typhoid fever, and this in face of the increasing population shows a considerable reduction in the prevalence of the disease. So we have first a decade concluding with 1880 with a serious epidemic. In the next decade there are [illegible] at least where the conditions remain substantially the same. At Lincoln there does not seem to have been any very substantial change during that time in the general system of water-supply and of drainage. It was in 1871 that the corporation bought the waterworks and the present system of sewers was constructed from 1877 to 1881. A number of alterations have been made since then in the sewage settling tanks and the methods of treating the sewage when it reached the sewage farm but that would scarcely influence the dwellers within the city. Undoubtedly the tendency should be to effect a constant improvement in the details of the connexions between the houses and the sewers but this is often marred by jerry-builders. In any case the general system, both in regard to water-supply and drainage, has not undergone any radical change for some 25 years.

With the present decade we find recorded not only the deaths from typhoid fever but the notification of the cases. Thus, in 1901 there were 15 cases notified, resulting in five deaths. Further, and this is most useful, details are given about each case. Of the 15 cases nine were males and six were females. In three cases the disease was contracted outside Lincoln, one patient for instance, had been nursing a case of typhoid fever at Leeds. In regard to the remaining 12 patients sanitary defects were found in the houses inhabited by nine of these cases, and of four new houses inhabited by patients two were defective. There seems to be, so far as these cases are concerned, a connexion between the disease and the insanitary condition of the patient's home. In 1902 there were 13 cases and three deaths. Of these eight were female and five were male. Three of the cases had obviously been imported. Of the remaining ten, three are described as living in dirty, over-crowded places; two of these were in back-to back houses. For the year 1903 we are told that 32 cases were notified, though there were only four deaths from this cause. Unfortunately the details as to the condition of the houses are not given. 14 cases occurred in August after the annual holiday when many people made excursions to the seaside where it is thought that they ate contaminated shell-fish. In 1904 only six cases had been notified before what is generally considered the commencement of the present epidemic. The last of these six cases was notified on Oct. 15th. Then a clerk employed in a brewery—that is to say not a poor man or a man living in a poor quarter—was notified on Dec. 2nd as suffering from typhoid fever. The next case was in the cathedral yard in a very fine house and the sufferer may be qualified as belonging to the wealthy classes. On Dec. 27th there were two more cases. These four first cases were all on the height which is dominated by the minster. On Dec. 28th there were two more cases and the disease now began to make its appearance in the lower part of the city. On the 29th and the 30th there was one case on each day and three cases on the 31st. Altogether there were 11 cases in December, ten of them having occurred since Dec. 22nd. Up to Jan. 23rd cases were notified for 11 out of the 23 days and then only one or two cases excepting on the 7th when there were three cases. On Jan. 24th the epidemic began to assume serious proportions. There were 13 cases on that day and 23 on the following day, on the 28th no less than 59 cases, and 42 and 45 respectively on the two last days of the month. Altogether there were 18 cases up to Jan 23rd and 237 cases during the remaining eight days of the month. The cases occurring in the month of February bring up the total to 745 on the morning of the last day of the month, though there now seems good reason to believe that the epidemic is subsiding.

It is too soon from the data, the facts are not yet clearly ascertained, to pronounce any emphatic opinion as to all the causes of the mischief. Undoubtedly there is every probability that the filters were overworked and that the water, which was obviously contaminated, was allowed to pass when it was insufficiently purified. But there were other factors at work, though it is more difficult to discover and to describe them than simply to denounce the water.

In respect to the question of the water-supply I am requested to explain that although in February, 1903, the tool employed for boring broke work is now being continued with great activity. Instead of boring, the hole made by the instrument, which was two feet wide, has been converted into a well eight feet wide and this is to be continued 800 feet downwards when the position where the boring tool broke will be reached. So that the hope of piercing below the sandstone and reaching an ample supply of pure water has not been abandoned.

March 1st.

Postscript.—The sanitary authorities have just concluded an investigation which I ventured to suggest might be instructive. They have gone over the notification book and examined the cases in respect of age and sex. There has only been one case of an infant below one year of age, but from one to five years there were 25 males and 21 females who contracted the disease; from six to ten years, 85 males and 38 females; from 11 to 15 years, 61 males and 56 females. The total is 172 males and 115 females below the usual age for work. Of the adults between the age of 16 and 25 years there were 137 males and 93 females; from 26 to 35 years, 68 males and 44 females; from 36 years and over, 61 males and 42 females. The total for adults is therefore 266 males and 179 females. Thus it is quite evident that the males are the principal sufferers. It may be said that working in foundries and exposed to the heat of furnaces many men drink a large quantity of water, but this does not apply to youths and children, and why should it be from six to ten years that boys are specially susceptible?

For the last seven days, from Feb. 22nd to 28th inclusive, the number of cases notified daily were 10, 5, 20, 5, 3, 5, and 8, giving a total of 56 cases during the last seven days. During the preceding seven days there were 80 cases and this followed upon 120 cases for the previous seven days. The epidemic, therefore, seems to be gradually subsiding.

(To be continued.)

CHOLERA AND PLAGUE IN THE NEAR EAST.

(FROM THE BRITISH DELEGATE ON THE OTTOMAN BOARD OF HEALTH.)

DURING the past month the cholera epidemic in Asiatic Turkey has been almost confined to Van and its neighbourhood. As reported in my last letter[1] the disease appeared there at the end of December. It has not, so far as may be judged by the official returns, caused a very serious mortality and the outbreak is now apparently at an end. The following are the figures reported during the last five weeks:—

	Cases.	Deaths.
From Jan. 8th to Jan. 13th	14	5
,, ,, 14th ,, ,, 21st	34	7
,, ,, 21st ,, ,, 25th	2	1
,, ,, 26th ,, Feb. 4th	0	0
,, Feb. 5th ,, ,, 12th	0	0

The only other places where cholera has been present in this period have been: the village of Tavile, in the Gulamber district, where on Jan. 9th there were 5 cases with 3 deaths, followed by 6 cases and 5 deaths between the 9th and the 15th of that month; the village of Kerbil, in the *caza* of Mahmudieh, where the disease was reported to be prevalent in the middle of January but from which no figures have been received; and the village of Yabar, in the *sanjak* of Suleimanieh, where 5 cases and 3 deaths occurred on Jan. 14th. It is more than possible that the apparent subsidence of the epidemic in the elevated districts of Turkish Armenia is in part due to the lack of information owing to the cold weather and heavy snowstorms that have been prevailing in these regions.

In Persia there has also been recently a considerable diminution in the cholera outbreak, although—in marked contrast to the weather prevailing in Turkey—the winter this year in Persia is described as being a remarkably mild one, with unusually little snowfall. The following is a summary of the reports received from the Turkish sanitary delegate on the Tehran Board of Health. Writing on Nov. 30th, 1904, he stated that, apart from two cases occurring in connexion with the regiment of recruits mentioned in my last letter, no other cases had recently been observed in Tehran. At Resht 20 deaths a day were still being reported. In Bushire there had been a great improvement during October, the disease having disappeared from Bushire and its neighbourhood and also from Hendian and the island of Kharg, where it had shortly before made its appearance. At Mohamerah there had been a violent recrudescence of cholera in the middle of October, causing a very high mortality but not lasting for long. At Tabriz the mortality had sunk on Oct. 14th to 3 or 4 a day. In a second report, dated Dec. 7th, it was stated that cholera was still prevalent among the fishermen at Enzeli, on the Caspian Sea; at Kazerun 20 deaths were occurring daily; at Kerman the daily mortality was 30; at Kazvin the disease was still present, as also at Siah-el-Mahal and Monteh; and 9 deaths daily were occurring at Kelat. Sporadic cases were still reported from the Ghilan province. The outbreak was diminishing at Kergancroud, Tabriz, Shefa-Rud, Asterabad, and Khoy. It was increasing at Astara, Gheratikan, and Hamadan and its neighbourhood. It had reappeared at Ghalé-Nour, Nouheran, and at Ahr, where 10 or 12 deaths were occurring daily. At Khalifé-Kendé the daily deaths numbered 20 or 30 and at Urumiah 30.

The next report, dated Dec. 14th (quoting from reports received from the Customs authorities, dated Dec. 7th) stated that recent rains had caused a revival of the disease in most of the villages lying between Kermanshah and Hamadan. The first-named town was said to be in a very insanitary state in spite of orders having been given for its improvement. On the 10th of the month the disease was reported to be showing renewed activity at Hamadan where the mortality had risen to 27 daily, at Bender-Guez 12 deaths, and at Kouré-Tour 11 deaths were occurring each day. Another report, dated Dec. 21st, announced the appearance of cholera at Zehab, at Sheraif-Baiani, and among the Djaf tribe of nomads near Suleimanieh. The epidemic at Urumiah was then over, after causing a total mortality reckoned at 1500; at Khaf the outbreak was increasing; at Khoy, where the mortality had risen at one time to 40 or 50 daily, it was diminishing; at Talishé and Tounekaboun 10 deaths were occurring daily in each. The epidemic at Saoutch-Boulak was said to be at end.

The following week's report, dated Dec. 28th, stated that there had been a slight revival of the disease at Mohamedabad, near Meshed, with a daily mortality of 3 or 4. The outbreaks at Kermanshah and at Bender-Guez were at an end. Sporadic cases had been occurring at Shivan (Lingah district) since Dec. 15th and also in all the villages of the Asterabad district. The outbreak at Khoy was still on the decline; the infection was still present at Bellesaar and Ardebil; and its activity at Ispahan was increasing, the mortality there having risen to 30 or 40 daily. The next report, dated Jan. 4th, furnished some details of the outbreak at Khoy. It seems that the disease appeared there on Nov. 20th; up to the 29th of that month the daily deaths averaged about 30; they then began to increase until on Dec. 6th they were as many as 115 in the day. The mortality then diminished but the disease spread to many of the villages in the neighbourhood, especially in a northerly direction. The outbreak there had been checked by the extreme coldness of the weather. At Shapur there had been a severe epidemic but it was then rapidly declining. At Kerman the outbreak had all but completely subsided when, owing to the influx of returning refugees, there was a fresh outbreak of the disease. Cholera was still present in many of the villages of the Khorassan province. At Bujnurd the daily deaths numbered 15; at Kifan 5. At Shirvan they never rose above 16. The disease was then seriously prevalent in several villages near Khaf, the total mortality in all the villages taken together amounting to about 50 daily. The latest report, dated Jan. 11th, mentions the occurrence of sporadic cases at Shuster, with a daily mortality of about 3 or 4, while in the rest of Arabistan the public health was said to be satisfactory. At Nishapur, in the neighbourhood of the turquoise mines, there had been a revival of the disease, as many as 100 deaths occurring in a week. There was a rumour (as yet unconfirmed) that a fresh outbreak had occurred at Kermanshah.

It is of interest to note that in the above reports mention is made of the serious prevalence of small-pox "in all parts of Persia." It appears to have been especially severe in Kerman, where it is said that not a single house has escaped without a case and where not less than 5000 children are thought to have perished from the disease. A mild epidemic of influenza was prevalent in Tehran in the second week of January and other diseases mentioned as present there are diphtheria, measles, scarlet fever erysipelas, malaria, and a few cases of typhoid fever

On Russian territory there has recently been a very marked decline in the cholera outbreak. In Transcaspia, between Dec. 16th and 21st, 3 sporadic cases were observed in Ashbabad and at Tashkent there was only a single case on the 25th. On the 27th a single [illegible] troops at Kaac [illegible] were 6 cases ar [illegible] Transcaucasia the recent course of the epidemic has been as follows. At Baku, Balakhani, and in the Djevat district 17 cases with 3 deaths occurred between Dec. 21st and 28th and, in the Lenkoran district of the Baku government there were 268 deaths between Dec. 14th and 21st and 74 deaths between the 21st and the 28th. Between Dec. 28th and Jan. 9th no figures were published but between Jan. 9th and 15th there were only 4 cases and 9 deaths in the whole of the Baku government. In Tiflis the epidemic is apparently over, no cases having [illegible] uce since Dec. 7th. In the [illegible] a few cases of cholera in [illegible] icious cases on the railway in the following week, and 1 case between Jan. 9th and 15th. In the Erivan government 38 cases and 33 deaths were reported between Dec. 21st and Jan. 1st and 9 cases with 9 deaths between Jan. 9th and 15th.

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[1] THE LANCET, Jan. 28th, 1905, p. 260.

On the Volga there has been an *equally marked* decline in the epidemic. In the Ast [illegible] occurred between Dec. 20th [illegible] the following week, and [illegible] Saratof government there [illegible] at Tsaritsyn) between Dec. 21st and 27th, 15 cases and 10 deaths in the succeeding week, and 10 cases with 3 deaths between Jan. 9th and 15th. I [illegible] epidemic appears to be at an en [illegible] reported from the Nikolaief d [illegible] 27th.

Some details of the remarkable outbreak of pneumonic plague which (as mentioned in my last letter) recently appeared in the Uralsk province of Southern Russia are now av [illegible] rance in the [illegible] *itzas* or set [illegible] These settlements are situated on the Ural River, in the Gurief district (*uyezd*) of the Uralsk province. How the infection reached them is quite unknown. The first 2 cases, both fatal, [illegible] the disease began [illegible] lies in the neigh [illegible] population. Betwe [illegible] Dec. 26th no less than [illegible] deaths from the disease occurred in the two settlements named. The infection also appeared in a third settlement called Sorotchinsk; in the three settlements together the mortality had risen to 30 per day before Dec. 27th; from that date to Jan. 2nd there were 89 cases and 97 deaths. The figures for the next week have not been published but between Jan. 10th and 16th there were only 3 cases, all fatal. The disease appears also to have spread to the Inner or Bukeëf Horde of Kirghiz, to the west of the Ural, among whom 23 deaths from plague were reported between Dec. 21st and Jan. 13th.

Finally, a serious outbreak of anthrax (Siberian plague or ulcer, as it is called in Russian) is reported from the Viatka government. In the week ending Dec. 21st as many as 86 cases were recorded; in the following three weeks the numbers fell to 47, 46, and 31 respectively.[2]

Constantinople, Feb. 10th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Hospitals.

YEAR by year at the meetings of the subscribers to our various hospitals the same story is told: increase of the demands on their resources, patients flocking to them in greater numbers, and the appliances required for carrying out the treatment of the day more numerous and costly. At the same time removals from the district and the loss of old subscribers by death bring down the list of subscriptions. Wealth increases, judging by lavish, not to say ostentatious, expenditure, and is more widely spread, yet the subscription lists tend to shrink rather than to expand and it seems as if the very generous standard as to the style of living set up by the unwritten middle-class conventionalism of the well-to-do were drying up the springs of charity. The same names occur in the subscription lists of the various charities [illegible] the pecuniary support and active interest shown in [illegible] management are limited too much to a few well- [illegible] families and firms that have for years, and in some cases for generations, been looked to as helpers of those less fortunate than themselves. In the meantime the constant appeals for subscriptions, large or small, to enable these deserving and over-strained charities to pay their way fall upon ears dulled and deadened to indifference by ceaseless repetition. This state of things was illustrated at the annual meeting of the supporters of the Northern (formerly the Clinical) Hospital for Women and Children the other day. It is in a district occupied largely by the "aliens," about whom so much is heard just now, where poverty is more the rule than the exception. The treasurer said that the expenses "had been kept down to a minimum but within the last 20 years there had been a remarkable increase of charitable institutions in Manchester and the older hospitals found it more and more difficult to get the support they needed. The district could not do without that hospital and it must go on as long as there was a penny in the till." There is an average deficit of nearly £1000 a year. With all these numerous charities crying "Give, give," there must be waste, overlapping, and abuse, so that it is to be hoped that a valuable suggestion by the chairman, Mr. Edward Holt, may be acted on. He said: "It would be a good thing if a conference were called by the Lord Mayor with a view to forming a central organisation for the more economical working of all the hospitals in the city and district." If carefully and tactfully managed such an organisation might do much to harmonise discordant and rival interests. It is not seemly nor does it show the spirit of true charity for medical charities to seek for custom—so to speak—and vie with each other as to the number of patients on their lists and it most certainly tends to bring about the abuse of charity by those able to pay.

Are Carlisle's Medical Charities Abused?

The above remarks on the medical charities of Manchester have their bearing on what is found in other places. It is not merely that charities suffer from lessening receipts but those rea [illegible] oo often by large nur [illegible] annual meeting on [illegible] Dispensary some striking facts were given by the Rev. Chancellor Prescott who said that when they added the total of their patients, 4825, to the 2882 out-patients attended at the Cumberland Infirmary they found there were between 7000 and 8000 persons receiving gratuitous medical attendance out of a population of 45,000, and this without taking into account those attended by the Poor-law medical officers. He thought this far too large a number and "the question arose whether people were receiving free medical attendance who ought not to be" If this is not the case Carlisle would seem to be very far from prosperous. It was suggested that a committee representing the various charities should inquire as to the existence of abuse. Is the old spirit of self-reliance and self-help departing and are the people becoming pauperised?

Small-pox.

Dr. J. Niven, the medical officer of health, was able to announce last week that Manchester is free from small-pox and this for the first time since the end of 1903. There are, however, said to be about 18 cases in Droylsden on the outskirts.

Royal Infirmary.

At the meeting of the infirmary board yesterday the architects reported that it was hoped to send the first bills of quantities to the competing contractors almost at once, that they would be in their hands by the end of March, and that the tenders might be expected to be in by the middle of April. A correspondence has taken place between the corporation [illegible] er of the Piccadilly site. The [illegible] provision made at the Stanley [illegible] The chairman of the [illegible] afterwards adopted, to [illegible] ct of 1903. The sch [illegible] afford twice the accommodation of the present one and when it was ready possession was to be given to the corporation. But as the Act imposed they would have to proceed with due diligence.

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[2] All the dates mentioned in this, as in the preceding letters, are according to the New Style

It was to their own financial advantage that the work should be carried on as expeditiously as possible and due diligence would be used.

Feb 28th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

The Leeds Workpeople's Hospital Fund.

THE seventeenth annual meeting of the supporters of the Leeds Workpeople's Hospital Fund has been held. Prior to 1887, when this fund was commenced, the medical charities received the workpeople's subscriptions through various channels and it was felt that if properly organised efforts were made and all subscriptions were paid into a common fund the amount obtained from the workmen of Leeds would be increased to a considerable extent. That this has been the case is shown by the fact that the total income for the year 1904 has amounted to the sum of £11,236, which with the balance brought forward from 1903 raises the total amount at the disposal of the committee to £12,565. During the 18 years of its existence the committee of management of the fund has admitted from time to time additional charities to benefit by the annual distribution of grants and some few years ago a new departure was taken when it was decided to institute convalescent homes to be acquired and to be supported from the general fund. At the annual meeting the following grants were decided on: Leeds General Infirmary, £5000; Leeds Public Dispensary, £750; Hospital for Women and Children, £750; Tuberculosis Association, £280; District Nurses' Association, £225; and some smaller grants. A sum of upwards of £2000 was carried to a reserve fund for the extension of convalescent homes.

The Sale of Poisons.

As was mentioned in my letter on Jan. 21st a fine was imposed on a Bradford druggist who was prosecuted by the Patent Medicine and Drug Vendors' Association for having sold Rankin's ointment. This preparation contains veratrine and it was held that the defendant had "sold a poison—to wit, veratrine—to a person then unknown to you, and not introduced by a person known to you." The case has been taken to the Court of Appeal. A case on precisely similar lines was heard by the Leeds stipendiary magistrate in which 15 chemists and druggists were charged with selling the same ointment under the same conditions. In evidence it was stated by Mr. F. W. Richardson, analyst, that the ointment contained 1·06 per cent. of veratrine, which represented a total amount in the box examined, which was one of those purchased, of 2⅖ grains. The stipendiary intimated that he would reserve judgment until the Court of Appeal had given its decision in the Bradford case. The defendants were also charged with selling Easton's syrup, which, of course, contains strychnine, under conditions at variance with the Act, but the hearing of this part of the cases was adjourned. At the instance of the Inland Revenue authorities a "general dealer" was summoned for selling a preparation liable to stamp duty without a stamp and without a licence. The preparation in question was that known as "daisy powders" which are believed to consist of antifebrin. The former charge was withdrawn as a conviction was obtained on the latter.

Professor Sims Woodhead on Temperance.

Professor G. Sims Woodhead is so well known to the medical profession that one was not surprised to find that an invitation issued to its members by the Lord Mayor of Leeds to hear him speak on "An Aspect of Physical Degeneration" was largely responded to. Professor Sims Woodhead introduced his subject by commenting on the report of the inter-departmental committee, saying that if actual degeneration in the national physique was not going on there was at least an interference with that natural rate of improvement which might be expected under improved conditions of sanitation. As causes of deterioration we had extreme luxury on the one hand and extreme poverty on the other, but with both was associated an excess in the use of alcohol. Luxury and alcoholism had a lowering effect on the birth-rate of the country and militated against the good nutrition of the child after birth. By lowering the wage-earning power of the parents and by using up money which otherwise might be spent on food alcohol lessened the chance which children had of being adequately fed. He also maintained that experiments, carefully conducted, had demonstrated that alcohol taken in amount much below what was usually regarded as excessive interfered with efficient brain work and he pointed to the fact that total abstainers were able to insure their lives at a lower rate than those who were not abstainers. Of course, it does not require Professor Sims Woodhead or anyone else to convince any thinking body of medical men that excess in the use of alcohol is damaging to the individual and to the nation on every ground, but opinions certainly do differ as to the precise point at which such excess begins. It had been announced that a discussion would follow on the paper and some disappointment was occasioned by the Lord Mayor stating that there was unfortunately no time for this. As between total abstinence and excess no one can hesitate but there are many thinking men who maintain that as against total abstinence a strict temperance is as favourable to health and is even a higher moral position.

Appointments at the University and Medical Institutions.

Dr. E. F. Trevelyan, who lately retired from the professorship of pathology, has been appointed to the lectureship on therapeutics and materia medica. Dr. A. E. Porter, the assistant medical officer of health of the city, has been appointed demonstrator of public health under Professor J. Spottiswoode Cameron. The election committee of the Hospital for Women and Children has selected Mr. J. F. Dobson for the new appointment of assistant surgeon for children, and the authorities of the Public Dispensary have secured the services of Dr. Oskar C. Gruner for the new post of honorary pathologist.

Feb. 28th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Public Slaughter-houses and Meat Inspection.

AT a meeting of the West of England and South Wales branch of the Incorporated Society of Medical Officers of Health held at Newport (Mon.) on Feb. 23rd Dr. J. Howard-Jones (medical officer of health of Newport) contributed a paper upon Public Slaughter-houses and Meat Inspection. The principal requirements necessary in a public slaughter-house he considered to be nearness to a cattle market and railway station to which a connecting siding should be constructed, a lairage with separate stalls and water-tight flooring, well-lighted and properly ventilated killing-rooms with impervious but not too smooth floors laid to a slope, absence of wooden fittings, the removal of waste in sealed wagons, separate stalls for hospital use and for killing and storing suspected carcasses, ample water-supply, and the provision of a destructor for treating inferior and condemned meat. Among 1083 towns in England and Wales there are at the present time only 84 public slaughter-houses. Included in this latter number are Cardiff, where there is no private slaughtering, and Newport and Swansea, where there are only two private slaughter-houses. London does not possess one public slaughter-house but has about 600 private ones. The value of the meat condemned annually in Newport is about £200. The system of insurance which has been in force in the town during the past two years was spoken of in favourable terms. The scheme involves the payment to the auctioneers by the dealers or farmers of 1*s.* per head of cattle sold. The auctioneers pay to the butchers two-thirds of the value of the animal thus insured in the event of its seizure and condemnation owing to the presence of tubercle. The unsatisfactory system of meat inspection in country districts was commented on by Dr. Howard-Jones who urged that no meat brought into a town which is provided with a public slaughter-house should be offered for sale until it had been inspected at the public slaughter-house and that every such carcass taken for inspection should have attached to it the heart, lungs, liver, and kidneys.

Merthyr Municipal Houses.

At the same meeting of the society Mr. D. J. Thomas (medical officer of health of Merthyr Tydvil) gave an account of the steps which had been taken by the urban district council of Merthyr to supply workmen's houses in that town.

In March, 1900, the council decided to build 100 such houses and secured suitable land for a term of 999 years at an annual rental of three-halfpence per square yard. The houses were built by contract for £15,950, but the making of the streets, law charges, payment of royalties for stone, gas fittings, and payments to the clerk of works involved an expenditure of another £2000, so that each house has cost £170. They are let at an inclusive rental of 22*s.* 6*d.* per month. The area at the rear belonging exclusively to each house measures 545 square feet. The houses are built in eight blocks on both sides of two streets 30 feet wide, with a secondary means of access 10 feet wide at the rear. A house contains on the ground floor two living rooms and a pantry and on the first floor there are three bedrooms. There are a separate coal-house and water-closet for each house. Mr. Thomas admitted that these houses at Merthyr did not meet the wants of a large class of men who, as labourers, earned less than 20*s.* a week and could not afford to pay in rent more than 3*s.* or 3*s.* 6*d.* a week, and he discussed the desirability of securing some of the more satisfactory of the older and insanitary property and by extensive repairs making them reasonably fit for human habitation. The requirements of the large number of single men who find employment in the ironworks and collieries he thought might be met by the provision of large lodging-houses of a better stamp than ordinary common lodging-houses.

The Medical Officer of Health of Gloucester.

At a meeting of the sanitary committee of the Gloucester city council held on Feb. 10th Dr. John Campbell handed in his resignation as medical officer of health of the city and port sanitary authority and asked to be relieved of his duties by March 25th, when he is about to leave the town. At a subsequent meeting of the committee it was decided to recommend the council to appoint a medical officer of health for the city and port at an inclusive salary of £400 per annum, his duties to include attendance at the isolation hospital and other duties to be formulated by the education committee. This recommendation was referred to the committee at the meeting of the council on Feb. 22nd in consequence of a communication received from the Local Government Board. The Board stated that it had come to the conclusion that where a sanitary authority secures the whole-time services of a medical officer of health whose training has had special concern with public health work apart from his ordinary professional qualifications it is desirable to insure that his position will be such as to enable him (1) to perform his important duties impartially and independently; and (2) to be regarded as in no way inferior to that of other medical men who are engaged in the general practice of their profession. It was further added that the Board was of opinion that the total salary of a medical officer of health who is so qualified and who devotes his whole time to his duties should not be less than £500 per annum. Dr. Campbell's salary was £250 per annum but he was not debarred from private practice.

Royal West of England Sanatorium at Weston-super-Mare.

The annual report of this convalescent home is usually of a satisfactory nature both as regards the amount of financial support given to it and the number of patients who receive permanent benefit from residence in the institution. In the early part of 1902 the whole of the drainage system was remodelled at a cost of about £2000 and the sanatorium was closed for four months while this work was being carried out. During the remaining eight months of that year 1668 patients were received, in 1903 there were 2254, and in 1904 there were 2353. Of these last 1140 were discharged fully recovered, 546 were much improved, 467 were improved, 62 were much the same as on admission or no better, one died from heart disease, and 120 were unfit cases for the home. The expenditure during 1904 amounted to £3904 and the income was £3838. At the general meeting of the subscribers held on Feb. 18th Dr. E. H. W. Swete drew attention to the number of patients sent in who were unsuitable for treatment in the sanatorium; he also referred to the excellence of the institution for the treatment of cases of pulmonary tuberculosis in the earlier stages of the disease. The sanatorium buildings are very well placed at the end of the promenade and overlook the Bristol Channel.

The Lord Chief Justice on Habitual Criminals.

When charging the grand jury at the Gloucestershire assizes on Feb. 18th the Lord Chief Justice said that he had for a long time been of opinion that habitual criminals or those who had sunk so low that imprisonment had no deterrent effect upon them should be detained in institutions other than prisons. He referred to them as persons who had a twist in their composition and upon whom prison discipline appeared to have little or no effect, who would never voluntarily work, and if allowed their liberty inevitably returned to crime for a livelihood. He asked the grand jury to express an opinion as to whether some alteration might not be made in the existing treatment of this class of criminals. It was a question, he said, which was being considered by His Majesty's judges and by the Home Secretary.

Action at Law against the Clevedon Urban District Council.

At the Bristol assizes, before Mr. Justice Lawrance, a jury awarded £50 as damages to the owner of some houses at Clevedon who alleged that his property had been depreciated in value owing to the negligence of the district council in not keeping in repair a sewer which was in proximity to the property and which caused considerable flooding of the premises.

South Devon and East Cornwall Hospital.

The annual meeting of the subscribers to this institution was held at Plymouth on Feb. 21st. The medical report stated that 1251 in-patients were admitted during 1904 as compared with 1336 in 1903, the out-patients for the corresponding periods being 3369 and 2976 respectively. The daily average number of in-patients was 119. The financial statement showed that the ordinary income, excluding legacies, amounted to £7631. The legacies received during the year were £8697 and enabled the committee to pay off the deficit on the current account for 1903 and 1904 and also to set apart an ample sum for investment. The ordinary expenditure was £8657.

Feb. 27th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland.

THE honorary Fellowship of the Royal College of Surgeons in Ireland was formally conferred on Dr. Anthony Traill, the Provost of Trinity College, on Feb. 25th, when he signed the roll as an honorary Fellow of the College. At the subsequent annual dinner the President, Mr. A. Chance, read a letter of apology from His Excellency the Lord Lieutenant which stated that he was obliged to go to London and said that no inference of a political character should be drawn from his regrettable absence. The toast of "The King," which was
usiastically honoured, as was
the Lord Lieutenant." The
Vice-President, Mr. H. R. Swanzy, proposed the toast of "The Provost—the new Honorary Fellow of the College." In reply, the Provost made a most interesting speech, in which he briefly traced the history of Trinity College since its beginning in the reign of Queen Elizabeth, referring especially, of course, to the long list of provosts who preceded him. "I take it," he said, "that this honour has been conferred upon me as a compliment to me as provost of Trinity College but principally because I occupy a unique position as the first medical and surgical provost since the foundation of the College by Queen Elizabeth. I am a Doctor in Medicine and also a Master in Surgery." In conclusion, the Provost said that there were 35 provosts since the College was founded and that during all those years there were only four lay provosts. Of himself he could say that he was the first to hold the degree of M.D. and M.Ch., which had that evening received the kindly recognition of that famous corporation. In reply to the toast of "The Guests," proposed by Sir Charles Cameron, Sir Antony MacDonnell delivered a clever speech which, however, was carefully reticent.

Royal National Hospital for Consumption for Ireland.

overnors of the Royal
s held in the hall of
nd on Feb. 24th, Mr.
e chair. In moving
said that it was of a
at last succeeded in
100 poor patients at
Newcastle, co. Wicklow, and that it was now occupied by 95 inmates. The adoption of the report was seconded by the

President of the Royal College of Physicians of Ireland. The Registrar-General, who was present, said that for the year 1903, the last year for which they had detailed figures, tuberculous disease stood at the head of the causes of death, the number of patients who succumbed to that malady in Ireland being 12,180, or 2·8 per 1000 of the estimated population. This showed an increase when compared with the previous year, 1902, the rate for which was 2·7 per 1000. What he stated sufficed to show the urgent need for a collective effort to combat the ravages of this dreadful scourge.

The Milk Question in Belfast.

AT a meeting of the Belfast public health committee held on Feb. 16th a deputation of citizens was received who urged that the Belfast city council should take steps to adopt stringent rules in reference to the milk-supply of Belfast. It appears that there is some power to control the milk trade in the city but no laws exist in reference to the milk coming from the surrounding districts outside the Belfast area. It is reported that the Vice-President of the Irish Agricultural Board, Sir Horace Plunkett, was urged to try to establish in various parts of Ireland dairies on the modern Danish system which would serve as object lessons to show how pure milk could be obtained and, it is said, he was willing to act with the municipal authorities. An immense deal needs to be done by the Belfast health authorities in reference to the milk problem which has been engaging so much of the attention of other municipalities in the United Kingdom. At a meeting of the public health committee held on Feb. 23rd the following motion was carried:—

> That, with a view of combating tuberculosis, the council be recommended, when [illegible] a bill in Parliament to include provisions giving power to [illegible] the supply of milk from any dairy inside or outside the city if their medical superintendent officer of health is of opinion that tuberculosis is caused, or is likely to be caused, to persons residing in the city, from consumption of the milk supplied from such dairy.

But, as pointed out in a local paper, the resolution does not go far enough, inasmuch as tuberculosis is not the only disease that may be transmitted by milk (it is probable that it is the least frequent disease conveyed directly by milk to man) and further, it is simply begging the question to do nothing until another Bill in Parliament is promoted (which may entail a delay of years) when by applying directly to the Local Government Board for a special order in the matter some immediate steps might be taken to insure a proper control of the milk-supply of Belfast, a procedure which should have been taken years ago.

The New High Sheriff of Belfast.

Dr. H. O'Neill, the first medical high sheriff of Belfast, was sworn in as high sheriff of the county and city of Belfast on Feb. 23rd and was afterwards in the police courts congratulated by the magistrates and the members of the legal profession. He has signalised his entrance upon the duties of his office by contributing the following sums to medical charities: Royal Victoria Hospital, £50; Mater Infirmorum Hospital, £10; Forster Green Hospital, £5; Home for the Blind, £5; Maternity Hospital, £5; Day Nurseries, Belfast, £5; Society for Providing Nurses for Sick Poor, £5; Samaritan Hospital, £5; Presbyterian Orphan Society, £5; Protestant Orphan Society, £5; and Domestic Mission to the Poor, Belfast, £5.

Royal Victoria Hospital, Belfast.

At a meeting on Feb. 15th of the board of management of the Royal Victoria Hospital, Belfast, it was moved by Mr. James Davidson, the treasurer, seconded by Professor J. W. Byers, and carried unanimously, that another unit consisting of 32 beds should be opened. This will be of great advantage to the medical staff, owing to the great difficulty at present to find beds for patients.

The Samaritan Hospital, Belfast.

At the annual meeting of the friends of this charity held on Feb. 20th it was reported that there had been during the year 435 extern and 134 intern patients, and of these latter 118 required surgical operation. Seven patients had died in hospital during the year. Financially there was a debit balance at the beginning of the year of £230 2*s.* 10*d.*, and at the end there was a debt of £191 15*s.* 10*d.* There are, however, investments amounting to £3110. Appreciatory speeches were made in reference to the good work done in the hospital. Dr. J. St. Clair Boyd was re-elected one of the honorary surgeons to the hospital.

The Irish Medical Association.

In several of the Irish daily newspapers reference has of late been made to the report presented to the council of the Irish Medical Association by its special commissioner, Surgeon-General G. J. H. Evatt. This report has never yet been circulated among the members of the Association, many of whom subscribed to a special fund to pay for the expenses of the commissioner. The main body of the profession are most anxious to see the report and feel aggrieved that a few privileged people are allowed publicly to discuss its contents while they remain in ignorance.

Feb. 28th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Tuberculous Milk.

AT a recent meeting of the Academy of Medicine M. Moussu read a paper upon the above subject with a view to affording an answer to the question as to whether tuberculous milk is or is not harmful. According to French law such milk may be sold for food if the tuberculous lesions in the cow are not very marked and provided that the teats are not affected. M. Moussu's experiments go to disprove this view and to show that the tolerance extended to such milk constitutes a real danger. By centrifuging tuberculous milk he was able to collect bacilli which when injected into animals rendered them tuberculous. Of five calves which were fed upon tuberculous milk two became tuberculous. From these results then it would appear that an alteration in the law is desirable.

An Apparatus for employing Continuous Extension in Fractures of the Leg.

Hitherto oblique fractures of the leg have been as a rule treated with the continuous extension apparatus of Hennequin. On Feb. 8th M. Nélaton showed to the Society of Surgery for M. Ombredanne an apparatus devised by the latter. M. Ombredanne's apparatus differs from that of Hennequin in that the plaster boot employed by the latter is replaced by one made of felt, by which the liability to pressure sores is avoided. The plaster channel (*gouttière*) of the Hennequin apparatus is also modified so that there is no danger of any antero-posterior movement.

The Eventual Results of Resection of the Head of the Femur in Irreducible Dislocation of the Hip-joint.

At the meeting of the Society of Surgery held on Feb. 15th M. Walther showed a man upon whom ten years previously he had performed Ricard's operation, excision of the head of the femur, for an old irreducible dislocation of the hip-joint. Despite a shortening of nine centimetres in the affected limb the man was able to walk well, thanks to a high-soled boot. The movements of the joint were very satisfactory and it appeared that a new head had been formed at the expense of the neck of the femur, which had been placed in the acetabulum.

Radium in the Treatment of Skin Diseases.

At a meeting of the Hospitals Medical Society held on Feb. 10th M. Danlos said that in his experience radium was of value in only three kinds of skin disease, namely—tuberculous leprosy, a form of epithelioma (*épithelioma perlé*), and vascular nævus. He added that radium is of value in these diseases only in cases where they exist in a very limited form. Moreover, it is not superior to older methods of treatment. When the lesions in which it is of use are widely spread the x rays give better results and radium possesses merely a provisional superiority for use in cavities such as those of the nose or the larynx which are difficult to reach with the x rays. If, however, radium were to become cheaper it would probably be preferred to the x rays, for its application is much simpler and practically no apparatus is required. But until such a desirable condition is a reality it may be said that the future is with radium and the present with the x rays.

Urban Sanitary Regulations.

A police magistrate has recently given judgment in a case in the following circumstances. Manufacturers of ice are legally liable to deliver such ice in vans which are plainly labeled, "Ice for human consumption," or "Ice not for human consumption." This edict annoyed certain manufacturers who found a way of evading it. Accordingly, one of them was summoned by the police and was fined five francs.

Feb. 28th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Berlin Court of Honour.

THE Berlin Medical Chamber has published an interesting statistical summary of the work of the court of honour connected with the chamber. The report says that in 1904 there was 1607 medical men under the jurisdiction of the Berlin court of honour which includes the city of Berlin and the province of Brandenburg. The number of cases standing over from the preceding year as not yet settled on Jan. 1st, 1904, was 82, whilst 166 new informations were lodged against medical men during the year 1904. 60 informations came from private persons, 42 from public authorities, 55 from other medical men, six were anonymous, and in three cases medical men asked the court to give a judgment in doubtful questions of medical etiquette. Of these 248 informations 121 proved at once to be unfounded, in 11 a penalty was inflicted without formal proceedings being taken, and in six cases the court declared itself incompetent to deal with the charge. In 27 cases a formal trial took place before the court. In six of these the proceedings came to an end without judgment being pronounced as the accused was found to be innocent; in 13 cases a verdict of "Not guilty" was pronounced; one warning and two reprimands were given. In four cases the accused were reprimanded and directed to pay fines varying from 100 to 300 marks (from £5 to £15); and in one especially grave case in addition to a reprimand and a fine of 3000 marks (£150) the privilege of voting in the elections was withdrawn. Apart from the disciplinary proceedings, the court was asked in 41 cases to settle controversies between medical men. The number of 248 penal cases appears to be rather great in comparison with the total number of 3607 medical men in Berlin and the province of Brandenburg and to be a much higher proportion than the number of penal cases brought before the British General Medical Council which has jurisdiction over all the medical men of the United Kingdom. It must be remembered, however, that the state of the law is different in the two countries. Whereas the General Medical Council has to pass judgment only in cases of "infamous conduct" and to decide whether the offender's name is to be erased from the Register the duties of the courts of honour in Germany are more complex though their power is less than that of the General Medical Council. Cases which in England can only be decided by the courts of law, such as actions for the recovery of fees, may in Germany be brought before the courts of honour. It is worthy of note that in the great majority of cases the court did not open a formal prosecution against the accused because the question was not believed to have anything to do with professional etiquette. It is easy to molest a German medical man by informations lodged against him as he may eventually be asked to justify his conduct; the court will accordingly decide whether a formal prosecution is necessary or not. On the other hand, even when gross misconduct is proved the courts of honour have only the power to fine a medical man but not to deprive him of the status of a [illegible] case in England. On [illegible] to be preferable, being [illegible] less harassing to the [illegible]

Inoculation of Medical Men with Syphilis at Surgical Operations.

At a recent meeting of the Berlin Medical Society Dr Blaschko read a paper on the above subject. He said that he had himself observed 12 cases of syphilis contracted by medical men in the course of professional work; the liability of practitioners to contract the disease was therefore rather considerable. The primary ulcer as a rule was situated on a finger and early diagnosis was somewhat difficult, the lesion being mistaken for furuncle, herpes, and tubercle. Infection took place either by wounds sustained at operations on syphilitic patients or when at an examination of such patients the virus entered through a small fissure of the skin. In one case infection occurred at a necropsy. There was no absolute protection against such an accident; a too energetic disinfection of the hands by chemical agents should even be avoided because the skin became rough and full of fissures; plain washing with hot water and soap was sufficient. Lesions of the skin must be cauterised by nitrate of silver or tincture of iodine and protected by adhesive plaster and collodion. When symptoms of constitutional infection were developed medical men were apt to become somewhat despondent and to be haunted by apprehensions of tabes and progressive paralysis. The cases of syphilis observed by Dr. Blaschko in members of the profession were, however, far from being serious. The question whether a syphilitic practitioner might continue to practise was not easy to answer. Theoretically he of course ought to abstain from doing so but this was scarcely possible for the great majority of medical men. A medical man ought, however, to abstain from surgical work as long as a primary ulcer existed on his finger.

Neurasthenia in a Russian Naval Officer.

An interesting case was shown by Dr. Holländer at a recent meeting of the Berlin Medical society, the patient being a lieutenant in the Russian navy who took part in the defence of Port Arthur and eventually suffered from neurasthenia after an attack on his vessel in the course of which two Japanese sailors tried to strangle him. To escape suffocation he threw himself, together with his assailants, into the sea, became unconscious, and only awoke three weeks afterwards in a Japanese hospital. When Dr. Holländer saw the patient he suffered from marked spasm of the respiratory muscles, fainting fits, and hystero-epileptic convulsions. As the dyspnœa gradually increased and the patient was likely to die from suffocation Dr. Holländer performed tracheotomy, the result being that the respiration at once became normal and when the cannula was removed 12 days later the dyspnœa had totally disappeared. The spasms recurred afterwards but they were comparatively mild and took place only at long intervals.

Feb. 27th.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Hermann Gutzmann has been recognised as *privat-docent* of Internal Medicine.—*Brussels:* Dr. Jean Coppez, Director of the Ophthalmological Clinic, is retiring.—*Innsbruck:* Dr. Franz Bruno Hofmann, assistant to Professor Hering of Leipsic, has been appointed to the chair of Physiology which has been vacant since the death of Professor von Vintschagau several years ago.—*Marseilles:* Dr. Guende has been promoted to the professorship of Clinical Ophthalmology and Dr. Perrin to that of Clinical Dermatology.—*Naples:* Dr. Donato Greco has been recognised as *privat-docent* of Surgery.—*Odessa:* [illegible] been promoted to the ordinary [illegible] and Dr. A. V. Korsh to that of [illegible] Dr. Segond, *agrégé*, has been promoted to the professorship of Operations and Appliances.

UNIVERSITY OF OXFORD.—In a Convocation held on Feb. 21st the University formally accepted the offer of Mr. Alfred Beit to found a professorship, lectureships, and a prize for an essay in colonial history and recorded its deep gratitude to him for his munificence.—The examination for the degrees of B.M., B.Ch., will commence on Thursday, June 22nd, and will be held in accordance with a time-table published in the University *Gazette* of Feb. 21st.—Natural science scholarships are announced for competition as follows: March 14th, Keble College; May 2nd, Merton College and New College; and July 4th, Brasenose College.

LITERARY INTELLIGENCE.—Two books have just been issued by Messrs. J. and A. Churchill which are of interest to lecturers on medicine and human physiology. "A Text-book of Physiological Chemistry," by Dr. Charles E. Simon, late assistant resident physician at Johns Hopkins Hospital, Baltimore, is designed as a text-book for the lecture room and as a guide in the physiologico-chemical laboratory. In the first section of the work a general survey is given of the origin and the chemical nature of the three great classes of food-stuffs and also of the most important products of their decomposition; the second section deals essentially with the processes of digestion, resorption, and excretion; while the third portion of the work is devoted to the chemical study of the elementary tissues and the various organs of the animal body, the specific products of their activity, and their relation to physiological function. "A German-English Dictionary of Terms used in Medicine and the Allied Sciences," by the late Mr. Hugo Lang, edited and completed by Dr. Bertram L. Abrahams, assistant physician to the Westminster Hospital, is issued by the same firm. Great care has been used in the completion of the work which is the only recent one of the kind available to students.

VACCINATION GRANT.—Mr. H. C. P. Masser, M.R.C.S. Eng., public vaccinator of the Foleshill and Sowe and Stoke districts of the Foleshill union, has again received the Government grant for successful vaccination.

THE LATE MR. A. K. CROSSFIELD.—An excellent painting of the late Mr. Arthur Kyffin Crossfield, L.R.C.P., L.R.C.S. Edin., has been presented to the Dartmouth Cottage Hospital by the committee of that institution in memory of the valuable services which he rendered to the hospital as one of the honorary medical officers. The picture will be hung in the committee room.

OBSTETRICAL SOCIETY OF LONDON AND THE EXAMINATION OF MIDWIVES.—The last examination of midwives held by the board established by the Obstetrical Society of London for the purpose took place last week, concluding with the oral examinations on Feb. 23rd and 24th. There were 674 candidates. 559 passed and will receive the society's certificate. Since the institution of the board in 1872 the grand total of candidates amounts to 12,805, of whom 10,581 have received certificates. The examination of midwives will be conducted henceforth by the Central Midwives Board.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, MARYLEBONE-ROAD, N.W.—The annual meeting of governors of, and subscribers to, Queen Charlotte's Hospital was held on Feb. 27th, Mr. F. W. Hunt presiding. The chairman referred to the great loss that the hospital had sustained by the death of the Earl of Hardwicke who had ably filled the office of chairman of the committee for over six years. The report stated that 1456 women had been delivered in the hospital during 1904 and 1754 had been attended and nursed in their own homes. The ordinary expenditure had amounted to £5829, whereas the ordinary income was £5093 only, including £500 from King Edward's Hospital Fund and £683 the proceeds of the concert given by Madame Melba in aid of the hospital. The legacy under the will of the late Edmond Dresden, to form the "Dresden Assistance Fund" (to be applied solely for the purpose of assisting patients on leaving the hospital), had been received and would enable the committee to help a considerable number of necessitous patients. In order to provide for the increased number of patients and nurses the Nurses' Home had been enlarged by purchasing three houses adjoining the home and three rooms in the hospital had been converted into wards, increasing the total accommodation for patients to 69 beds. An expenditure of over £4000 had thereby been incurred, towards which the committee earnestly appealed for contributions.

CENTRAL MIDWIVES BOARD.—The members of the Central Midwives Board met on Feb. 23rd at 6, Suffolk-street, Pall Mall, London, Dr. F. H. Champneys being in the chair. A letter was received from the clerk of the Lindsey county council inclosing a copy of a resolution of the Midwives Act committee of that council regretting that the stringency of the regulations of the Central Midwives Board involves the retirement from practice on April 1st next of a large number of midwives who have hitherto satisfactorily discharged their duties. It appeared that in Lindsey only five women out of a total of 94 carrying on the work of midwives have applied for certificates under the Act. The clerical work required by the Board's regulations seems to be objected to specially by these women. As the Central Midwives Board has no dispensing power the secretary was directed merely to acknowledge the receipt of the letter. A letter was received from the Herefordshire County Nursing Association inclosing a copy of a resolution passed by the general county committee of that association protesting against the rule prohibiting a midwife from undertaking the duty of laying out the dead. It was asserted that the usefulness of the midwives in country districts was thereby seriously hampered. The secretary was directed to write stating that the resolution has been taken note of by the Board. On the motion of Miss R. Paget, seconded by Mr J. Latter, the Board resolved "that no institution with les than 75 deliveries annually shall be approved as a trainin school." The total number of women on the roll of mid wives on Feb. 23rd was 15,490.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Public Health Acts Amendment Bill.

The object of Sir ALFRED HICKMAN'S Bill to amend the Publ Health Acts, to which reference was made in THE LANCET Feb. 25th, is to save corporate bodies the expense of obtaining Ac of Parliament to enable them to deal with various matters such sanitary provisions, streets, buildings, sewers, infectious disease milk-supply, common lodging houses, and recreation grounds. I previous sessions the Bill was twice read a second time; it was al referred to a select committee and finally adopted by the Governme which promised to legislate in the King's Speech of 1903.

Registration of Nurses.

Mr. MUNRO-FERGUSON has introduced a Bill to regulate the qua fications of trained nurses and to provide for their registration. It h the support of Dr. R. FARQUHARSON, Mr. R. B. HALDANE, Sir THOM WRIGHTSON, Sir JAMES JOICEY, Mr. HUGH CRAWFORD SMITH, M BLACK, Mr. EVE, and Dr. E. C. THOMPSON.

The Pharmacy Bill.

The text of the Pharmacy Bill, which was brought in last week Mr. LOUGH, has now been circulated amongst Members, together with memorandum which summarises the objects desired as follows:—(*a*) check the modern and growing practice on the part of a duly qualifi person to open and to carry on divers shops for the sale of poisons where adequate protection is not afforded to the persons frequenting the su by providing that every such shop shall be under the *bonâ-fide* person conduct and supervision of a duly qualified person; (*b*) to p an end to the abuses at present attending the hawking of poiso and better to regulate the sale of the same by providing th no poison shall be sold except in a shop which shall first ha been duly registered; (*c*) to provide for the maintenance of a regist of shops where poisons may be sold and also a register of the dr qualified druggists *bonâ fide* conducting each such shop, and to enal the registrar from time to time to make corrections in, and additions the same; (*d*) to provide that the compounding of prescriptions sh be in the hands only of persons duly qualified to sell "poisons"; (*e*) require that companies keeping open shops for the sale of poisons sh have that portion of their business managed by a duly qualified drugg as director; (*f*) to extend to corporate bodies certain of the provisic of the Pharmacy Acts, 1852 and 1868, from which they are at present exempt by reason of the decision of the House of Lords in the case The Pharmaceutical Society *v.* The London and Provincial Supply Association, Limited, Law Reports, 1880, Appeal Cases, 857; and (*g*) to facilitate the examination of persons desiring to qualify as chemists and druggists and to enable the Pharmaceutical Society to accept certain certificates of kindred bodies in lieu of examination.

Housing of the Working Classes.

A Bill to amend the Housing of the Working Classes Acts and otherwise to facilitate the building o houses for the working classes in rural districts has been read a first time at the instance of Sir WALTER FOSTER.

HOUSE OF COMMONS.

WEDNESDAY, FEB. 22ND.

Ventilation and Sanitation at Westminster.

Mr. WYLIE asked Lord Balcarres, as representing the First Commissioner of Works, what had been done during the recess for improving the ventilation and sanitary arrangements of the House of Commons buildings; and what, if anything, still remained to be done to fulfil the recommendations of the committee's report on this subject.—Lord BALCARRES replied: During the recess the recommendations of the select committee of the House of Commons with reference to the ventilation have been carried into effect with the exception of the completion of the extract fan. This has been delayed by reason of structural difficulties incidental to the floor of the Commons lobby chamber but it is expected that this fan will be running within a month from the present date. The principal improvements already effected are: (1) the complete washing of the air by means of a new type of water screen; (2) the erection of a much more powerful intake fan; and (3) the more effective isolation of passages joining the main airways. This will be followed by experimental tests having in view the better distribution of air to the Chamber and also by tests of the air so distributed. It is hoped that the works already completed will result in a very considerable improvement in the quantity and the quality of the air-supply.

The War Office and Medical Science.

In the debate on the amendment to the Address which raised the question of army reform Sir WALTFR FOSTER discussed the lessons in connexion with the applications of medical science to be drawn from

THURSDAY, FEB. 23RD.

Vaccination Exemption Certificates.

Mr. WEIR asked the Home Secretary whether he was aware that Mr. James Richards of Tunbridge Wells appeared on six different occasions before the local bench of magistrates before he could procure a certificate of exemption from vaccination for his infant child and, seeing that on each occasion he based his objection on the same ground, would he consider the advisability of directing the attention of the bench of magistrates to the remarks made by the Lord Chief Justice on July 27th last when addressing the grand jury at Birmingham relative to the principle on which the Act ought to be administered.—Mr. AKERS-DOUGLAS replied: I have no information respecting the case referred to. The attention of magistrates has already been drawn by a circular issued in September last to all justices' clerks to the

Heavy Infant Mortality in Egypt.

Mr. WEIR asked the Under Secretary of State for Foreign Affairs whether he was aware that in Egypt one-third of the children of the native population died within 12 months of birth and that another third died before they reached five years of age; and whether he would consider the expediency of suggesting to the Government of Egypt that some inquiry should be made with a view to arrest this heavy infant mortality.—Earl PERCY answered: No, Sir, we have no such information.

An Irish Bishop and the Care of Lunatics.

Mr. SLOAN asked the Chief Secretary for Ireland whether he was aware that Dr. Kelly, Roman Catholic Bishop of Cloyne, had been permitted by the Lord Lieutenant, and contrary to the advice and remonstrance of the inspectors of lunatic asylums, to detach 350 lunatics from the County Asylum in Cork and to lodge them in an unused industrial school at Youghal, which he had prepared for this purpose, that the bishop received a capitation grant for each patient, that there was no resident medical officer to take charge of these patients nor any qualified nurses in charge of them, that the house built and arranged for a medical officer had been handed over to the

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Recommendations of the Committee on Physical Deterioration

Dr. MACNAMARA asked the First Lord of the Treasury whether he
would afford the Ho
recommendations of
Mr. BALFOUR said
discussing this topic.

Experiments on Animals.

Mr. TOMKINSON asked the Home Secretary whether his attention had been called to the cases tried in Bedford police court on Feb. 9th last in which fines were imposed for the stealing of cats and in which evidence was given that large consignments of cats had been sent by one of the defendants to a house in

these laboratories informs me that the cats were purchased in the
ordinary way from a dealer in cats a
director) nor anyone else connected
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s which had been received from
ght be inspected by any persons
who had lost cats. If animals are obtained in an improper manner the offenders are amenable to the ordinary law and in the present case a conviction has been obtained.—Sir FREDERICK BANBURY asked the Home Secretary whether his attention had been called to the evidence given in the case at the Bedford police court on Thursday, Feb. 9th, when three men were convicted of cat stealing, to the effect that the animals stolen by these men were consigned to the licensed vivisectors' laboratory at Herne Hill and whether, in these circumstances, he would institute inquiries as to the sources from which animals are generally obtained by vivisectors for the purpose of experiments.—Mr. AKERS DOUGLAS replied: The facts of this matter are given in my answer to the previous question. As I there stated persons who improperly obtain possession of animals can be dealt with by the ordinary law. It would be beyond the functions of the Secretary of State, under the Act 39 & 40 Vict., Cap 77, to institute such general inquiries as are suggested by the honourable baronet, but I am always ready, as in the present instance, to investigate any particular case in which alleged abuses are brought to my notice.

Irish Local Government Board and Maternity Nursing.

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Mr. O'DONNELL also asked the Chief Secretary for Ireland whether he was aware that the Local Government Board had issued a sealed order compelling the Claremorris board of guardians to elect a trained maternity nurse for the Ballyhaunis dispensary district, that the medical officer and other representative men from the district swore there was no necessity for the appointment of such a nurse, that there were two medical men and two trained maternity nurses already practising in that district, and that the evidence of the relieving officer of the district showed there was an average of only three or four applications from the poor each year for assistance; that some of the parties whose names were put to a memorial praying for a nurse had repudiated all knowledge of the matter; and, if so, whether he would give instructions to have the sealed order withdrawn.—Mr. WYNDHAM replied: The evidence of the medical officer at the local inquiry was not to the effect alleged. His evidence clearly showed that no provision existed for the skilled nursing of midwifery cases amongst the poor and that the appointment of a midwife for the purpose was essential. He stated that the births during the past three years averaged 282; that two deaths had occurred in the same

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rvices are not,
therefore, available for the poor free of charge. It is not proposed to withdraw the sealed order

Physique of Recruits.

Sir JOHN GORST, in the course of the resumed debate on army reform, made some remarks about the physique of recruits. He said it was the worst kind of economy to take men of inferior health and

took very great care
were kept in efficient
hat care by the fact
of their populations.
it he hoped that the

FRIDAY, FEB. 24TH.

Allegations against Asylum Nurses.

Mr. SLOAN asked the Chief Secretary for Ireland whether his

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MONDAY, FEB. 27TH.

Epidemics in Highland Schools.

in view of the insani-

Board for Scotland, to visit the island in order that a report as to the best mode of dealing with the insanitary conditions might be secured and considered.—The Lord Advocate said: The Local Government Board is prepared to entertain the suggestion made by the hon. Member and will endeavour to arrange for a report to be prepared by one of its staff as soon as his other duties permit.

Recommendations of the Committee on Physical Deterioration.

Sir John Gorst asked the Home Secretary what steps His Majesty's Government was taking to carry out any of the recommendations of the Committee on Physical Deterioration which related to matters within the jurisdiction of his department.—Mr. Akers-Douglas said: I fear I cannot undertake to answer in detail as to those of the committee's proposals in which my department is concerned. Some of these proposals appear to be put forward as suggestions for further consideration rather than as definite recommendations, and I could not take steps to give effect to them without first collecting more information than has been obtained by the committee. Perhaps I may be allowed to say briefly that the committee's recommendations, several of which are engaging my attention, will not be lost sight of. The important subject of defective children, to which the committee refers in recommendation No. 53, is now made the consideration of a Royal Commission.—Dr. Macnamara: May I ask whether it is still the view of the Government that it cannot do anything in favour of the recommendation prohibiting cigarette smoking among children?—The Speaker: Order, order.

Sir John Gorst asked the President of the Local Government Board what steps were being taken to carry out the recommendations in so far as they came within the jurisdiction of his department.—Mr. Long replied: The recommendations made by the committee are very numerous and so far as they relate to matters within the province of my department effect cannot be given to any of them without legislation. A committee which I have appointed, after consultation with the Home Secretary, is inquiring into one important matter referred to by the committee—viz., vagrancy—and I am giving consideration to other subjects referred to in the report so far as I am concerned in them.—Sir John Gorst: May I ask whether one of these subjects is the regulation of the milk-supply?—Mr. Long replied that that was an extremely difficult and involved matter which did not come under his department alone, but it was under consideration.

Sir John Gorst further asked the Secretary to the Board of Education what action he was taking on the report.—Sir William Anson answered: The recommendations which would appear to fall within the existing administrative powers of the Board of Education are recommendations Nos. 17, 18, 20, and 37. The Board had had under its consideration for some time the subjects of these recommendations and had taken, and is taking, steps which it hopes may be of some practical utility on the lines indicated in the report. It is also taking steps, so far as legislation is not involved, to give effect to recommendation No. 35.

Vaccination of School Teachers.

Mr. Weir asked the Lord Advocate whether he was aware that the Scottish Education Department recently declined to allow the Renfrew Landward school board to engage a girl as a pupil teacher on the ground t[illegible] he would explain [illegible] egard to the fact [illegible] t did not indicate [illegible] appointment; and whether he would state why a pupil teacher who had had small-pox was not accepted as eligible for appointment unless successfully vaccinated.—The Lord Advocate answered: It is the fact that the department declined to recognise a girl as a pupil teacher on the ground that she had not been vaccinated. The rule on which this decision was based is a general one imposed in the interests of the health of the children. As regards the last part of the question no case of the kind referred to has yet called for the department's decision

Medical Officers in the Highlands and Islands.

Mr. Weir asked the Lord Advocate whether the Local Government Board had yet considered [illegible] creasing the number of medical officers for [illegible] counties and rearranging the area under their [illegible] Lord Advocate replied: The Local Government Board has long advocated the appointment of a separate medical officer for the islands pertaining to the counties of Inverness and Ross and has reason to believe that the proposal is favourably regarded by the county councils concerned. The views of the Local Government Board regarding the Poor-law medical relief in the Highlands and islands at large are fully set forth in the report of the Board's departmental committee issued a year ago.

Guardians and Medical and Surgical Appliances.

Mr. Sheehy asked the Chief Secretary for Ireland whether he was aware that the Local Government auditor had surcharged three members of the Killadysert union £6 18*s.* 2*d.*, being for medical and surgical appliances; and that the [illegible] Local Government Board; and, [illegible] sustained by the Local Governm[illegible] for [illegible] he facts are correctly stated. Th[illegible] upheld by the Local Government me[illegible] urged represented the cost of me[illegible] er and above the reasonable wa[illegible] payment was excessive and exorbitant.

Tuesday, Feb. 28th.

Underfed Children.

Dr. Macnamara asked the Secretary to the Board of Education whether any local education authorities had either petitioned or forwarded resolutions to the Board of Education in favour of such an extension of their powers as would enable them, out of the funds at their disposal, to provide food for underfed children on the lines suggested in the unanimous recommendation of the Committee on Physical Deterioration (1904).—Sir William Anson replied: The Board [illegible] the lines referred to in the question from [illegible] education authorities: in May, 1904, from [illegible]; in December last from Sheffield county orough; and in January last from Tottenham urban district.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Addison, William B., M.B., B.C., M.R.C.S., L.R.C.P. Lond., has been appointed a Medical Referee under the Workmen's Compensation Acts, 1897 and 1900, and to act for Croydon and Epsom County Courts in County Court Circuit No. 45.

Aldous, G. F., F.R.C.S. Edin., has been appointed Assistant Surgeon to the East Cornwall Hospital, Plymouth.

Blackburn, C. B., M.D. Syd., has been appointed Honorary Pathologist to the Royal Alexandra Hospital for Sick Children, New South Wales.

Bradley, J., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Gortin District of the county of Tyrone.

Broadbent, P. L., M.B. Syd., has been appointed Junior Medical Officer in the Lunacy Department, New South Wales.

Cooper, H. W., M.D., has been appointed Government Medical Officer and Vaccinator at Wyong, New South Wales.

Fox, E. L., M.D. Cantab., has been appointed Physician to the East Cornwall Hospital, Plymouth.

Graham, A. W., M.B. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Port Health Officer at Beauty Point, Tasmania.

Gruner, O. C., M.B. Lond., has been appointed Honorary Pathologist to the Leeds Public Dispensary.

Killick, C. R., M.B. Lond., L.S.A., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Williton District of the county of Somerset.

Lucy, R. H., M.B., C.M. Edin., has been appointed Surgeon to the East Cornwall Hospital, Plymouth.

Morrice, George Gavin, M.A., M.D. Cantab., M.R.C.P., has been appointed Honorary Physician to the Dorset County Hospital.

Myles, Thomas William, B.A., M.B., B.Ch. Irel., R.N., has been appointed temporarily Surgeon to the Plymouth Division of Royal Marines.

Pardey, J. M., M.B., Ch.B., has been appointed Honorary Medical Officer to the Launceston Hospital, Tasmania.

Patterson, D. Wells, M.B., B.S. Durh., has been appointed Honorary Physician to the Hospital for Diseases of the Skin, Newcastle-on-Tyne.

Pope, G. Stevens, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Medical Superintendent of the Somerset and Bath County Asylum, Wells, Somerset.

Prendergast, J. J., M.D. Dub., has been appointed Local Health Officer at Strahan, Tasmania.

Rendle, C. E. Russell, L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Surgeon to the East Cornwall Hospital, Plymouth.

Smith, E. G., M.R.C.S., L.R.C.P. Lond., has been appointed Anæsthetist to Out-patients at the East Cornwall Hospital, Plymouth.

Soltau, Bertram, M.D. Lond., has been appointed Physician to the East Cornwall Hospital, Plymouth.

Webber, H. W., F.R.C.S. Edin., has been appointed Assistant Surgeon to the East Cornwall Hospital, Plymouth.

Whiteford, C. Hamilton, M.R.C.S., L.R.C.P. Lond., has been appointed Anæsthetist to In-patients at the East Cornwall Hospital, Plymouth.

Whiteford, W. Crosbie, has been appointed Anæsthetist to In-patients at the East Cornwall Hospital, Plymouth.

Whipple, C., L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon to the East Cornwall Hospital, Plymouth.

Wilmott, Robert, F.R.C.S. Edin., has been appointed Official Visitor to the Hospital for the Insane, Launceston and New Norfolk, Tasmania.

Woollcombe, W. L., L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon to the East Cornwall Hospital, Plymouth.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Birkenhead Borough Hospital.—Assistant Honorary Medical Officer.

Birkenhead Union, Infirmary, Workhouse, and Sanatorium.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

Bradford Children's Hospital.—House Surgeon. Salary £100.

Brighton Throat and Ear Hospital, Church-street, Queen's road.—Non-Resident House Surgeon for six months, renewable. Salary at rate of £75 per annum.

Bristol Royal Infirmary.—Honorary Physician.

Carlisle, Cumberland Infirmary.—Resident Medical Officer. Salary at rate of £80 per annum, with board, lodging, and washing.

Cheltenham General Hospital.—Junior House Surgeon, unmarried. Salary £50 per annum, with board and lodging. Also Surgeon-in-Charge (unmarried) of Branch Dispensary. Salary £90 per annum, with board and lodging.

City of London Hospital for Diseases of the Chest, Victoria-park, E.—Resident Medical Officer. Salary £100 per annum, with board, &c. Also Pathologist. Salary 100 guineas per annum.

Dudley, Guest Hospital.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

Dumfries and Galloway Royal Infirmary.—Assistant House Surgeon. Salary £25 per annum, with board and washing.

Evelina Hospital for Sick Children, Southwark, S.E.—Physician to Out-patients. Also Eight Qualified Clinical Assistants, out-patient department.

[illegible]

Salary 50 guineas per annum.

HAMPSTEAD GENERAL HOSPITAL.—Resident Medical Officer for six months, renewable. Salary at rate of £120 per annum and allowance for rooms.

LEEDS GENERAL [illegible] Salary £100 per annum, [illegible]

[illegible]

&c.

MIDDLESEX HOSPITAL, W.—Second and Third Assistants to the Director of the Cancer Research Laboratories. Salaries £125 and [illegible]

[illegible] cal Officer.

[illegible] PARALYSED [illegible] Physician [illegible]

NORFOLK AND NORWICH HOSPITAL.—Second Assistant House Surgeon for six months. Honorarium £20, with board, lodging, and washing.

NORTHAMPTON GENERAL HOSPITAL.—Assistant House Surgeon, un- [illegible]

OL [illegible]

RO [illegible]

[illegible] Soho.—Honorary Assistant [illegible]

[illegible] CHEST, City-road, E.C.— [illegible] ry at rate of £60 per annum, [illegible]

[illegible] OF THE, 18, Victoria street, [illegible] Salary £1 per diem.

[illegible] Ill End.—Junior Assistant [illegible] with board, lodging, and washing.

SALOP INFIRMARY.—House Physician for six months, renewable. [illegible]

[illegible]

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Winterton, in the county of Lincoln; and at Doune, in the county of Perth.

Births, Marriages, and Deaths.

BIRTHS

COLMAN.—On March 1st, at 9, Wimpole-street, W., the wife of W. S. Colman, M.D., F.R.C.P., of a son.

LANGDON-DOWN.—On Sunday, Feb. 26th, 1905, at Normansfield, Hampton Wick, to Reginald L. Langdon-Down, M.B., M.R.C.P., and wife—a son.

[illegible]

FOR [illegible] b, Langham place, [illegible] e Rev. E. Forbes, [illegible] erset, to Muriel [illegible] Watson Paul, of [illegible]

DEATHS.

ALLEN.—On Feb. 25th, 1905, at 3, Carlisle parade, Hastings, Ella Louise Katherine, wife of Bryan H. Allen, M.D., and daughter of the Rev. R. H. Dover, late vicar of Wilsden, Yorkshire, aged 56 years.

HAL [illegible] Halse- [illegible] land, [illegible]

KER [illegible] n her [illegible]

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

HARVEY AND FINCH: A REMARKABLE MS.

IT will no doubt interest most of our readers to know that Messrs. Sotheby, Wilkinson, and Hodge, will include in a sale at their rooms on March 4th a folio MS. Common-Place Book, in the original calf binding, of the celebrated lawyer, Heneage Finch, afterwards Earl of Nottingham and Lord Chancellor, which contains two pages with long and curious medical directions in the autograph of his far more illustrious uncle and physician, Dr. William Harvey, written in 1647, when Harvey was aged 69 and Finch 26 years. As the sale catalogue states, "Even the signature of this great anatomist is of the utmost rarity. *Nowhere else outside the British Museum can so much of his handwriting be found as in the present MS.*, which came from Miss Finch of Maidstone at her death some 40 years ago." The well-known antiquary and Harveian scholar, Mr. W. J. Harvey, has examined the MS. and added several interesting particulars, stating that probably the medical directions alluded to above were for the relief of rheumatism, from which it is not generally known that Finch suffered in his younger years. Mr. Harvey has discovered [illegible] death), mentioning *inter alia*, "Our present Lord Chancellor was for many years in his younger days much grieved with a rheumatism, and never could get a cure for it until he followed the advice of his brother, Sir John Finch, and Dr. Baines, both newly returned from Italy, which was to drink three pints of Bordeaux claret every day. If you should object to me, my Lord Chancellor's gout and stone, I can answer that neither of these seized him till many years after his use of wine, and may very justly be attributed to his much setting." The interest and the importance of the MS. Common-Place Book are, however, vastly increased by the remarkable anticipation of the electric telegraph and wireless telegraphy which it contains on p. 467.

AN IMPROVED HAMMOCK FOR INVALID RAILWAY TRAVELLERS.

To the Editors of THE LANCET.

SIRS,—May I add my testimony to the value of the improved hammock for invalids travelling? I [illegible] King's Cross to Cambridge and back [illegible] journey I was in the hammock and [illegible] restful and comfortable. We travelle [illegible] test more severe were at the end of the train. There was absolutely no lateral swaying, no jarring, and vibration was reduced to a minimum so as to be scarcely perceptible. The only movement was a rocking from head to feet whilst passing over points or round sharp curves, and [illegible] hern Railway inspector [illegible] It is much to be hoped [illegible] railway companies and [illegible] neans to travel in ease and comfort.

I am, Sirs, yours faithfully,

THE MOTHER OF AN INVALID.

Feb. 25th, 1905.

SUPERFLUOUS HAIRS.

M.B., having read Dr. Balmanno Squire's article on enelectrolysis which we published last week, asks for further advice from our readers in the treatment of superfluous hairs occurring on the chin, putting the following questions: Has treatment by the x rays any advantage over electrolysis? Is either a permanent cure? Is there any scarring where the x rays are used? Do the x rays inhibit a further accumulation of new hairs or do they only destroy those already existing?

THE REMOVAL OF BODIES.

[illegible] ambulance should have been requisitioned, which would have been preposterous. Ambulances are intended and used for conveying patients to the hospitals and it would not tend to make them popular vehicles for that purpose if it were known that they were also used for carrying dead bodies. The charge of brutality seems unfounded. A stretcher was taken into the house, the body was placed upon it, covered up, and carried away on the "hand ambulance," as it is called—that is, the framework with wheels on which the stretcher is placed. No doubt the method might be improved on. It is not a pleasant spectacle to see this gruesome carriage with its dead or injured burden wheeled along the street, but at present there seems no way of avoiding it. The coroner said that personally he should like bodies removed in an undertaker's van but he had no power to order it. In connexion with this case the chief constable reported to the watch committee that every consideration was shown to the relatives and every possible respect paid to the body. If the committee provided a special van the police would use it for the purpose. It may be hoped that this concession to a widespread and instinctive feeling may be made.

INCURABLE PATIENTS.

To the Editors of THE LANCET.

SIRS,—May I inquire through your columns if any of your readers know of an institution which takes in incurable patients *on payment?*

I am, Sirs, yours faithfully,

JOHN GAY.

137, Upper Richmond-road, Putney, S.W., Feb. 21st, 1905.

SOME QUESTIONS WITH REGARD TO MILK-SUPPLY.

To the Editors of THE LANCET.

SIRS,—1. Supposing pastures are manured by human excrement from pails or middens or with farmyard manure early in April and cows are turned out to graze on the same pastures in May, can the milk obtained from these cows be pure and wholesome? I have noticed a large mortality amongst lambs on such pastures.

2. Suppose milking-cows have for their only drink in the long hot summer days water from stagnant pools—say a pool 20 feet in diameter and two feet deep for a dozen cows—beautifully iridescent on the surface, which also reveals the distended bellies of dead pups and kittens, the cows stand in the pool and further pollute it, can the milk obtained from these cows be pure and wholesome? I am told that this is "all right, cows prefer such water." It appears to me that unless the milk is pure as it comes from the cow's udder no subsequent processes to which it may be subjected can make it into a wholesome "food."

I am, Sirs, yours faithfully,

Feb. 26th, 1905. C. C.

THE CASE OF DR. A. D. GRIFFITHS.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me to acknowledge the receipt of the following additional contributions?

I am, Sirs, yours faithfully,

ALEXR. P. FIDDIAN, Treasurer.

23, The Walk, Cardiff, Feb. 28th, 1905.

	£	*s.*	*d.*		£	*s.*	*d.*
Amount previously acknowledged	40	6	6	Mr. D. Valentine Rees...	0	10	6
Mr. G. Baynton Forge...	1	1	0	Mr. Griffith Griffiths ...	0	10	6
Dr. D. Cargill Martin ...	1	1	0	Mr. T. J. Webster	0	10	6
Mr. H. C. Bevan	1	1	0	Mr. E. Rice Morgan ...	0	10	6
Dr. Frank G. Thomas ...	1	1	0	Mr. W. F. Brook	0	10	6
Mr. B. Dayman	1	1	0	Mr. G. Arthur Brown ...	0	10	6
Mr. Pierce Nagle Creagh	0	10	6	Mr. H. T. Evans	0	10	6
Mr. W. W. Leigh	0	10	6	Mr. J. F. Neville	0	10	6
Dr. J. D. Jenkins	0	10	6	Mr. J. D. O'Sullivan ...	0	5	0
Mr. J. S. H. Roberts ..	0	10	6	Dr. W. D. Steel	0	5	0
Dr. W. Wilson...	0	10	6	Dr. Thomas Evans... ...	0	5	0
				Mr. W. Morgan	0	5	0

Nemo.—1. If the person responsible for the payment has given the patient into Dr. B's charge and if the patient's parents have not signified to Dr. B any desire that their child should be in other hands we think it will be difficult to formulate any charge of unprofessional behaviour against Dr. B. 2. This question is practically answered above, but if Dr. B has heard from Dr. A that the child's parents do desire, despite their silence, that he should be attended by their medical man—viz., Dr. A—we think that Dr. B might well associate Dr. A with him in the case.

Amicus.—It appears that B and C having their headquarters quite near each other have now, each of them, got a branch or agency centre at the other's door. We do not in those circumstances think either can be said to have a grievance against the other, but if a sense of wrong exists it would be better that they should refer the matter to a common friend, agreeing to abide by his decision. The situation is one upon which professional colleagues should not quarrel.

G. T. W.—We agree with our correspondent that his dismissal by postcard was discourteous but it must not be assumed that all postcards are read at the post-office and discussed afterwards by the public or that the medical man designed any injury.

Sufferer.—We are unable to find our correspondent's name in the Medical Directory, so that he will not be surprised to find that we are unable to publish what amounts to a serious charge against one of his teachers whom, by the way, he does not specify.

D.P.H.—(A) We know of no convalescent homes exactly of the sort that our correspondent wants where such small payments would be taken. (B) There would be no harm in returning the circulars in the way suggested.

Disgusted.—We cannot subscribe to the doctrine that if B goes back on his word A is entitled to do the same. A should keep his promise despite the absence of a stamped agreement.

Visitor can obtain the information that he seeks from Dr. Dawson Williams, 2, Agar-street, Strand, London, or Dr. W. Jobson Horne, 27, New Cavendish-street, Portland-place.

M.R.C.S.—The treatment is rubbish.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (8th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.).

THURSDAY (9th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M., [illegible] North-West London (2 P.M.), Gt. Northern [illegible] Metropolitan (2.30 P.M.), Lond[illegible] (2 P.M.), Samaritan (9.30 A.M. an[illegible] (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (1[illegible] St. Bartholomew's (1.30 P.M.), St. Thomas's [illegible] Cross (3 [illegible] (2 P.M.), [illegible] Northern Central (2.30 P.M.), West London [illegible] Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Royal Ear (10 A.M.).

SATURDAY (11th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (6th).—MEDICAL SOCIETY OF LONDON (11, Chandos street, Cavendish-square, W.).—9 P.M. Dr. G. H. Savage: Mental Disorders of Decay. (Lettsomian Lecture.)

TUESDAY (7th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—Prof. W. D. Halliburton: Recent Researches on Proteid Chemistry and Proteid Diet.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—5 P.M. Adjourned Discussion on the Subsequent Course and Later History of Cases of Appendicitis after Operation (opened by the President, Sir R. Douglas Powell). Dr. Hawkins, Mr. Lockwood, Mr. Battle, Sir William Bennett, Mr. Mayo Robson, and *others will take part in the discussion.*

WEDNESDAY (8th).—BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Discussion on the Ethics of Health Resort Treatment (opened by Dr. L. Williams).

DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Demonstration of Cases of Interest.

HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M. Pathological Evening. Exhibition of Specimens.

THURSDAY (9th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. F. Edge. Paper:—Dr. I. Parsons: The Choice of Treatment for Fibromyoma of the Uterus.

HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M. Mr. M. Morris: Some Modern Therapeutic Methods in Dermatology, with Cases treated by the *Roentgen and Finsen Rays.* (Harveian Lecture.)

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-square, W.).—8 P.M. Clinical Meeting. Cases will be shown by Mr. E. Chatterton, Mr. C. Blair, Mr. A. Ogilvy, Mr. J. H. Parsons and Mr. A. Lawson, Mr. J. H. Parsons, Mr. R. E. Bickerton, and Mr. H. McMullen.

FRIDAY (10th).—THE INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH (9, Adelphi-terrace, Strand, W.C.).—7.30 P.M. Discussion of the Causes of the Increased Prevalence of Anthrax in Great Britain (opened by a paper read by Prof. S. Delépine).

CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.15 P.M. Mr. J. Berry will exhibit a Case showing the Result of a Rhinoplastic Operation; a paper will be read at a subsequent meeting. 8 30 P.M. Papers:—Dr. W. H. White: A Case of Acute Rheumatoid Arthritis (with epidiascope demonstration).—Dr. B. Abrahams: Arthritis Deformans and its Allies.—Mr. D. Drew: Three Cases of Stenosis of the Ureter.

BR[illegible] GICAL ASSO- [illegible] Cavendish- [illegible] Nourse, Dr. [illegible] Lodge, Mr. [illegible] S. Wallace's [illegible]

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (6th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. J. Galloway: Clinique. (Skin.) 5.15 P.M. D[illegible]

POST-GRADUATE COLL[illegible] road, W.).—5 P.M. D[illegible]

TUESDAY (7th).—ROYA[illegible] Mall East).—5 P.M. [illegible] Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. C. T. Williams: Clinique. (Medical.) 5.15 P.M. Dr. P. Stewart: Gaits and Postures in Organic and Functional Diseases.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Ll. Williams: Children's Teeth and their Diseases.

NATIONAL HOSPITAL F[illegible]

[illegible] ES' COLLEGE AND POLY- [illegible] Mr. J. Cantlie: Clinique. [illegible] ann: The Treatment of [illegible] lum).—3 P.M. Dr. [illegible] (Gray's Inn road, [illegible] Nasal and Aural Accessory Sinuses.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. H. W. G. Mackenzie: The Selection of Cases for Sanatorium Treatment.

THURSDAY (9th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M. Dr. T. M. Legge: Industrial Anthrax. (Milroy Lecture.)

[illegible] eet, [illegible] P.M. [illegible] ith- [illegible] of [illegible] THE [illegible] er: [illegible] iate Course.)

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone road, N.W.).—3 P.M. [illegible]

THE HO[illegible] W.C.).—4 P.M. [illegible]

FRIDAY [illegible] POLYCLINIC (22, C[illegible] Clinique. (Eye.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.) 5 P.M. Dr. Abraham: Cases of Skin Disease.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Mr. M. Gunn: Optic Atrophy.

NORTH-EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture:—Dr. R. M. Leslie: Prognosis in Acute Pulmonary Affections.

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We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1904, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Mar. 2nd, 1905.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall	Solar Radia in Vacuo	Maximum Temp Shade.	Min. Temp	Wet Bulb	Dry Bulb.	Remarks at 8.30 A.M.
Feb. 24	29 92	E.	0·03	42	42	37	38	38	Overcast
" 25	29·95	S W.	...	73	47	38	38	39	Raining
" 26	29 41	S.W.	...	51	47	39	43	44	Raining
" 27	29 20	S.W.	0 21	62	49	35	39	40	Fine
" 28	29 31	S W.	0·02	77	47	35	34	36	Cloudy
Mar. 1	29 28	S W.	..	59	44	35	36	37	Overcast
" 2	29 85	N.E.	0·05	59	43	36	37	39	Cloudy

During the week marked copies of the following newspapers have been received:—*Westminster Gazette, Irish Times, Surrey Advertiser, Reading Mercury, Literary Digest (New York), Scientific American, Journal of the Society of Arts, Mining Journal, Daily News, Liverpool Post and Mercury, Daily Chronicle, Standard, Western Mail (Cardiff), Aberdeen Weekly Free Press, Plymouth Mercury, Freeman's Journal, Hertfordshire Mercury, Windsor and Eton Express, Guernsey Star, Pall Mall Gazette, Belfast Whig, Halifax Courier, &c.*

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ON

PERITONITIS, A BACTERIOLOGICAL STUDY.

Delivered before the Royal College of Surgeons of England on Feb 20th 22nd, and 24th 1905,

BY LEONARD S DUDGEON, M R C P LOND, M R C S ENG,

SUPERINTENDENT OF THE CLINICAL LABORATORY AND DEMONSTRATOR OF CLINICAL PATHOLOGY AT ST THOMAS S HOSPITAL GILLSON SCHOLAR IN PATHOLOGY OF THE SOCIETY OF APOTHECARIES ERASMUS WILSON LECTURER ROYAL COLLEGE OF SURGEONS OF ENGLAND

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RESIDENT ASSISTANT SURGEON AT ST THOMAS S HOSPITAL ERASMUS WILSON LECTURER ROYAL COLLEGE OF SURGEONS OF ENGLAND

LECTURE III[1]

Delivered on Feb 24th

THE FUNCTIONS OF THE PERITONEUM

MR PRESIDENT AND GENTLEMEN,—It is customary to regard the peritoneum as a vast lymphatic space of great absorptive power Whatever may be the extent to which this power is exercised in the normal state it is certain that, under abnormal conditions, the peritoneum is capable of absorbing large quantities of fluid That which is left in the peritoneal cavity after copious flushing and closure of the abdomen is transferred to the circulation with such rapidity as to be credited with a therapeutic action of the same nature as an intravenous infusion a theory which receives support from the observation that if such a case proves fatal there is at the necropsy practically no fluid remaining even when the patient has survived the operation only a few hours Wegner found that a dog s peritoneum is capable of absorbing in one hour an amount of fluid equal to from 3 to 8 per cent of the animal s body weight Dubar and Remy found the thoracic duct of a rabbit greatly distended in as short a time as five minutes after a large intraperitoneal injection of albuminous fluid The greater the percentage of albumin, however, the less rapidly was the absorption effected

This power of absorption is one of the factors to which the comparative safety of abdominal operations is largely due, for various fluids, even in large quantity, which at times soil the peritoneum during an operation can be safely disposed of The peritoneum in fact to expand a trite expression, performs its own toilet This function however can only be exercised within certain limits and it is to the factors lying beyond these limits that we must look for an explanation of many of the phenomena of peritonitis It is important in the first place to understand in what manner and by what channels this absorption is effected The normal peritoneum is, save for the exception of the Fallopian tube in the female a closed sac, closed microscopically as well as macroscopically It is no longer held that the cavity communicates directly with the lymphatic system Muscatello has shown the picturesque stomata of the older writers to have no greater significance than errors of histological technique His researches showed that not only are there no stomata between the endothelial cells but that there are not even any subendothelial lymphatic spaces over by far the greater part of the serous membrane of the abdominal cavity The lymph spaces which underlie the endothelial covering of the diaphragmatic peritoneum are absent from that which is disposed over the viscera and abdominal wall His experiments with carmine upon the peritoneal cavities of dogs showed that the diaphragmatic is the only part of the peritoneum where solid particles are absorbed into the lymphatics and that there is normally a lymph flow towards the diaphragm independent of, but influenced in point of time by, gravity

The structure of the diaphragmatic peritoneum is completely different from that of the rest of the serous membrane It presents innumerable pits or wells, perpendicular

Muscatello observed coloured particles taken up first into these intertendinous pits and then into the lymphatics This transfer is carried out entirely by means of phagocytes and is accomplished with extraordinary rapidity, for Dubar and Remy found particles of carmine in the thoracic duct only seven minutes after intraperitoneal injection The irritation of the peritoneum with foreign substances is the signal for the entrance of numbers of phagocytic cells in a clear fluid exudate, the number being proportionate partly to the time which has elapsed, but chiefly to the nature of the substance which has called them upon the scene Sections of the diaphragm in cases of peritonitis show the lymphatic spaces crowded with leucocytes laden with bacteria

Whatever absorption cannot take place by the lymphatic channel must do so by means of the blood stream directly and it is this which constitutes one of the greatest perils of peritonitis It is questionable whether the healthy peritoneum allows the absorption of anything but fluids to take place by this means but damage to the protective endothelial covering will render it possible Provided that this endothelium is uninjured, bacteria and other foreign substances will within limits be safely disposed of by the lymphatic route, but damage will at once permit absorption to take place by the vascular route Indeed, a parallel exists between the peritoneum and the skin The uninjured hand may be soaked with virulent material with impunity, but an abrasion may determine a rapid and even fatal absorption The extreme delicacy of the peritoneal membrane, in its thickest part not more than 120μ in depth, renders it particularly susceptible to injury and we have evidence to show that some at any rate of the fatal cases of peritonitis are due to a true septicæmia In cases of peritoneal infection, however, the patient s safety does not depend solely upon the integrity of the endothelium The most rapidly fatal organism in peritonitis in the human subject is the streptococcus pyogenes In cases dead of this infection there is observed an entire absence of agglutination of the intestinal coils a phenomenon which is early observed in the case of an infection to which the peritoneum reacts and this fact goes hand in hand with the differing behaviour of the leucocytes in the two

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Sections of intestine from a case of gastric perforation operated upon 16 hours after the onset which proved fatal from shock almost immediately after the operation but with very little naked eye evidence of peritonitis show the endothelial layer intact and covered with a microscopic deposit of fibrin in the meshes of which are entangled, innumerable leucocytes There is also seen a round celled infiltration of the subendothelial tissues which, however becomes less as the lumen is approached, whilst the mucous membrane is unaffected At this stage then the endothelial layer is as it were sandwiched between the fibrinous deposit and the underlying area of round celled infiltration Turning now to the diaphragm in a case of peritonitis from appendicitis of five days duration which proved fatal almost immediately after a limited operation we see this deposit very much more marked the subendothelial infiltration more intense and the endothelial layer itself indistinguishable A more advanced instance still is that of a case of chronic suppurative peritonitis which proved fatal seven weeks after the opening of an appendix abscess Here there are enormous thickening of the peritoneum degeneration of the underlying muscle and disappearance of the endothelial layer The deeper layers of the deposit are organised into fibrous tissue and as the cœlomic surface is approached this tissue is less and less perfectly organised until at the surface itself we come to the amorphous fibrinous deposit which is seen in the other cases

We conclude that this fibrinous deposit serves a protective function both limiting the absorption of toxic material into the subperitoneal blood vessels and at the same time preventing the further egress of organisms from the intestine into the peritoneum The absence of this deposit from the most acute cases of all allows a fatal issue to occur from hæmic absorption. Another way in which this fibrinous deposit serves as a protective measure is by the agglutination of intestinal coils whereby a localisation of infection may be brought about.

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[1] Lectures I and II were published in THE LANCET of Feb 25th (p 473) and March 4th (p 540) 1905 respectively

If the peritoneal infection subsides before the endothelium is irrevocably destroyed then the fibrin will be absorbed and the peritoneum resumes its normal appearances, although in consequence of the subendothelial infiltration it will remain permanently thickened. This explains the almost miraculous disappearance of adhesions which is the wonder of the surgeon when he comes to reopen the abdomen some months after the occurrence of an intraperitoneal abscess. The permanent thickening explains, in part at any rate, the resistance to infection which is conferred upon the peritoneum after a previous inflammation. If, however, the endothelium has been destroyed and the fibrinous deposit has had time to organise, then persistent adhesions must result. It will be seen that the pulling off of fibrinous plaques at an operation is to be deprecated as it lays bare the subperitoneal vessels for absorption and that any rough handling which damages the endothelium is likely to be rewarded by the formation of persistent adhesions. It will also be seen that the thorough cleansing of the peritoneum by washing is not only, as is shown in another place, undesirable but a physical impossibility.

What happens when micro-organisms are introduced into the peritoneal cavity depends upon the virulence of those organisms and their power of so damaging the endothelial covering as to gain access to the subendothelial tissues, upon the power of the individual to produce a leucocytosis, and upon the ability of the phagocytes so produced to deal with the organisms. We believe the virulence of the organisms and the rapidity with which they are introduced to be of greater importance than the actual dosage. It is notorious that in many pelvic operations large quantities of purulent fluid may escape into the peritoneal cavity with impunity; the explanation lies in the extremely low degree of virulence of the organisms commonly met with in gynæcological work. Again, peritoneum soiled as it must be with intestinal contents during anastomotic operations under healthy conditions rarely becomes the seat of a spreading inflammation of any consequence, but similar operations undertaken during intestinal obstruction, when the virulence of the intestinal organisms is exalted, are attended with a much greater risk.

We have thought it advisable to eliminate the term "general" as applied to peritonitis, since it is used loosely in two very different senses. By some the term is used to signify that the inflammatory process involves the whole peritoneal surface and by others that it is unlimited by obvious adhesions and is in the process of spreading after the fashion of a cutaneous erysipelas. For the former meaning we have adopted the name *universal* and for the latter *diffuse*—a term which implies no expression of opinion as to the extent of the infection but merely that it is unlimited by definite adhesions. By adhesions we mean every stage from the mere agglutination of neighbouring peritoneal areas to definitely organised tissue.

From the appearances seen at operation it is impossible to form an opinion of any value as to the extent of the peritonitis present. It is customary to gauge it by the degree of redness and distension and by the naked eye appearance of the exudate but we are convinced that none of these criteria are trustworthy. J. W. Crile has shown that the stimulus supplied by opening the abdomen and manipulating the intestines is sufficient to produce a rapid dilatation of the vessels of the splanchnic area. If one watches a given coil of intestine during an abdominal operation one is struck with the rapidity with which the appearance alters. A coil which, on opening the abdomen, appears flabby and slate-coloured or quite pale, on exposure and manipulation takes on first a general flush and soon afterwards one can see the subperitoneal vessels mapped out in a pattern. At the same time the lumen appears to fill with gas and to become distended. If the operation is prolonged or the manipulation is at all violent the changes are such that an observer seeing it for the first time would pronounce some degree of peritonitis to be present. These changes occur much more rapidly in conditions of obstruction or peritonitis, so that at the end of the operation the peritonitis appears to be more severe in degree and extent than at the beginning. To estimate the peritonitis present, then, even by the usual criteria, the observation must be made immediately the abdomen is opened. Now if, as Crile holds, shock is due to reflex vaso dilatation of the splanchnic area then such a condition as the crushing of a limb will be accompanied unseen by an increased vascularity of the intestines. Shock from the sudden strangulation of a hernia or the perforation of a gastric ulcer will be accompanied by similar changes so that on opening the abdomen a more extensive degree of peritonitis will appear to be present than is actually the case when tested by bacteriological means.

Many experimenters have shown that the natural resistance of the peritoneum to infection can be artificially increased. Issaeff in 1894 was the first to show that various sterile solutions previously injected into the peritoneal cavity of guinea-pigs could render that membrane more or less refractory to infection with certain pathogenic organisms. In the following year Melsome and Cobbett, working with cultures of streptococci, showed that an immunity could be produced by successive minute inoculations. H. E. Durham obtained similar results in rabbits from preliminary injection of sterile fluids. More recently, Salieri, and Miyake working under Professor von Mikulicz, have confirmed these observations and succeeded in producing an artificial immunity in animals by preliminary intraperitoneal injections of sterile saline solution, nucleic acid, and other substances. The protection thus afforded is, as Durham pointed out, due in large measure at any rate to the appearance in the peritoneal exudate of certain phagocytic cells. The question arises whether this artificial protection has any counterpart in the natural events of peritonitis. We believe our observations to show that it has.

We can draw no hard and fast line between intestinal obstruction and peritonitis. Every case of obstruction may be regarded as an early stage of peritonitis, for to that end it will undoubtedly come if unrelieved, either by perforation or the wandering of organisms through the damaged intestinal wall. Similarly a quantity of blood or other sterile fluid, too large to be safely disposed of by absorption or encapsulation, will sooner or later be the cause of peritonitis, the organisms arriving we do not know exactly how, but in all probability from the intestine thus irritated by its presence. We have been struck with the extreme ease with which organisms do make their way into the peritoneal cavity in many abnormal conditions, even in the early stages of congestion in many cases of obstruction. The organism which, as we have shown in a very large number of cases, usually is the first to make its appearance in the peritoneal cavity is the staphylococcus albus. We have found it in almost every variety of peritoneal lesion which has come under our notice. As a general rule it is to be found on the peritoneal surface at a distance from the focus of most severe disturbance and in association with numbers of phagocytes. It is an organism of very low virulence. Present in many cases of intestinal obstruction and of strangulated hernia it does not produce, when once the obstruction has been relieved, fatal peritonitis and rarely suppuration of the parietal wound; present beyond the area of acute infection in cases of appendicitis it produces no spreading peritonitis when the abscess has been opened or the appendix removed; present invariably in the bloody exudate of ruptured tubal pregnancy it produces in most cases nothing more than a febrile disturbance of little moment. In guinea-pigs it can be inoculated intraperitoneally without fatal effect. The effect which, as we have seen, it does produce is to determine the advent of numbers of phagocytic cells. Again, in cases of spreading peritonitis the outlook is better when this organism is found beyond the area of most intense infection in a remote region of the peritoneal cavity.

All these facts lead us to the conclusion that the staphylococcus albus exercises some sort of protective action in peritonitis and that by determining the advent of phagocytes. It, therefore, in nature, takes the place of those chemical substances which have been found by Miyake and others to be capable of producing an artificial immunity. How or why this staphylococcus appears upon the scene we do not know and we are unable even to hazard a guess.

Having arrived, however, it seems to provoke the appearance of a clear fluid exudate which soon becomes turbid from the presence of innumerable phagocytic cells and the more turbid it becomes the more it appears to the surgeon as something to be washed away. Later the more virulent organism, in the majority of cases the colon bacillus, appears, and it is upon the start, so to speak, which the staphylococcus has had, and the ability of the individual to respond to the call, that the prognosis to a large extent *depends, provided that the natural safeguard is not interfered* with by violent treatment Generally speaking, we conclude that if in a case of peritonitis the staphylococcus albus is found alone in a remote region of the peritoneum the outlook is much better than if it is found in association with the colon bacillus, and that if the colon bacillus is found alone in this remote region the patient will die

As the staphylococcus albus is usually the first to appear, so it is the last to disappear when the individual has overcome the infection, for it has been found to persist in some cases in the peritoneal cavity long after the other organisms have vanished This may serve to explain the comparative rarity with which acute infective appendicitis occurs if there have been previous attacks By far the largest number of the so called fulminating cases of appendicitis are first attacks

There is a second way in which the staphylococcus albus [illegible] protective action and that is by

In many cases cultures

[illegible] itoneal adhesions, in the stage when they exist only as coagulated fibrinous exudate, show this organism to be present A good instance of this, in our series, was a case of dysenteric hepatic abscess with adhesion formation From what we have stated the question naturally arises whether it is possible to form an opinion as to the probable course of a case of peritonitis from an examination of the exudate Culture methods, from the time consumed, would be of little value, although the colon bacillus can be identified in as short a time as three hours from broth cultures incubated at 37° C , but we believe that it is possible to make a prognosis from the microscopical examination of films taken from a remote region of the peritoneum If phagocytic cells are abundant and if cocci, other than streptococci, are present the prognosis should be favourable If *bacilli also are present, but if cells are* abundant and cocci predominate, the outlook is more grave but not necessarily hopeless But if cells are scanty and disintegrated and bacilli are alone or predominate, or if streptococci are present, then the case may be regarded as hopeless

As a result of our observations we have been led to formulate a theory which appears to us to explain many of the phenomena of peritonitis In every class of case we have found the staphylococcus albus to be the first organism to appear in the peritoneal cavity and it is only reasonable to assume that it makes its way out, if, indeed, it does come from the intestine at the point of most severe damage But where the damaged intestine is of large extent, as in a volvulus, for example, we find that organism distributed indiscriminately over a very [illegible]

followed at a later period, if the obstruction is unrelieved, by other organisms, notably the colon bacillus Similarly, in peritonitis of intestinal origin due to causes other than obstruction we believe that organisms make their way out, not only at the primary focus but also from each successive portion of intestine as it becomes inflamed and distended If this is so then several of the phenomena of peritonitis are accounted for which otherwise it is difficult to explain First, it accounts for the rapidity with which a vast area of peritoneal surface becomes involved and that in spite of any paralysis which may be present Secondly, that the stimulus for the advent of enormous masses of phagocytes is rapidly applied over a large area Thirdly, that the staphylococcus albus is so frequently found in advance of the other organisms present Fourthly, that we so frequently find organisms on the surface of the gut but not always, in the same cases in the exudate They are practically never found in the exudate when they are not present on the gut surface This is an observation which has been made by other observers, notably Durham, who attributed it to the deposition of organisms from the exudate upon the peritoneum in much the same manner that organisms tend to settle to the bottom of a culture tube in which they are growing Lastly, this view explains how it is that in a subsiding peritonitis residual abscesses may be formed in any situation and without any direct connexion with the original focus of infection

PERITONITIS ARISING FROM INFLAMMATORY DISEASES OF THE FEMALE PELVIC ORGANS

No instance of puerperal peritonitis has come under our notice but we may accept the statement which has been *made by a large number of observers that such cases are of* streptococcic origin, and, indeed, clinically they resemble the examples of streptococcic peritonitis arising from other causes which we have examined The peritonitis which arises from a pyosalpinx is of quite a different character and neither the clinical course nor the bacteriological findings in our cases support the view that the inflammatory condition in salpingitis favours the development of pyogenic organisms other than the gonococcus and that it is these organisms which give rise to the peritonitis

The causal relation of the gonococcus to peritonitis is one which, although difficult of *proof, may be* considered to have been definitely established Wertheim as long ago as 1891 showed that the gonococcus could produce a localised peritonitis in animals He recovered this organism in pure culture from the seropurulent exudate Kelly, in 1898, however, stated that in many hundreds of bacteriological examinations he had never been able to demonstrate the gonococcus as the etiological factor in the production of septic peritonitis In one of his cases he writes "A pyosalpinx had ruptured some days before the operation and pus containing myriads of gonococci lay free in the pelvis but there was no peritonitis ' In the following year, however, Cushing published two cases of gonorrhœal peritonitis which were operated upon and recovered In both of these gonococci were demonstrated in films of the peritoneal exudate and from one he grew the gonococcus No other organisms were found Hugh Young has succeeded in cultivating the gonococcus upon the same medium from cases of gonorrhœal peritonitis The bacteriological evidence afforded by the few cases in which the organism has been demonstrated definitely by culture methods is supported by many others in which Gram negative intracellular *diplococci have been found in films of the peritoneal* exudate but where cultures have remained sterile, and by others, again, of a definite peritonitis dependent upon salpingitis in which no organisms have been demonstrated, for these cases go at any rate to show that such a peritonitis is not dependent upon any of the easily cultivated pyogenic organisms

In five out of eight cases examined cultures from the peritoneal exudate and from the interior of the tubes were found to be sterile although numerous culture media were employed—namely broth, agar and blood agar, and glucose broth for anaerobic cultures In one case, however, large numbers of diplococci, chiefly intracellular, were found in film preparations from the peritoneal exudate and also from the interior of the Fallopian tube The organism failed to retain Gram s stain, although the morphological characters of the coccus were not absolutely typical of the gonococcus It is most probable however, that the organism was the gonococcus, although we failed to cultivate it This is the only case in which probable gonococci were found In one case we isolated the staphylococcus albus from a localised intraperitoneal abscess connected with a left pyosalpinx In the other cases we failed to cultivate any micro organism *from* either the peritoneal exudate or from the interior of the tubes This is of interest owing to the recent views which we have already referred to—namely, that salpingitis is frequently due to the common pyogenic cocci

We have four examples of diffuse peritonitis spreading from a pyosalpinx The onset was sudden but the progress of the symptoms was not very acute, the interval between onset and operation being 5 10, 14 and 20 days respectively In two the pulse rate was 120 before operation, with elevation of the temperature to 102° F. ; in the other two the temperature was only slightly above the normal and the pulse was not *accelerated . In all there was an odourless* peritoneal exudate, clear in three slightly turbid in one, and in each instance it was distinctly viscid The peritoneum was reddened in the neighbourhood of the uterine appendages but there was no intestinal distension—a point of interest in view of the fact that no organism could be cultivated from the exudate In two of these cases intracellular diplococci were seen in the film preparations but all remained sterile to cultivation whatever medium was employed The treatment was the same in each instance—namely, removal of the Fallopian tube, lavage of the pelvis with sterile saline solution, and drainage—and all the patients recovered We consider *these four cases to be* examples of diffuse gonorrhœal peritonitis

We conclude that the gonococcus causes a peritonitis which may be diffuse or localised; that it possesses a very slight degree of pathogenicity when introduced into the peritoneal cavity; that although the onset may be sudden the subsequent symptoms are those of a very low form of peritonitis; that intestinal distension is usually absent; and that the prognosis is very favourable. We believe the relatively low rate of mortality in these cases to be due not to any special properties of the pelvic peritoneum, but to the low degree of virulence possessed by the organisms present in the Fallopian tubes. Andrews, in 1904, published the results of bacteriological examinations of the interior of the tube in 684 collected cases of pyosalpinx. The diagnosis in most instances was based upon microscopy only; in some upon both films and cultures and in a few upon animal experiments. The result showed 5 per cent. to be sterile, 22·5 per cent. to contain the gonococcus, 6 per cent. saprophytes only, and the rest a variety of pyogenic organisms. It is true that these figures are based largely upon very incomplete bacteriological examinations and must therefore be received with a good deal of reserve but they go to show what a small proportion of cases of pyosalpinx constitute any grave danger to the peritoneum.

Peritonitis arising from suppurating ovarian cysts.—Of these we have examined three cases. In two the lethal organism proved to be the colon bacillus; in the third the streptococcus pyogenes. These three cases present several points of interest. In the first place the colon bacillus may be the cause of a fatal peritonitis arising from a lesion wholly unconnected with the intestinal tract. In one example it was already present in the peritoneal cavity at a distance from the original lesion when the operation was undertaken; in the other there was no diffuse peritonitis at the time of operation, but doubtless the colon bacillus, liberated by opening the abscess, infected the peritoneum. The third case was one of streptococcus infection of an ovarian cyst and the resulting peritonitis followed the usual course of a streptococcic peritonitis. In the two cases in which the peritonitis was diffuse at the time of operation the staphylococcus albus was present in a part of the peritoneal cavity remote from the point of most intense inflammation, and here the intestines were distended. In this respect these cases are strictly comparable to many of the cases of peritonitis arising from other lesions, notably from disease of the vermiform appendix.

INTESTINAL OBSTRUCTION

The simplest form of peritonitis arising in connexion with the bowel is that which results from the early stages of intestinal obstruction. We have studied 100 cases of intestinal obstruction from the bacteriological point of view and have found micro-organisms present in 48 instances. The 47 cases of strangulated hernia which are included in this series will be considered separately because the mechanical conditions present render it impossible to ascertain the condition of the peritoneum at a distance from the site of the obstruction. It has long been known that the fluid in the sac of a strangulated hernia may contain micro-organisms.

[Previous observers—namely, Nepveau, 1867; Garré, 1886; Clado, 1889; Bönnecken, 1890; Tavel and Lanz, 1893; and Rodella, 1903—were here referred to.]

Our tables include 47 cases of strangulated hernia. Cover-slip preparations were made of the fluid in the hernial sac in 33 of these cases, in 31 of which no micro-organisms were seen, but in one case Gram-positive cocci and Gram-negative bacilli and in the other Gram-positive cocci only were found. In 42 cases the fluid in the hernial sac was found to be sterile. In five cases micro-organisms were present; in one case the bacillus coli was obtained in pure culture; in another case the bacillus coli and the staphylococcus albus; and in a third case the bacillus coli and a Gram-positive staphylococcus. A bacteriological examination was made from the surface of the intestine in 45 cases and this was found to be sterile in 29. On ten occasions a pure culture of the staphylococcus albus was obtained; in one case the staphylococcus cereus albus; in three the bacillus coli; in one the bacillus coli and the staphylococcus albus; and lastly, in one case the bacillus coli and a Gram-positive staphylococcus. Anaerobic cultures were taken on eight occasions and were found to be sterile after several days' incubation at 37° C. in seven, while in the eighth case a pure culture of the staphylococcus albus was obtained.

It will be obvious that the most important point is the frequency with which the staphylococcus albus has been found on the surface of the intestine in comparison with its presence in the sac fluid. In no less than ten cases this coccus was isolated in pure culture from the surface of the intestine, whilst we failed without exception to find it in the sac fluid. A bacteriological examination of the fluid alone would have led us to the erroneous conclusion that out of a total of 47 cases of strangulated hernia of all classes no less than 42 were completely sterile. This alone shows how careful we should be before we make use of terms such as "chemical peritonitis" or "peritonitis serosa."

The detailed results of our observations having been given there remain several general considerations which may now be examined. Micro-organisms were present in 33 per cent., the staphylococcus albus was found in 23 per cent., and the colon bacillus in 10 per cent. It is well known that as a general rule the proportion of gangrenous cases bears no direct relation to the duration of strangulation of the hernia because the tightness of the constriction, the presence of a protective pad of omentum, and other circumstances exert a controlling influence. But when examined bacteriologically the time element does appear to be of some importance. In those cases where the strangulation was of under one day's duration 86·6 per cent. were completely sterile; between one and two days, 55·5 per cent.; between two and four days, 50 per cent.; and over four days, 46 per cent. These figures show a steady decline in the proportion of sterile cases with the increase in length of the strangulation. The presence of the colon bacillus, however, appears to be unaffected as it was present once in each of the periods named. We have also endeavoured to ascertain whether previous taxis had any influence on the bacteriology but although it undoubtedly influences the appearance of the gut, particularly with regard to hæmorrhage into its wall, yet it seems to bear no relation to the bacteriology of the sac contents.

If the class of hernia is considered the result as regards the bacteriology is somewhat striking, for from inguinal herniæ organisms were obtained in 22 per cent., from femoral hernia in 46 per cent., and from umbilical herniæ in 60 per cent. Of the seven fatal cases no less than four were sterile and died from causes other than peritonitis. One case in which the staphylococcus albus was the only organism present died from obstruction by adhesions at the site of anastomosis, and at the necropsy there was only a little peritonitis immediately around the anastomosis. The two instances in which the colon bacillus was present died almost immediately after the operation, and at the necropsy a condition of diffuse peritonitis was found.

Whenever the colon bacillus was found in a case of strangulated hernia it was isolated both from the sac fluid and from the surface of the intestine. The staphylococcus albus, on the other hand, was never present in the sac fluid when it was absent from the peritoneal surface.

The relation of the bacteriology of the sac contents to the healing of the wound is one of interest. Apart from the cases where the colon bacillus was present the staphylococcus albus was found in pure culture on ten occasions. Not one of these cases suppurated. The three which did suppurate were completely sterile as regards the contents of the sac at the time of operation, so that the suppuration must have been due to extraneous infection. If the colon bacillus is present, then the probable outcome of the case will be death from diffuse peritonitis, but occasionally, under certain conditions, the result of its presence may be only suppuration of the wound. If the colon bacillus, however, is not present, then whatever may be the appearance of the gut there is no reason, *per se*, why a case of strangulated hernia should suppurate. Whilst we are fully alive to the fallacy of drawing general conclusions from a small number of cases we consider it to be at least suggestive that not a single case in which the colon bacillus was not present at the time of operation was followed by gangrene, perforation, or obvious peritonitis. We use the term "obvious" because we believe that peritonitis which shows little or no signs, and which is unattended by serious results, is of far more common occurrence than is usually believed. In the prognosis, then, the presence or absence of the colon bacillus is the factor of vital importance and this observation is of great interest in tracing the rôle which this organism plays in the vast majority of cases of peritonitis arising in connexion with the intestinal tract.

In the 53 cases of intestinal obstruction other than strangulated hernia micro-organisms were present in 30 instances. If we divide the cases into two periods, taking those of under 50 hours' duration in the first and those of over 50 hours in the second, there is a striking difference in the proportion of sterile cases. Of the 19 in the first class only four were sterile, whilst of the 34 in the second class 19 were sterile. Expressed in percentages, these in the first class—that is to say, the most acute—were infected in 79 per cent., whilst those belonging to the less acute class were infected in only 44 per cent. If we consider the situation of the obstruction and divide the cases according to whether the obstruction involved the small or the large intestine we find that where the small intestine was implicated 63 per cent. were infected, whilst in obstruction of the large intestine only 44 per cent. were infected. We are of opinion that the more frequent sterility of strangulated herniæ is due to the relatively smaller area of intestine available for examination. Believing as we do that organisms make their way out, not only at the site of most severe damage but also from all parts of the bowel as it becomes distended, we see that with [illegible] general peritoneal cavity the [illegible] nisms in the general cavity than in the sac of a hernia. Of the bacteriology of the general peritoneal cavity in strangulated hernia we know nothing but we believe that organisms would be found to be present there just as in other cases of obstruction were we in a position to investigate the question.

The character of the exudate in intestinal obstruction, from whatever cause arising, [illegible] the amount varies considera[illegible] depend upon the acuteness of [illegible] quantity can be estimated at the time of operation. As a rule it appears to be most abundant in intussusceptions which are perhaps the most acute cases in our series. In no case was the turbid fluid observed, which will again be referred to in dealing with appendicitis. In the film preparations of the exudate polynuclear cells were rarely seen, whilst mononuclear and endothelial cells were often present. Micro-organisms were only twice seen in cases where the cultures proved sterile. In these two polynuclear cells were present and the organisms were intracellular. The 14 cases of intussusception form a group of particular interest and will be considered separately.

We now give in a tabulated form the results which have been obtained in 53 cases of the peritonitis which is associated with intestinal obstruction.

	Peritoneal exudate.				Intestinal surface.			
	All cases of intestinal obstruction.	Intussusception.	Obstruction apart from intussusception.	The *acute* cases of obstruction.	All cases of intestinal obstruction.	Intussusception.	Obstruction apart from intussusception.	The *acute* cases of obstruction.
Number of cultures examined...	49	13	36	5	50	14	36	6
Number sterile	39	9	30	3	22	3	18	0
Number of cases in which micro organisms were found ...	10	4	6	2	28	11	18	6
Number of cases in which the staphylococcus albus was isolated by itself ..	7	3	4	1	20	10	10	3
Number of cases in which the staphylo*coccus* albus was isolated with other organisms	1	1	0	0	2	1	1	0

Analysis of the fatal cases is as follows. Of the 53 cases of obstruction from causes other than strangulated hernia 22 died. Of these, ten were completely sterile at the time of operation. We may rule out of account those that died from causes other than peritonitis, which are seven in number. Three cases, sterile at the time of operation—one an intussusception, one a carcinoma of the cæcum, and one a gall-stone impaction—died from peritonitis. In the case of the intussusception the peritonitis was due to subsequent perforation. In both of the other examples the obstructed bowel had been opened during the operation and doubtless the peritoneum had received its fatal inoculation by that means. The explanation lies in the exalted virulence of the organisms present in obstructed bowel. Operations of resection or of short-circuiting performed during *the existence of* acute obstruction are attended by a higher death-rate than when done in a condition of intestinal repose. Corner has expressed the belief that the leakage of an anastomosis is not due to imperfect suturing so much as to infection along the stitches, and this view is upheld by the bacteriological facts. It is therefore on bacteriological grounds as well as on those of practical experience that one should as far as possible avoid opening the bowel during acute obstruction. If it becomes necessary to empty coils of intestine in order to be able to proceed with the operation grave additional risk is run. If resection or colotomy has to be performed they should be rendered *as far as possible* extra-abdominal manœuvres by appropriate suturing and packing.

In six of the 53 cases of obstruction the colon bacillus was present in the peritoneal cavity at the time of operation and of these not one recovered, death occurring in from a few hours up to the third day with one exception in which the fatal issue was delayed until the eighth day. This exception is of great interest. It was a case of carcinoma of the colon in a woman, aged 50 years, whose obstruction had been chronic for six weeks and acute for several days. The staphylococcus albus and the colon bacillus were isolated from the gut surface and the staphylococcus albus alone from the exudate at a distance. There was a minimal amount of clear fluid present, whilst the intestines were greatly distended and reddened. Colotomy was performed. Death took place on the eighth day and at the necropsy there was found a condition of universal peritonitis.

Prognosis.—We doubt whether a prognosis of much value would be derived from examining film preparations of the peritoneal exudate in cases of intestinal obstruction. All that we can say with any feeling of security is that positive evidence of the presence of the colon bacillus in the general peritoneal cavity affords sufficient ground for giving an extremely grave prognosis. Negative evidence, however, is of rather less value because it does sometimes, though rarely, happen that the colon bacillus makes its appearance after the obstruction has been relieved, as in one of our cases of intussusception. *If the intestine has been opened during* the operation then the bacteriological examination of the peritoneum is of no value whatever in indicating the probable termination of the case.

PERITONITIS DEPENDENT UPON APPENDICITIS.

Although the usual clinical distinctions are found by bacteriological examination to be only approximately accurate, we have found it convenient to follow that classification for the purpose of enumerating the 93 cases which we have examined. These are therefore considered under the headings of "diffuse peritonitis," "local abscess," "secondary complications," and "interval cases." The cases *of acute appendicitis, other than those of local abscess, we* have divided according to whether there was or was not a definite perforation present. In the one class are included some cases of gangrene and some of deep ulceration where the peritoneal tissue alone formed the wall; in the other are all degrees, from the minute perforation found only on close examination up to a complete diruption of the appendix. Our object has been to ascertain the bacteriological condition of the peritoneum as far away [illegible] as well as in its immediate [illegible] to inquire how far the resul[illegible] aspect of the cases.

Acute non-perforative appendicitis.—In three instances operation was undertaken before bacterial infection of the peritoneum had occurred. These were operated upon respectively 20, 27, and 48 hours after the onset of the illness and all of them presented very acute symptoms, the pulse-rate being increased out of proportion to the height of the temperature. In only one case was any exudate seen and this was a small quantity of almost clear fluid which microscopically contained enormous numbers of polynuclear cells. In each case the intestines in the lower part of the abdomen were reddened and distended. The appendices were remarkably unlike one another. One was a large, extremely thin sac containing pus, with a few flakes of lymph on its surface. Another was small, very œdematous, and of a bright red colour, with a small flake of lymph on its surface. The third was large, of uniform black colour, with a shiny peritoneal surface. There was no bleeding from the mesentery when cut across and the appendix was rigid, so that there was evidently thrombosis throughout the organ. On section the walls were found to hold myriads of micro-organisms.

Of these three cases one proved fatal from peritonitis, which was in all probability due to the fact that the distended small intestine was opened in order to empty it and to introduce magnesium sulphate into it. It may, of course, be said that the infection took place in removing the appendix, but we consider this not so probable, as the same method of removal—namely, by means of the clamp without opening the lumen—was in each instance employed and by the same operator. At the necropsy the stump was found secure. Moreover, evisceration and thorough irrigation were employed in the fatal case, whereas dry sponging was the method used in the other two. To this point attention will be directed later. In the other two cases no drainage was employed and the wounds healed by first intention.

In eight of the 11 non-perforative cases the peritoneum was found to be infected at the time of operation. In one instance the staphylococcus albus was the only organism present. The patient was a boy, 17 years of age, with a history of four days' illness. The pulse was 88 and the temperature was 102° F. The staphylococcus albus was isolated from the surface of the acutely inflamed appendix. The peritoneal exudate contained polynuclear and endothelial cells and the peritoneum at a distance was sterile. There were no adhesions. The appendix was large and swollen and in places exhibited necrotic patches. It was removed, the peritoneum in the neighbourhood was carefully sponged, and the abdomen was closed. Recovery was uneventful except that the wound suppurated.

In three instances the colon bacillus was the only organism found. One of these recovered but in this case, unfortunately, only the region of the appendix was examined bacteriologically, whilst the turbid, non-smelling fluid at a distance was not investigated. In this instance the illness had lasted only 24 hours. After removal of the appendix the peritoneum was treated by local dry sponging and drainage and the patient recovered. The second case was of three days' history in a boy, aged 13 years. Two types of exudate were present; in a remote region it was turbid and odourless, showed in film preparations large numbers of polynuclear cells but no organisms, and was sterile; in the immediate neighbourhood of the appendix, but not in a localised abscess cavity, there was thick offensive pus, which showed in films only Gram-negative bacilli and on cultivation grew only the colon bacillus. The appendix was removed and the peritoneal cavity was washed out and drained. Death took place on the tenth day and at the necropsy there was found a condition of universal purulent peritonitis. The third case was that of a child, three years of age, with a history of ten days' illness. The pulse was 150 and the temperature was 100°. At a distance from the appendix there was a quantity of turbid brownish fluid which in films showed polynuclear cells and Gram-negative bacilli but no other organisms. In cultures only the colon bacillus was grown. Immediately round the appendix, which was gangrenous but not perforated, there was thick foul pus, from which also the colon bacillus alone was obtained. The appendix was removed and the abdomen was washed out and drained but death occurred in a few hours.

In the remaining four cases of non-perforative appendicitis more than one organism was found: (1) bacillus pyocyaneus and staphylococcus albus both remotely and close to the appendix; (2) bacillus coli, staphylococcus albus, and staphylococcus aureus in both regions; (3) bacillus coli and a staphylococcus in both regions; and (4) staphylococcus albus alone at a distance and bacillus coli together with staphylococcus albus close to the appendix. The first three proved fatal but the fourth recovered after a severe struggle.

Perforative appendicitis with diffuse peritonitis.—We have examined 17 examples of this condition, the duration of the illness having varied from 36 hours to nine days. All were cases of what is usually called "general peritonitis" but the extent and degree of the peritoneal involvement varied considerably. In every case the changes were most intense in the right iliac fossa, and in those of longer history as a rule there had apparently been an abortive attempt at localisation, the thicker pus immediately round the appendix being feebly dammed back from the rest of the peritoneal cavity by agglutination of intestinal coils. In the worst cases of all there was no adhesion of any kind and the perforated appendix lay quite free in the peritoneal cavity. The exudate varied greatly in quantity and quality. In some there was no difference between that immediately round the appendix and that in the remote upper part of the abdomen; in others, again, there was a very distinct difference between the foul pus round the appendix and the turbid odourless fluid in the upper part. It is this turbid exudate to which we attach great importance from the point of view of prognosis; it is similar to that produced by experimental inoculation of the staphylococcus albus into the peritoneal cavity of guinea-pigs; it contains innumerable phagocytes.

In every case but one the colon bacillus was found free in the peritoneal cavity in the neighbourhood of the appendix, the one exception having the bacillus pyocyaneus and no colon bacillus. The peritoneum, at a distance, was investigated 15 times; on one occasion the odourless fluid around the spleen was sterile both in films and cultures, whilst the films showed many polynuclear cells. In one the staphylococcus cereus albus was alone present, in one the streptococcus pyogenes, and in one the staphylococcus albus and the colon bacillus. The colon bacillus was found alone on ten occasions. The relation of cover-slip examinations to culture methods, upon which so much stress is laid by those who regard the colon bacillus as of secondary importance, has been discussed elsewhere, but it is worth while in this place to draw attention to a striking point brought out by this series—namely, that on the one occasion in which streptococci were seen in the films they were also recovered culturally.

There does not appear to be any constant relation between the length of history of the illness and the bacteriological results. The colon bacillus may be found in a remote upper part of the peritoneum in less than 48 hours from the onset and, on the other hand, such a region may be sterile after five days' illness.

In discussing the result of treatment we consider together all the cases of diffuse peritonitis, both perforative and non-perforative, and these make up a total of 28. In 14 of these cases the colon bacillus was present in the exudate at a distance from the cæcal region; only three recovered. Two, in which the colon bacillus was found alone, were treated by appendicectomy, local dry sponging of the peritoneum, and drainage; the third had the staphylococcus albus present as well as the colon bacillus and was treated by removal of the appendix, general peritoneal lavage (but without evisceration), and drainage. Of the 11 fatal cases not one was treated by dry sponging but all by copious peritonea lavage, assisted, in the majority, by evisceration. These 14 cases, then, show a mortality of nearly 80 per cent. Now how do these results compare with the general run of cases of which we do not know the bacteriology? During the five years from 1899 to 1903 there were operated upon at St. Thomas's Hospital 119 cases of appendicitis with diffuse peritonitis. 100 were treated by washing the peritoneum with large quantities of sterile water or normal saline solution and of these 80 died. The remaining 19 were treated locally although the peritonitis was diffuse—that is to say, only the intestines in the neighbourhood of the cæcum were either sponged or washed over whilst the upper part of the peritoneal cavity was not interfered with, and of these ten died. The mortality, then, for general lavage is 80 and for local lavage or dry sponging only 47 per cent. It may be pointed out that perhaps only the less severe cases were treated by local cleansing but our reply is that we now know it to be impossible from examination at the operation to estimate the extent of the peritonitis, still less the nature and virulence of the infecting organism, so that selection of that kind is impracticable. On the contrary, the cases which our bacteriological examinations have taught us to be the less fatal are often the very ones which appear from the amount of the exudate to be the most severe and which would therefore probably receive the more energetic form of treatment.

The cases which have been operated upon by one of us, acting at various times for the surgeons at St. Thomas's Hospital, illustrate our point in a somewhat striking manner. Out of a total of 25 cases, 19 were treated by evisceration and thorough washing of the peritoneal cavity, the upper part being dealt with as thoroughly as the lower, and of these 18 died. The remaining six were treated locally, leaving the upper region of the peritoneal cavity undisturbed, and every one recovered. These cases were in no way selected, as, with one exception, they are the last cases in the series. One patient, in fact, was marked out for this line of treatment by the severity of his general condition, because he was much *too ill to stand extensive manipulation.* This was the case of a youth, aged 19 years, who had been ill for four days. The appendix was gangrenous and perforated, the intestines were everywhere inflamed and distended and bathed with turbid fluid which, odourless in the greater part, was of the usual smell in the region of the appendix, although not shut off by adhesions. The appendix was removed and the cæcal region was dry sponged and drained. The patient was extremely ill for two or three days but ultimately made a complete recovery.

An almost exactly similar case, treated differently, had a different result. A patient of the same age as the last had been ill for five days. The appendix was perforated and the intestines were everywhere red and distended. A large quantity of turbid odourless fluid was free in the peritoneal cavity even round the spleen. This exudate was thoroughly washed away with large quantities of saline solution, the appendix was removed, and the abdomen was closed. Death took place on the fourth day and at the necropsy a condition of universal peritonitis was found. Now the exudate was in this instance examined in two situations both by films and cultures. About the spleen it showed polynuclear and mononuclear cells but no organisms and remained sterile on cultivation. Close to the appendix the exudate showed polynuclear cells and Gram negative bacilli only and grew both aerobically and anaerobically the colon bacillus only. There can be little doubt that in this instance the interference with the sterile upper region of the abdomen not only spread the infection over a previously unaffected part but also washed away the phagocytic cells upon which the chief possibility of recovery depended.

Appendicitis with definitely localised abscess.—The bacteriology of the pus from a localised abscess is of little clinical interest, being practically the bacteriology of the intestinal contents. The very fact that it has become localised is evidence of a sufficient degree of power of resistance on the part of the patient. The peculiarly disgusting smell of the pus cannot be said to be characteristic of any particular organism. Veillon and Zuber consider it to be due to the various anaerobic organisms which they have isolated and Tavel and Lanz attribute it to what they term the pseudo tetanus bacillus. Four of our abscess cases, or 10 per cent., failed to show evidence of the colon bacillus, whilst the bacillus pyocyaneus was isolated from three of these four cases.

The condition of the peritoneum beyond the abscess, however, is of considerable interest. In most of our cases the abscess being adherent to the abdominal wall it was impossible to examine the peritoneum beyond, but in 16 instances the pus had to be reached through the general peritoneal cavity and these we examined bacteriologically. Nine proved sterile, whilst no less than seven grew a pure culture of the staphylococcus albus. In most cases there was an appreciable quantity of clear odourless fluid in the [illegible] ie intestines and omentum in [illegible] f the abscess were reddened [illegible] total number of 40 cases of local abscess only two died, neither from diffuse peritonitis. It appears that the opening of an abscess which is not adherent to the abdominal wall, provided that the peritoneal cavity is efficiently packed off with gauze, which is left *in situ* for two or three days after operation, is attended with little if any additional risk.

We were fortunate to observe two cases of appendix abscess which had to be reached through the peritoneal cavity, operated upon on the same day by the same surgeon and in precisely similar circumstances, a comparison of which offers significant support to our contention regarding the staphylococcus albus. One was that of a man, 34 years of age, who had had two previous attacks of appendicitis and had on this occasion been ill for 14 days. When admitted the temperature was 103° F. and the pulse was 100. The other was a boy, aged 13 years, in his first attack, who had been ill for five days. His temperature was 103° and his pulse was 112. In both cases the abscess was situated to the outer side of the cæcum. The general peritoneal cavity was first opened and in each instance contained a small quantity of clear odourless fluid, from which cultures were made. The peritoneal cavity was not packed off in either case but the abscess was opened and a drainage tube was inserted. From the foul pus the same organisms were obtained in both cases but the man's peritoneal exudate gave a pure culture of the staphylococcus albus, whilst the boy's was sterile. The subsequent progress was very different in the two cases. On the following morning the man was remarkably well, his temperature was 100.8°, his pulse was 88, the abdomen was soft and moving well, and there was no sickness or intestinal distension. Recovery was rapid and uninterrupted. The boy, on the other hand, presented a strikingly different picture. He looked seriously ill, with anxious facial expression, sunken eyes, and vomiting. The pulse was 142 and the temperature was 100.8°. The abdomen was rigid, moved badly, and was distended. Aperients and enemata were given with good result and on the morning of the third day the condition had begun to improve. The subsequent progress was good and recovery ensued.

There is a class of cases intermediate between the local abscesses on the one hand and the most acute perforative cases on the other calling for special attention because of the difficulty to which they give rise regarding the advisability of immediate operation. Opinion has gradually come round to the view that operation should be done upon nearly every case of appendicitis as soon as the diagnosis has been made, but the period about which alone any serious discussion still lingers is the period which lies between the second or third and fifth or sixth days. These are the cases in which nature is carrying on a hard fight against the invading organisms and the event hovers in the balance between the formation of a local abscess, when the natural protective forces may be said to have triumphed, and the rapid diffusion of the peritonitis which will if left alone lead inevitably to a fatal issue. The question whether at this stage nature can be assisted by surgery is one of the most difficult which the surgeon is called upon to answer. We therefore turn to bacteriology to see whether any light is shed by it upon the question.

There are six cases in our series which may fairly be said to come under this heading and may be set out thus:—

No.	Sex	Age (years)	Days of illness	Exudate at a distance	Exudate round appendix	Treatment	Result
1	F	21	Sixth	Sterile	Bacillus coli	General lavage	Died
2	M	18	Seventh	Staphylococcus cereus albus	"	"	"
3	M	19	Fourth	Bacillus coli	"	"	"
4	M	20			"		"
5	F	19	Third		"	Local dry sponging	Recovered
6	F	35	Fifth	Staphylococcus albus	Bacillus coli and staphylococcus albus	"	"

The conditions common to these six cases were that the colon bacillus was present immediately around the appendix in foul smelling pus which was feebly shut off from the inflamed peritoneum around by the agglutination of neighbouring coils of intestine or of omentum, and that clinically it was doubtful before and even at the time of, operation whether the condition was one of diffuse peritonitis or not. In three cases the colon bacillus was already present upon the peritoneum at a distance from the agglutinated area, one was sterile and the other two had staphylococci only.

What would have happened if operation had not been performed it is impossible to say, but it seems probable that the first three would have succumbed to the peritonitis which was already diffuse but not universal, whilst the other three might have formed a local abscess. The most important point, however, which is brought out in this table is that the four cases which proved fatal from universal peritonitis were all subjected to thorough washing out of the peritoneal cavity, whilst the two which recovered, although one contained the colon bacillus beyond the limits of the feebly shut off pus, were treated by local dry sponging and drainage. We conclude, therefore, that in these doubtful cases which present themselves for treatment after the second day of illness and before the formation of a definitely local abscess, whilst it is impossible to say what the outcome will be if left alone, yet operation may be performed without grave risk provided that every effort is made to limit the area of operation and to avoid the diffusion of septic material by too energetic treatment.

We now come to cases of infection at a distance from, but dependent upon, appendicitis, and we are able to compare the organisms found in these complications with those of the original disease. We have had the opportunity of examining two cases of subphrenic abscess, four other residual intraperitoneal abscesses, one case of empyema, one of abscess of the abdominal wall, one of acute pleuritis, and one of suppurative parotitis. These cases throw an important light upon the bacteriology of peritonitis originating in disease of the appendix and fall into harmony with our other observations, so that each deserves a brief notice.

Two cases of subphrenic abscess.—The first case was that of a female, 19 years of age, who had been operated upon three weeks previously for an imperfectly localised appendix abscess with diffuse peritonitis. A large quantity of turbid odourless fluid had been found in the peritoneal cavity and the intestines generally were red and distended. The patient was extremely ill at the time and nothing more than simple drainage was done. The turbid fluid proved to be sterile. The pus showed polynuclear cells and no micro-organisms in the films and gave on cultivation only the staphylococcus albus. The temperature kept high, the general condition was one of severe septic poisoning, and at the end of three weeks signs of pressure were noted at the base of the left lung. A large fœtid gas-containing abscess around the spleen was opened and drained. The patient recovered and ten months later the appendix was removed when practically no adhesions were encountered and the staphylococcus albus was isolated from the surface of the appendix. The pus from the subphrenic abscess showed polynuclear cells, groups of Gram-positive cocci, and Gram-negative bacilli. The cultures gave the colon bacillus and the staphylococcus cereus albus.

The second subphrenic abscess occurred on the right side. The patient was a boy, 15 years of age, who had had a localised, gas-containing abscess, from which a concretion escaped, opened 14 days previously. This had been shown to contain the colon bacillus and the staphylococcus albus. The temperature remained high and on the fifteenth day a small subphrenic abscess was opened. The pus contained the colon bacillus, the staphylococcus albus, and the bacillus proteus vulgaris. Two days later the patient died. At the necropsy similar purulent collections were found around the spleen and in the pelvis and the bases of the lungs were necrotic.

Other residual abscesses.—Of the other intraperitoneal residual abscesses two were close to the cæcum. The first occurred in a man, aged 22 years, who had had an abscess drained and the appendix removed two years previously and had been perfectly well in the interval. Films of the pus showed polynuclear cells, Gram-positive cocci, and Gram-negative bacilli. In both aerobic and anaerobic cultures the colon bacillus and the staphylococcus aureus were isolated. The patient recovered. The second was that of a boy, 12 years of age, who had had the appendix removed and the abdomen thoroughly washed out for diffuse peritonitis two years previously and who had been quite well in the interval. The pus from the residual abscess was thick and malodorous. Microscopically it showed Gram-positive cocci, Gram-negative bacilli, and polynuclear cells mostly degenerated. Both aerobic and anaerobic cultures remained sterile. The patient recovered.

Two other residual abscesses, one subhepatic and one on the left side of the abdomen, occurred respectively 17 and 30 days after the drainage of a local appendix abscess. Both contained thick odourless pus which showed polynuclear cells in the films. One, in which the pus was of a greenish colour, also showed a variety of bacilli and cocci, but on cultivation grew only the staphylococcus albus. The other showed exceedingly few bacilli, and these intracellular, and was sterile on cultivation. A case of perforative appendicitis in which the abdomen had been washed out and closed without drainage developed an abscess in the abdominal wall ten days after the operation. The pus contained the colon bacillus and a staphylococcus, both of which organisms had been isolated from the peritoneum. A right-sided empyema which proved fatal in a short time occurred in a man, aged 70 years. The pus showed Gram-positive cocci as well as Gram-negative bacilli but on cultivation grew only the colon bacillus. *Post mortem* the appendix was gangrenous and there was a large subphrenic abscess but no visible aperture in the diaphragm. A patient who had had an appendix abscess opened three weeks previously showed signs of pressure on the base of the right lung. Exploration for suspected subphrenic abscess was undertaken but no pus was found. Cultures from both pleura and peritoneum gave a pure growth of the staphylococcus albus. A case of left-sided parotitis occurred in a boy, aged 14 years, 24 hours after the opening of an appendix abscess of ten days' duration. The swelling gradually increased and softened and was incised on the fourth day. Soft necrotic tissue in very small amount was found deeply in the gland. Films and cultures were taken. The former showed only cocci arranged in groups and the latter gave a pure growth of the staphylococcus aureus. The right parotid gland was not affected. The patient recovered. Unfortunately we have no bacteriological examination of the pus in the abscess The patient's serum gave no agglutination reaction with the staphylococcus isolated.

Cases of appendicitis operated upon during a quiet period.—16 such cases have been examined: the peritoneum at a distance in 13, the surface of the appendix in 10, and the interior of the appendix in nine. The peritoneum at a distance was sterile in ten and showed the staphylococcus albus in three. The surface of the appendix was sterile twice and showed staphylococci eight times. The interior showed the colon bacillus alone seven times and staphylococci alone twice. The peritoneum at a distance was sterile in four out of six cases where the previous attack had been of the catarrhal variety; twice only was a staphylococcus found. The operations were performed from one to eight weeks after the attack had subsided. Of the cases where the previous attack had culminated in an abscess and where the patients had returned for appendicectomy with the wounds healed, a much larger proportion—namely, eight out of ten—grew staphylococci. The percentage of sterile cases after abscess formation is only 20, whereas after a catarrhal attack it is 66. The operations were undertaken from two to eight months after the abscess had been opened.

In the whole series of 16 cases suppuration of the abdominal wound occurred only four times and one of these was the case in which the staphylococcus aureus was present on the surface of the appendix. All the patients recovered. In one instance, after an interval of four months, a small collection of thick white odourless pus was found near the base of the appendix amongst some adhesions. From this a pure growth of the staphylococcus albus was obtained.

TREATMENT OF ACUTE PERITONITIS BASED UPON ITS BACTERIOLOGY.

It will be seen that the term "acute peritonitis" embraces a number of inflammatory diseases which differ widely in their symptoms, course, and prognosis. The main factors in these, as in inflammatory diseases of the cellular tissue, are the variety and virulence of the organism which has produced the disease and upon the power of resistance which the individual possesses against it. Unfortunately there is no opportunity of ascertaining what this organism is, in any given case, until after the operation, so that we can only act upon the knowledge of what are the organisms most frequently present in any given class of cases. In gastric and duodenal perforations, in intraperitoneal hæmorrhage, and in pelvic inflammations the organisms are, in the great majority of cases, of a mild type. In intestinal necrosis, on the other hand, it is the virulent colon bacillus which is by far the most common organism. The streptococcus pyogenes and the bacillus pyocyaneus are so uncommon and so uniformly fatal whatever the treatment adopted that it would be wise to treat all cases of peritonitis arising from intestinal necrosis as cases of colon bacillus peritonitis.

It is undoubtedly true that peritonitis of bacterial origin can subside without operative interference.

From what we have seen of the bacteriology of the peritoneum around an inflamed appendix it is impossible to believe that in all [illegible] appendicitis which subside without operation the [illegible] We also believe that in the cases [illegible] minate in abscess formation the peritonitis was at one time diffuse although no doubt of mild type and slight extent. But such terminations are not events to be reckoned upon, for at the beginning of an attack we can only conjecture what the bacterial infection may be and certainly none can foretell the result. The earlier operation is undertaken, therefore, the less likely is the peritoneal infection to reach a desperate stage. There are few at the present day who do not accept this view but there is still a wide difference of opinion regarding the extent of the operation which should be performed. Whilst there are those who advocate the most extreme measures of washing assisted by evisceration there are others, notably J. Murphy, who do not employ such drastic procedures. We are of opinion that the extent of the operation required depends upon the bacteriology of the case.

In streptococcic peritonitis, which is the most acute and fatal form that we know, it is doubtful whether any surgical procedure offers a prospect of success, but if there is any chance it must lie in the most thorough possible washing. At least this treatment can do but little harm, for the infective exudate is carried with such rapidity over the [illegible] washed away without robbing the patient of what in other forms of peritonitis usually constitute his chief line of defence. Peritonitis due to the bacillus pyocyaneus is of very little less virulence than streptococcic, but it is of rare occurrence and is impossible to detect at the time of operation. In this form, as in the other, the same line of treatment would offer the only possible chance of success, if indeed recovery from this infection is possible.

In the vast majority of cases, however, it is the colon bacillus which is the chief infective agent, and therefore most cases of peritonitis of intestinal origin must be treated as cases of colon bacillus infection. We believe that, from the observations which have already been set out, limited operations should be the rule, because of the mechanical impossibility of cleansing the peritoneum, the risk of washing away the phagocytes in the exudate beyond the area of most intense inflammation, and the danger of spreading infection over unaffected regions. In local treatment the question between local irrigation and dry sponging is of relatively small importance. We are inclined to believe, however, that dry sponging, so long as it is carried out with gentleness, is better than irrigation, because fluid poured into the abdomen is likely to carry infection beyond the area already involved. If those remote regions are already affected then no amount of washing is likely to be of much avail. In the case of mild infections, particularly those due to gastric perforations and intraperitoneal hæmorrhage, the washing should be thorough, with a view to remove the foreign material present, such as the contents of the stomach or blood clot.

The question of drainage is one upon which much has been written, but a great deal of the literature applies to the earlier days of abdominal surgery and concerns not only septic cases but all intraperitoneal operations. In mild diffuse infections, such as gastric perforations, intraperitoneal hæmorrhage, and the early stages of the peritonitis of obstruction, the organisms are comparatively harmless and can be safely dealt with by the peritoneum. It is the rule in such cases where the abdomen has been closed without drainage for the wound to heal by primary union. In severe diffuse infections, on the other hand, there [illegible] for drainage, although one [illegible] even suppuration of the [illegible] of local abscess the conditions are quite different. There is a definite cavity which for practical purposes is extraperitoneal and which can be drained. But where the peritonitis is diffuse the possibility of drainage depends upon the integrity of the peritoneum. In cases where fibrinous deposit is absent or insignificant, as in the gastric perforations, it is possible to drain, but where there is a sticky exudate present drainage becomes impossible because in a surprisingly short time the tube or other form of drain becomes surrounded by agglutinated intestine and omentum and its track becomes merely a sinus—a sinus, moreover, which is not without danger because extraneous organisms, particularly from the skin, have been found to extend with remarkable facility along such tracks. The objection of leaving a weak spot in the abdominal wall also is of some moment. We are therefore presented with the paradox that, apart from local abscesses, the cases which it is most desirable to drain are the very ones where drainage is impossible, whilst those where it is possible it is also unnecessary. In cases of gastric perforation where a tube has been left in the pelvis a large amount of fluid may be discharged during the first one or two days but in cases of appendicitis treated in the same manner it is remarkable how little fluid soils the dressings.

Next in importance to the operative technique in peritonitis comes the question of drug treatment. It is universally recognised that opiates should never be given before a diagnosis has been made on account of the concealment of important symptoms. But when once a diagnosis has been arrived at it is quite a common thing to see opiates given. If, rightly or wrongly, the decision has been arrived at not to operate, then the same objection still holds good, because when the patient is under the influence of opiates changes of vital importance which may at any moment occur are apt to escape notice. But there is an objection of little less importance than these which applies after as well as before operation. In obstructed or inflamed bowel the colon bacillus attains its maximum of virulence and in all probability under these conditions is able to make its way out at points other than the primary focus. It has yet to be proved that intestinal movements play any very important part in the spread of infection over the peritoneal surface. On the other hand, intestinal paralysis spells death, for it is of vital importance that the infective material shall be eliminated from the bowel at the earliest possible moment. A dose of morphine, superadded to the toxic paresis of the bowel, may just turn the balance against recovery. It is therefore obvious that the teachings of bacteriology harmonise with those of clinical experience in pointing to purgatives and not to opiates as the right drugs to be given in peritonitis.

Serum treatment.—The serum treatment of the septic diseases being in its infancy, and, so far, having shown only sporadic promise of the utility to which it may eventually attain, the little that we are able to say of its application to peritonitis can only take the form of speculation. We have endeavoured to show that in the large majority of cases of acute peritonitis it is the colon bacillus which kills the patient. At any rate it is possible to ascertain, in a given case, whether this is so very rapidly by means of cover-slip preparations and even of cultures taken at the operation. We believe that, did we possess a multivalent anti-bacillus coli serum the mortality of peritonitis would speedily diminish. At present we know of no such serum and we can only say here that experiments are in progress with a view to produce a multivalent serum against the various virulent strains of the colon bacillus which have been isolated from our cases of peritonitis. If films of the exudate were to show streptococci we might reasonably hope that one of the more recently produced multivalent antistreptococcic sera would prove of value. But the indiscriminate use of antitoxic sera in peritonitis, without regard to the bacteriology of the individual case, is to be deprecated as being as useless as it is unscientific. At least we have said enough to show that any hope based upon antitoxic sera must lie in the direction of a colon bacillus rather than upon a streptococcic antitoxin.

ABSTRACT OF

The Hunterian Lectures

ON

THE CHANGES PRODUCED BY INFLAMMATION IN THE CONJUNCTIVA.

Delivered before the Royal College of Surgeons of England on Feb. 27th and March 1st and 3rd, 1905,

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LECTURE II.[1]

Delivered on March 1st.

TRAUMATIC CONJUNCTIVITIS WITH SPECIAL REFERENCE TO THE CHANGES IN THE CELLULAR ELEMENTS AS THE RESULT OF WOUNDS.

Wounds of the conjunctiva.—Wounds of the conjunctiva occur as the result both of injury and of operation. Since the introduction of conjunctival flap operations for cataract and glaucoma a knowledge of the process of healing is of great importance, as after the flap is made the wound in the globe is shut off by it from direct communication with the conjunctival sac. Wounds in the conjunctiva are made also for the purpose of tenotomy, advancement, &c. Further, the conjunctiva of the bulb being largely free from cellular elements it offers one of the most favourable situations for the study of the early changes of traumatic inflammation, more especially as regards the formation, destination, &c., of the plasma cells, since these latter are of such frequent occurrence in all inflammatory conditions of the conjunctiva. In the course of some other work experimental wounds were made in the conjunctivæ of rabbits. At definite periods these wounds were carefully removed, fixed in alcohol, embedded in paraffin, cut transversely to the wound in serial section, and stained with logwood and dilute eosin and by Pappenheim's stain, the logwood and eosin showing the character of the cells with regard to their nuclei and the acid granules of their cytoplasm whilst the pyronine and methyl green of the Pappenheim stain showed the plasma cells and the various types of connective tissue cells, bacteria, &c. A preparation of rabbit's blood was made by fixing drops of blood in alcohol, embedding in paraffin, and staining by Pappenheim's method —adopting, in fact, the same process as that by which the sections of tissue were prepared.

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[1] Lecture I. was published in THE LANCET of March 4th, 1905, p. 545.

[The experiments and the microscopic appearances of the *sections* were then described.]

CONCLUSIONS DERIVED FROM THE STUDY OF THE ABOVE SECTIONS.

A. Regeneration of the epithelium.—As the result of the contraction of the underlying elastic tissue the edges of the epithelium are turned downwards. As the result of the injury a few epithelial cells at the edges of the wound are killed, swell up, degenerate, and are probably either absorbed by the leucocytes or cast off in the discharge. The infiltration of the epithelium with leucocytes and plasma gives increased nutrition to the cells and therefore promotes their rapid division and spread and, further, by the phagocytic power of the leucocytes the destruction of organisms lying between the cells is carried on—a most important point, because although the conjunctiva always contains organisms it is very rarely that a wound of it becomes septic. Proliferation of the epithelium does not seem definitely to commence at the margin of the wound for at least 24 hours, nor could I find any evidence of it elsewhere beyond. The spreading margin is generally one cell deep, thickening taking place rapidly, as the growth of epithelium progresses across the wound. Should the growing epithelium meet obstacles, such as an exudation of lymph, in its endeavour thus to cover the surface, it becomes thickened, producing the peninsula-like processes which eventually dip down into the adjacent subconjunctival tissue and which are often only attached to the surface epithelium by a thin band. It is conceivable that if this band of epithelium subsequently atrophies from pressure of the contracting fibrous tissue it may leave a collection of epithelial cells in the deeper tissue which might become the seat of an implantation dermoid or even undergo malignant change. If the epithelium does not meet on the two sides the healing of the wound may be greatly delayed. The epithelium covers small incised wounds of the conjunctiva in 120 hours.

B. Changes in the subconjunctival tissue.—When the ocular conjunctiva is divided it retracts owing to the elastic tissue in its substance. The underlying episcleral connective tissue coming into the base of the wound the conjunctiva becomes firmly adherent to it in 48 hours, so that, arguing from analogy, it may be concluded that after a flap operation for cataract the wound is usually shut off from the conjunctival sac in that time. Generally some hæmorrhage occurs in which organisms seem to have the power to live, but any which gain entrance to the subepithelial tissue, except those in the blood clot, are taken up by the polynuclear leucocytes unless the wound becomes septic. A practical point, therefore, is to remove from wounds of the conjunctiva as much blood clot as possible. The leucocytes exuded during the first 24 hours are chiefly of the polynuclear type, and these cells possess a highly phagocytic power; indeed, unless sepsis occurs in a wound it is probable that these cells do not appear. After the first 24 hours, provided the wound be comparatively aseptic, the exudation consists practically of mononuclear cells only. Coinciding with this appearance of the lymphocytic exudation in the wound there is a large increase in the plasma cells. These latter cells and the lymphocytes appear around both the large and small vessels on *both* sides of the wound, which at this time have actively proliferating endothelium, and on the side away from the cornea are dilated to their fullest extent; they are also seen around the endothelium and perithelium of the gland tissue which has become incorporated in the base of the wound. The connective tissue cells at the deeper part of the margins of the wound show signs of proliferation. But although there is proliferation of these cells there are no plasma cells or mononuclear leucocytes in their neighbourhood. In the wound of 48 hours' duration the plasma cells have decreased in number and are mostly undergoing degenerative changes; whereas, on the other hand, the connective tissue cells are showing the greatest signs of proliferation, without forming true plasma cells such as are found in the exudation of lymphocytes, although a few scattered plasma cells can be found in the neighbourhood of the new vessels. In the wound of 120 hours' duration there are practically no well-formed plasma cells except in situations where there is still an exudation of lymphocytes.

From all these observations, therefore, it appears to me that the origin of the true plasma cell is probably not the connective tissue cell but that it is derived, with the lymphocyte, directly or indirectly, from endothelium or perithelium.

To recapitulate: 1. *The plasma cells make their appearance* at the time when lymphocytes appear in the wound, and it is then that they are found in the greatest numbers; the connective tissue cells in the deeper parts of the wound, although commencing to show changes, have practically no plasma cells around them, which seems to me strongly against their origin from the fixed connective tissue cells, but where the perithelium covering the gland tissues comes into the base of the wound it is packed around with plasma cells and mononuclear leucocytes. 2. They are arranged principally around the blood-vessels on both sides of the wound, being found equally near those containing blood and those containing practically no blood, and they are also found within them. Many of the vessels around which the plasma cells and mononuclear leucocytes are found have such thick walls that it is impossible to suppose that they have come through their walls. 3. They begin to disappear in 48 hours, when the lymphocytes decrease, and persist in any number only at the actual site of exudation of lymphocytes. 4. When the connective tissue cells show the greatest activity the plasma cells have to a large extent disappeared and the majority of those which remain show signs of degeneration.

These facts being taken in conjunction with the fact that plasma cells in all stages are to be observed developing from the endothelium, and, as will be shown, that in the lymphatic glands, in which the mononuclear cells are produced, there are found plasma cells, I think the evidence is strongly in favour of the origin of the plasma cell being with the mononuclear leucocyte from a common source, most probably the endothelium or perithelium.

Against the view of the origin of the plasma cell being endothelium, I have examined preparations from the pleura of a rabbit injected 48 hours previously with paraffin. The section showed much proliferation of the endothelial cells on the surface but there were no definite plasma cells lying between them. Directly beneath there were considerable numbers of plasma cells. J. Briscoe,[2] in examining the fluid from the peritoneal cavity of rabbits at various periods after the injection of normal saline solution, had been unable to find any plasma cells. Further, in examining some 15 cases of eyes enucleated for various acute inflammatory troubles I have never been able to find any plasma cells free in the anterior chamber, but in one case of chronic iridocyclitis there were numerous plasma cells present in the deposit on Bowman's membrane. This seems to point to the fact that it requires a special type of inflammation, usually of the very chronic variety, for the production of plasma cells in serous cavities.

Chorioplaques.—This form of giant cell appears in the peripheral parts of the wound in about 120 hours. It is rounded in shape, no doubt owing to the laxity of the connective tissue, and is derived from the plasma cells, its staining reaction and nuclei being similar. It appears as the plasma cells begin to disappear from the wound.

Giant cells proper, which have nuclei similar to the endothelial cells, are also seen in the wound of 170 hours' duration. They are evidently derived from the proliferating endothelium by the division of their nuclei without division of their cytoplasm. Thus in these two cells we have further evidence of the possible relation of the plasma cell to the endothelial cell

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[2] J. Orth's Festschrift, 1903.

The blood vessels —The blood vessels show signs of commencing dilatation in six hours and at the end of 24 hours they seem to reach their maximum The leucocytes are found principally around their walls—that is to say, in the periphery of the blood stream—and the mononuclear varieties are more numerous within the vessels on the corneal side of the wound than in those on the other, cells identical in structure with lymphocytes and plasma cells can now be *seen budding off from their walls, at the same time the* endothelium shows signs of proliferation and at the end of 12 hours and at the end of 48 hours a quantity of newly formed vessels appear in the base of the wound

Lymphoid Tissue of the Conjunctiva

At birth, as has been seen, there is no lymphoid tissue in the conjunctiva—that is to say, the cellular elements are absent, although the connective tissue in the fornices is very loose in structure I have examined a number of conjunctivæ removed after death from children of various ages, from birth up to the fourth week, in which, so far as could be ascertained, there had been no previous inflammation or any silver nitrate or other irritant applied at the time of birth At birth the tissue is entirely free from lymphocytes and plasma cells There is no evidence of the so called germ areas of Ribbert and hence I think it is possible to exclude this theory in dealing with the conjunctiva After the first few days these cells begin to appear, chiefly around the vessels of the superficial layer in the superior fornix but also, to a less extent, around the deeper vessels; these cells gradually increase up to the fourth week when the lymphoid layer seems to be fully developed The fact that these cells appear first in the fornix is probably *due to the* extreme richness of its tissue in endothelium and perithelium as compared with the palpebral and bulbar conjunctivæ, the rapidity with which they form depends on the amount of irritation the conjunctiva receives, for if silver nitrate is applied at birth the lymphoid cells appear in 48 hours and all the endothelium of the vessels is found proliferating If we look at lymphoid tissue elsewhere at birth, such as in the tonsil or the lymphatic glands, we find it full of mononuclear leucocytes and plasma cells The cells are present for some weeks before birth and are evidently *produced* in these structures, probably from their endothelial lining

Going further afield we find that any connective tissue which is chronically inflamed becomes filled with these mononuclear cells It becomes a question, therefore, whether these cells are derived from the endothelium of the inflamed area, like those in the lymphatic gland, or whether they are brought to it by the blood stream Now in the case of the polynuclear leucocytes we are practically certain that they are brought by the blood stream, for it is found that they are increased in the blood and decreased in the organs in which they are produced during septic inflammation But in the case of the lymphocytes in chronic inflammatory processes there is no such increase of them in the blood, their number as compared with the polynuclear leucocytes being normally very small, so that they must either arise from a rapid division of the lymphocytes brought to the part by the blood stream or be a local production of the cells, probably from the endothelium at the site of inflammation This latter view is held by A Whitfield, with whom I strongly agree He looks on any endothelial or perithelial cell as capable of the production of mononuclear cells, in fact, he holds that any connective tissue can become lymphoid tissue This is only what is to be expected—viz, that a specialised cell, such as the endothelial cell, should revert to its simpler forms on rapid division

Further, it is a well known fact in surgery that after complete removal of glands new ones form and in cases of chronic inflammation new glands are found in unexpected places, such as in the muscles of the back, where we are taught by anatomists that there are no glands The conjunctiva seems to bear out this theory of origin of the lymphoid tissue from the endothelium most fully The subepithelial tissue of the fornix, being richest in endothelium, through irritation becomes filled with lymphocytes and plasma cells *varying* with the *amount* of irritation during the first few weeks of life, and if further irritated by atropine or any other form of chronic irritation it takes on the formation of typical lymphoid follicles, which are identical in structure and character with a minute form of lymphatic gland and behave both in health and in disease in a similar way to those structures, further, in Parinaud's disease we have the association of follicular formation with glandular enlargement Nothing to my mind can be stronger evidence than this of the local production of the lymphocytes and plasma cells

The importance of the early formation of the lymphoid tissue as a protection will be suggested in connexion with infection in ophthalmia neonatorum and the action of silver nitrate as a prophylactic in that disease The lymphoid *tissue appears first in the fornices and then spreads to the* palpebral conjunctiva It varies in extent with the amount of inflammation in the conjunctiva Unless inflamed the bulbar conjunctiva contains no lymphoid tissue and even then the mononuclear leucocytes disappear after the subsidence of the inflammation but even in this situation follicles occur in cases of very chronic inflammation, such as in trachoma of the limbus Plasma cells are always found in the lymphoid tissue, both in the conjunctiva and elsewhere unless the tissue be diseased, as is the case in follicles infected with trachoma and tubercle when the cells become rapidly broken up They are less numerous in rapidly formed follicles and in new lymphoid tissue than in the older parts They become increased in any tissue subjected to chronic irritation and a notable instance of this is the bulbar conjunctiva when irritated by the friction of the trachoma granules, but they disappear at the foci of a disease affecting the tissue as will be seen later We now pass on to the histology of the follicular formation

Follicular Formation

So called follicular conjunctivitis is characterised by the formation of follicles, which appear chiefly in the lower fornix Occasionally in severe cases they are found in the upper fornix and on the tarsal conjunctiva Their position in the lower fornix is a point of importance in distinguishing clinically this disease from trachoma, in which the follicles are principally situated in the upper fornix But the presence of follicles on the upper lid is not absolutely diagnostic of trachoma True follicular formations, such as are so commonly seen amongst children, give rise to no symptoms and produce no change in the conjunctiva, disappearing spontaneously without leaving any trace behind They can hardly, pathologically speaking, be called a disease since microscopically they are seen to be identical in structure with the follicles *found* in the ordinary lymphatic gland and show a marked difference in structure to that of a follicle infected with trachoma, except perhaps in

both microscopically and pathologically, follicular conjunctivitis) and enlarged tonsils are found and the lymphatic glands all over the body are apt to become enlarged on the slightest *provocation Apart from children, these follicles* also make their appearance in general diseases of lymphoid tissue, as is sometimes seen in Hodgkin's disease They also appear after the application of irritants to the conjunctiva, as in patients who suffer from atropine irritation. It is therefore, seen that the follicle (1) may arise as the result of irritation, and (2) may be associated with general lymphatic enlargements As a rule both factors probably play an important part in follicular conjunctivitis As we have already observed the lymphoid tissue of the conjunctiva is of new formation The follicles in an ordinary lymphatic gland in which mononuclear cells evidently originate in no way differ from those of follicular conjunctivitis and I think *therefore* that these latter follicles may be looked upon as an effort on the part of the tissue towards the increased local production of mononuclear cells, either as the result of irritation or of general increase of the lymphoid tissue Further, in Parinaud's disease we find follicular formation associated with glandular enlargement

The epithelium covering the follicles although thrown into folds, does not dip down into the tissue beneath, as in trachoma It is usually undergoing extensive mucoid change and especially is this evident over the tops of the follicles When this change is very excessive the epithelium is thinned and the follicles which lie directly beneath the epithelium no doubt occasionally rupture through it and subsequently become infected with pyogenic micro-organisms

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[3] Coppez H Conjonctivite Folliculaire et Végétations Adénoïdes du Naso pharynx Archives d Ophtalmologie 1899 XIX 11

that give rise to the discharge which is sometimes associated with this disease and which, by producing further irritation, causes increased follicular formation.

The subepithelial tissue.—The follicles lie directly beneath the epithelium. They have sharply defined borders and there is a band of lymphoid tissue directly beneath the epithelium connecting one follicle with another. This lymphoid tissue in the neighbourhood of the follicles often contains a large number of plasma cells. The deeper layers of the conjunctiva are unaltered, there being comparatively no increase in the cellular elements or proliferation of the connective tissue cells, even in the cells in close proximity to the follicles. Occasionally, lymphatics and in some instances small veins are found packed with mononuclear leucocytes and plasma cells.

The follicles.—The follicles may be single or, as occurs when they are older and larger, they may contain masses of darkly staining cells which are due to the presence of another younger follicle within, thus resembling a lymphatic gland. They consist of a definite outer wall of endothelial cells which are often found proliferating. This outer wall is absent where the follicle is connected with the band of lymphoid tissue beneath the epithelium. Within the outer capsule of endothelium is a very delicate stroma, best seen in the older follicles. In this stroma are found occasional blood-vessels, also vessels which resemble lymphatics, since they are never found to contain blood.

The cells of the stroma consist of two types. The first form of cell making up the stroma is a typical endothelial cell. Some of these cells undergo a change, attention to which was first drawn by Leber. In connexion with trachoma he described these cells as containing "half-moon shape" and "coccoid-like" bodies, which he at first thought were parasites. Now if these cell inclusions be carefully examined the "half-moon shaped bodies" are seen to be not really half-moon shaped at all but round; that is to say, the chromatin, which is that which takes up the stain, is chiefly situated on one side of a round body, giving a half-moon shaped appearance. Numbers of the larger "coccoid-like bodies" show a pale centre with a darkly staining outer rim of protoplasm. Now these endothelial cells often also contain within them fully formed lymphocytes. The "coccoid and half-moon shaped bodies" are evidently produced by the digestion of the lymphocytes by the endothelial cells, all stages in the process being observable; they are not only found within the endothelial cells but also within the giant cells. As the cell inclusion is digested the protoplasm of the endothelial cell becomes vacuolated around it and when completely digested nothing but a vacuole is left. During the process of digestion the inclusion becomes more darkly staining, due no doubt to the shrinking and matting together of the reticulum of the cell. In a like manner whole plasma cells can be found within these endothelial phagocytes, the protoplasm of the endothelial cells around them becoming vacuolated until only the nucleus remains as a coccoid or half-moon shaped body. This endothelial phagocytosis takes place to an enormous extent in "resolving" follicles after the subsidence of inflammation and no doubt accounts very largely for the disappearance of the mononuclear infiltration after all inflammatory exudations. That this process of digestion of cells takes place in the endothelial cells elsewhere in the body (peritoneal cavity) has been shown to me by Briscoe,[4] some drawings from whose films I have made; they were taken from the peritoneal cavity of a guinea-pig two days after the injection of its own blood and show the inclusion of polynuclear leucocytes (pseudo-eosinophiles) by the endothelial cells and the process of their digestion. A similar change can also be seen in the endothelial cells on Descemet's membrane in cases of keratitis punctata.

The second form of cells making up the stroma are more typical connective tissue cells, with the ordinary pale blue nucleus and red nucleolus and badly staining protoplasm, when stained by Pappenheim's method. This cell is extremely rare in the follicles of follicular conjunctivitis.

The third form of cell, clasmatocytes or wandering endothelial cells, are large cells; their nucleus stains pale blue, with one or two red nucleoli, the cytoplasm staining red with Pappenheim's method. These cells are intermediate in structure between the endothelial cells and the plasma cells and cells are always found of which it is impossible to say whether they are clasmatocyte or plasma cells.

The cells of the follicles.—The character of the cells varies somewhat with the age of the follicle. In young follicles they consist very largely of mononuclear leucocytes (mainly lymphocytes) with a few scattered plasma cells. All the cells take the stain well, none of them show any signs of degeneration, and many can be found undergoing mitosis. In the larger and older follicles the cells, although consisting largely of lymphocytes, contain increased numbers of clasmatocytes and well-formed plasma cells. In some of the older follicles, as has already been mentioned, there are found collections of darkly staining cells with lighter centres, which are strongly suggestive of the commencing formation of new follicles inside the old (endofollicles). These groups are found in their early stages at the periphery of the follicle; some of the endothelial cells of the lining in their neighbourhood are proliferating, which probably furnishes their origin.

LYMPHOMA OF THE CONJUNCTIVA.

The most common situation for lymphoma is the inner end of the lower fornix. I have made sections from one such case in a female, aged 25 years, who some weeks previously had a mild attack of Koch-Weeks conjunctivitis.

The epithelium over the surface had undergone some mucoid changes.

The subepithelial tissue.—The lymphoma consists of a mass of encapsuled lymphoid tissue. Directly beneath the epithelium, and therefore in the neighbourhood of the small vessels, there is a layer of plasma cells. The lymphoid tissue is arranged in an exactly similar manner to the lymphoid tissue of a lymphatic gland. The stroma and the lining membrane of the lymphoma consist of endothelium and blood-vessels, numbers of the small veins of which are packed with mononuclear leucocytes and plasma cells. Within this stroma there are large numbers of typical follicles, consisting of mononuclear leucocytes and plasma cells. The follicles, at least in their early stage, are always found originating either from the endothelial lining of the lymphoma or from the blood-vessels within. The follicles contain, in addition to the lymphocytes and plasma cells, endothelial phagocytic cells and giant cells.

Conclusions.—In lymphoma, which is the outcome of previous inflammation, therefore we have the connecting link between the so-called follicle of follicular conjunctivitis and an ordinary lymphatic gland, the lymphoma being in size, structure, and probably in function identical with an ordinary small lymphatic gland.

[The description of cells found in the examination of the discharge in a large number of cases of both acute and chronic forms of conjunctivitis was then given and the following conclusions were drawn:—]

CONCLUSIONS AS TO THE CELLS OF THE DISCHARGE.

It may be said that in all the acute forms of conjunctivitis the discharge is principally made up of polymorphonuclear neutrophiles (94 per cent.) with an occasional polymorphonuclear eosinophile, but in some diseases, such as pemphigus and vernal catarrh, the numbers of the latter cell may be largely increased. The large mononuclears and lymphocytes each make up about 3 per cent. of the cells of the discharge. In the chronic forms of conjunctivitis, especially when the disease affects more the subepithelial tissue, as in trachoma, plasma cells are found in large numbers; they are also occasionally found in very small numbers in the discharge from acute conjunctivitis towards the end of the attack. Mast cells are found in the discharge principally in diseases of the subepithelial tissue, such as trachoma and phlyctenulæ but they are also occasionally found in the more acute forms of conjunctivitis when of long standing. The cells undergo degeneration by (1) vacuolisation, which seems generally to be due to the digestion of organisms, &c.; (2) hypochromatosis, gradual fading of the cell due to the absorption of fluid; and (3) pyknosis, shrinking of the protoplasm of the cell due to the loss of fluid, the latter two forms of degeneration depending on the osmotic properties of the cell wall.

CONTAGIOUS CONJUNCTIVITIS DUE TO MICRO-ORGANISMS.

Gonorrhœal conjunctivitis.—Clinically the disease is usually divided into two forms: (1) that found in newly born infants; and (2) that attacking adults. Newly born children are especially prone to infection of the conjunctival sac with micro-organisms, as has been previously shown, for the following reasons: first, the absence of lacrymal secretion; secondly, the epithelium is not so thick and there is no flattened layer as in the adult (numbers of the cells, especially in the fornix, have been lost owing to mucoid change which in places leaves the basement membrane bare), thirdly, there is an absence of leucocytes from the lymphoid tissue and fourthly, although the eyelids no doubt are closed as the child passes through the vagina they are in contact with the secretion for some hours before birth

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[4] See also the Origin of the Complement in the Peritoneal Cavity, Orth's Festschrift, 1903.

THE CHANGES IN THE TISSUE AS THE RESULT OF OPHTHALMIA NEONATORUM

The following observations were made on three cases of ophthalmia neonatorum They were all extremely severe cases, one had ended in complete destruction of both eyes and the other two of one eye each

The epithelium on the surface is somewhat irregular in thickness and is desquamating some of the superficial cells containing the gonococcus The conjunctiva becomes papillated in consequence of the swelling beneath This is best seen in sections cut parallel to the surface when papillæ containing numerous blood vessels are seen completely surrounded by epithelium The epithelial cells are much separated from each other, chiefly no doubt by the passage through them of enormous numbers of polynuclear leucocytes *since the conjunctival sac will often become filled* with pus in less than five minutes after cleansing Many of the cells show evidence of mitosis Between the epithelial cells are found numbers of mononuclear and polynuclear leucocytes and although in the section the greater number seen are mononuclear cells the polynuclear cells are found in greater numbers in the discharge doubtless due to the greater power of amœboid movements on the part of the latter cells

The subepithelial tissue —There is an extensive exudation into the superficial layer of connective tissue the vessels in the deeper layer of connective tissue are dilated, and in and around the papillæ there are quantities of small vessels of new formation with proliferating endothelium These vessels contain large numbers of polynuclear leucocytes and show many beautiful examples of diapedesis The connective tissue cells of the superficial layer are proliferating but not to any marked extent The cells in the deeper layer of connective tissue show practically no changes

The cells of the exudation (polynuclear leucocytes)—Although these cells are found in large numbers in the subepithelial tissue they are not nearly so numerous as the mononuclear cells, their relative proportion becomes increased in the epithelium and in the discharge they make up about 94 per cent of the cells Hence it is seen that although they make up the greater proportion of the cells in the discharge they are not seen in such enormous numbers in the subepithelial tissue when compared to the mononuclear cells—a fact which can easily be accounted for by their more active amœboid movements Probably except in special circumstances these cells never re enter the circulation

Mononuclear cells —Mononuclear leucocytes both large and small are found in great numbers scattered throughout the exudation and are seen best in the papillæ which contain little else but these cells many of which are degenerating together with a few endothelial cells and new blood vessels

Plasma cells —Of great interest is the distribution of the plasma cell in this disease They are found in great numbers in the connective tissue beneath the papillæ but where they approach the epithelium they become rapidly broken up the cell staining more faintly and losing its protoplasm hence they are practically absent from the papillæ no doubt due to the presence of the toxin produced by the gonococcus growing in the epithelium The fact that the plasma cells become broken up is of great importance in showing the action of some powerful toxin on the cells and as will be seen in dealing with trachoma this fact is of great use in demonstrating the existence of a disease of which the cause has not been discovered I have been unable to obtain a specimen showing the early stages of this disease

KOCH WEEKS CONJUNCTIVITIS

Bacteriology —The bacillus of this disease is one of the most common causes of purulent ophthalmia being found all over the world The disease occurs frequently both in adults and in children in sporadic and epidemic forms often running through a whole school as it is extremely infectious Morax found 125 cases out of 1430 general ophthalmic out-patients Weeks Kartulis and Hoffmann have also pointed out that it occurs in epidemic form It almost invariably affects both eyes and is characterised clinically by intense injection of both palpebral and ocular conjunctivæ The injection in the ocular conjunctiva is very marked and there are numerous hæmorrhages all over the surface At the same time it is entirely free from chemosis I have examined 30 children with this typical clinical condition and have found the bacillus in 25 cases generally unassociated with any other bacteria In five out of the 25 cases above mentioned it was associated on the culture media with the staphylococcus albus pseudo diphtheric bacilli and diplobacilli From these observations together with the examination of a large number of cases by smear preparation I think it is possible to say almost with certainty *from the clinical condition* whether a case is due to this organism or not Towards the *end of the attack follicles form in the fornix which persist* for some time after the disease has subsided Hoffmann and Marl us have also pointed out the frequency of phlyctenulæ associated with this disease

Histology of Koch Weeks conjunctivitis —I have had the opportunity of examining the conjunctiva removed from the lower fornix at its junction with the ocular conjunctiva in two cases The first was from a severe case of the disease on the second day in a girl aged 20 years whilst the second was from a mild case on the eighth day of the disease in a man aged 30 years I have also examined a number of specimens from the lower fornix showing follicular formations, these follicles usually begin to appear about the sixth day of the disease forming rather earlier in children and persist for some time after the disease subsides

The epithelium —The epithelium shows extensive mucoid change which is not distributed evenly throughout but occurs in patches over the area of exudation into the subepithelial tissue and is more marked in the case of long standing than in the early case, the epithelium is occasionally found dipping down into the subepithelial tissue

The subepithelial tissue —The exudation unlike gonorrhœal conjunctivitis is unevenly distributed throughout the subepithelial tissue which contains between the patches of exudation very few more cellular elements than the normal number In the areas of exudation in the subepithelial tissue the vessels are dilated and the endothelium proliferating and there are quantities of newly formed vessels which are well marked in these areas in the sections from the case of two days duration there are also numerous small hæmorrhages into the subepithelial tissue The character of the cellular exudation varies in the two cases In the early case the exudation consists largely of polynuclear leucocytes but there are also numbers of mononuclear cells which are principally lymphocytes together with a few plasma cells these cells are found around the blood vessels of both the superficial and deeper layers the polynuclear leucocytes (spider cells) being more numerous around the small newly formed vessels whilst the mononuclear leucocytes are found around the larger vessels there are very few plasma cells present In the older case there are more newly formed blood vessels the mononuclear exudation is more marked and there are fewer polynuclear leucocytes than in the early case Plasma cells are present in large quantities where the mononuclear exudation is situated that is to say around the vessels, they are broken up wherever there are large numbers of poly [illegible] at the site of most active [illegible] ations do not differ in [illegible] follicular conjunctivitis In the early stages of their formation they do not contain many plasma cells These cells gradually increase in number as the attack subsides As the follicles begin to disappear the *endothelial phagocytic cells make their appearance* in enormous numbers and I have been able to count as many as 12 under a single field of the $\frac{1}{12}$th

From the above observations it is seen that in the early stages the plasma cell is not present to any extent but that as the disease subside and the tissues become locally immune it appears in increasing numbers Evidently the affection of the subepithelial tissue is much more localised than in gonorrhœal conjunctivitis as evidenced by the *unequal distribution of the exudation* but at the same time it is very acute as shown by the multiple hæmorrhages and polynuclear exudation This localised infection no doubt accounts for the frequency of phlyctenules and the localised hæmorrhages seen in the bulbar conjunctiva in this disease and also no doubt for the frequency of follicular formation after the acute stages have subsided

DIPLOBACILLARY CONJUNCTIVITIS.

W. Stock has examined a whole conjunctival sac from a patient who died while suffering from a chronic diplobacillary conjunctivitis. I have examined pieces of tissue removed from the lower conjunctival sac in three typical cases of two, three, and four weeks' duration. Although my observations are in the main similar to his he does not demonstrate the character of the cells by means of plasma stain.

The epithelium.—The greatest changes take place in the epithelium which undergoes very extensive desquamation and mucoid change. In the later stages of the disease it dips down into the subepithelial tissue and new glands are formed; these new glands are very liable to become occluded, with the result that retention cysts are produced.

The subepithelial tissue.—There is no increase in the polynuclear or mononuclear leucocytes in the subepithelial tissue, except in the regions where the epithelium dips down into it or where there are cystic formations. Elsewhere the change consists in a large increase in the number of plasma cells, of which the exudation consists almost entirely; directly beneath the epithelium the cells are somewhat broken up, no doubt due to the presence of the toxin. There is also a considerable increase in the mast cells of the underlying tissue. In one case which was of long standing there was a considerable amount of hyaline degeneration present. The diplobacillus is a non-pyogenic organism and causes a conjunctivitis which is extremely chronic if untreated but very amenable to treatment in the early stages. It produces the greatest changes in the epithelium in which it grows. The reaction caused by the toxin in the subepithelial tissue is not an exudation of polynuclear or mononuclear leucocytes, as is seen in the more acute forms, such as Koch-Weeks and gonorrhœal conjunctivitis, but is the production of plasma cells. These cells, as they come near the epithelium, are broken up through the presence of the bacilli and, therefore, owing probably to the low vitality of these cells, the disease is not eradicated spontaneously.

The Lettsomian Lectures

ON

TOXIC MENTAL DISORDERS.

Delivered before the Medical Society of London on Feb. 6th and 20th and March 6th, 1905,

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LECTURE II.[1]

Delivered on Feb. 20th, 1905.

MR. PRESIDENT AND GENTLEMEN,—In the last lecture I commenced with a definition but it would be difficult to give any definition of toxic insanity and it is difficult concisely and with proper interest to place the subject fairly before you.

Mental and nervous disorders which depend chiefly upon toxic agents may depend directly upon them but also may not infrequently depend upon secondary toxins—that is to say, toxins which have been produced by the primary infections. A large number of nervous and mental disorders depend upon toxic agents and some of the toxic agents seem to have special or specific effects upon certain parts of the nervous system, leaving others comparatively untouched. In some instances the differences between one toxic cause and another is rather a question of degree than of the nature and though they may resemble one another in many aspects yet there is no doubt that some of these poisons are much more persistent or malignant, or both, than others. In comparing the effects produced by alcohol with those produced by lead we find that they are very similar in character, and in some cases hardly to be distinguished one from the other, but yet the effect of alcohol is as a rule transient, the effect of lead being more persistent and more serious. In the same way, if the effect of alcoholic poisoning be compared with that of syphilitic poisoning one has to recognise the great differences between the transient results of alcohol and the more invading and persistent infection of syphilis. The mental symptoms depending upon poisoning depend to a very great extent upon the quantity as well as upon the character of the toxic agent. There are certain poisons which if taken in large quantity will produce stupor, whereas if taken in only small quantities they have a stimulating effect. In the epidemics, such as scarlet fever, influenza, and the like, we constantly find at the early part of the epidemic a potent poison, whereas later it is less potent and has less serious effects upon the individual.

The frequency with which the poison is taken is of importance. A man who is having continuously repeated doses of poison suffers mentally and nervously much more seriously as a rule than the man who has one or more large doses of poison but not constantly repeated. There are specific peculiarities in poisons and there are specific differences in the persons poisoned. It seems probable that the neurotic individual is likely to suffer along the nervous side from infection much more than is the person who is not neurotic. It is believed by many that the infection of syphilis is much more serious when it attacks a person of neurotic but not insane inheritance—that the danger signal will be shown along the neurotic line whenever the affection occurs. There is a special idiosyncrasy as well; there are some people who are intolerant of the smallest amount of cocaine, and the smallest doses by instillation of atropine or of duboisin have produced most marked and serious mental disorders, temporary I admit but yet showing the extreme susceptibility of some people. Then, again, a person may become unstable and intolerant of any poison as a result of traumatism, such as sunstroke or any severe injury to the head or any strain.

First we will consider the toxic agents from without the body—that is to say those introduced into the body, such as alcohol, morphine, and the like. Then we will take toxic agents which form within the body as a result of some other infection, taking it for granted that it is not an influenzal infection or the syphilitic virus directly that produces the mental disorder, but that they set up a process which produces the toxin which gives rise to these troubles. Then we will consider the generation in the body of poisons the result of disordered metabolism; such conditions are to be met with in Bright's disease, in myxœdema, in diabetes, also probably in similar disorders depending upon a disturbance of healthy metabolism resulting from shock, fright, and alarm. Also acute delirious mania, the so-called acute delirium, or, according to some of the more recent continental writers, acute bacillary delirium. Then we have a very important class of cases of auto-intoxication from the gastro-intestinal tract. Then there is a fifth class which I am hardly prepared to accept as being different from the second, due to micro-organisms from without getting directly into the blood stream and thus producing acute infection. It is necessary to mention this in order to make the subject complete, but I shall not consider it. As to the general likeness which occurs under these conditions there is no question but that the following are the chief common characteristics. First of all the disorder is most commonly and in the earlier stages generalised and not localised. Next there comes a general confusion of function rather than anything else. Later we get sensory and motor troubles. Taking alcohol again we get staggering from the motor side and doubt and uncertainty and defective control on the mental. With the further development of the symptoms we get loss of higher control in the individual, loss of self-respect, he suffers in social relations after the attack, and he seems unable to fit in with his surroundings. Later come the craving and the desire for the cause and the falling before temptation. This does not exist in relationship to all the toxic agents and is much more marked with some than with others. Then another very important thing is to note the effect of most poisons sooner or later upon the storage mental capacity, so that defective memory is a marked and conspicuous sign. The end is generally dementia. In some cases there is comparatively small evidence that this result is impending. For instance, with certain poisons—belladonna, hashish, alcohol, and the rest—one gets an apparent brilliancy, which has been compared to cerebral usury leading to cerebral bankruptcy.

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[1] Lecture I. was published in THE LANCET of Feb. 18th, 1905, p. 409.

The effects of the poisons may be either direct or indirect; they may at once seem to affect the nervous system, probably through the blood current, or they may seem to go directly through the circulatory and nutritional centres to the nerve centres. A certain number have not only direct but indirect effects; a poison which has affected the liver or one which has affected the kidneys chiefly reacts by producing further derangement or disorder of nutrition of the highest centres. It is important to remember that some poisons tend to produce moral defect, whereas others tend to sensory defect, others to muscular defect, and [illegible] There are, [illegible] or power of [illegible] and syphili[illegible] has to remember the persistency of certain poisons; it is a question whether a man who has once acquired syphilis is ever free from it. There is also the cumulative effect of such mineral drugs as arsenic [illegible] remembered. I would there-[illegible] toxic agents may depend [illegible] their persistency, or upon their cumulative power.

As to poisons from without, the first which I must refer to is alcohol. A large dose of alcohol may at once produce poisonous symptoms and stupor. Any agent which will produce any temporary nervous or mental disorder may produce a similar disorder in an aggravated form, so a very large dose of alcohol may render a man a fool, but it may render him permanently, or for days or weeks, a [illegible]

a time when the alienist is called in. It is difficult to know what to do with these cases. Probably they have been freely purged and all sorts of things have been tried to give them rest and sleep; they may have got into a condition in which they sleep fairly well and take food fairly well, and yet in their waking moments they are chronically mad. Some of these cases can only be treated by a hair of the dog that bit them. One hesitates to give alcoholics alcohol but sometimes it is necessary. Delirium following any form of mental disorder which can be produced temporarily can become permanent, a slight delirium may become a persistent delirium. Head injury, sunstroke, and the like [illegible] excessive consumption [illegible] some and dangerous sy[illegible] alcoholism are epileptic seizures. True epilepsy seems to be developed after middle age in some chronic alcoholics. Alcoholic insanity, so-called, which embraces alcoholic mania, alcoholic melancholia, and dementia, is characterised by delusions, hallucinations, and suspicions. The patients frequently become homicidal and not infrequently are in a maudlin, weak-minded state and become suicidal.

Perhaps I should say a few words about dipsomania. Is there such a disease as dipsomania pure and simple? Or is it simply a variant of recurrent mania in which there is a tendency to drink at the periods of depression? Nearly all the dipsomaniacs I have come across have belonged to neurotic families and have been liable to other attacks of nervous disorder. It seems to me interesting that dipsomaniacs do not tend to dementia so certainly or so rapidly as the ordinary drunkard. They seem to be able to recover completely from their disorders for a time. The most characteristic symptom of chronic alcoholic insanity is loss of memory for recent events, as in the mental disorders and the weak-mindedness which occur with senility, with decay, and, in fact, alcoholism may almost be called alcoholic senility. There is defect of memory for all recent events to a most extraordinary degree. And in passing I would say that one of the characteristics of this is that very frequently with the loss of memory there is loss of craving, loss of desire. Another almost characteristic defect of memory occurring with senility and also occurring in alcoholism is loss of the sense of time and place There is the individual who sits by his fireside and tells you that he has been to the office that morning, that he is sorry he has not changed his clothes but he was getting into his dressing gown, preparatory to dressing for dinner. As a matter of fact, he has not been out of the house for weeks. Or there is the individual who tells you that he is going home presently, he being in his own house where he has lived for years. This loss of appreciation of time and place relationship with the loss of recent memory is extremely interesting.

I will roughly sum up this part with these few remarks: that the nervous symptoms proceed apparently from the periphery to the centre; that sensation, motion, and intellect are in order affected. These lead to various mental disorders, to sensory disorders, giving rise to illusions or hallucinations such as of electricity, galvanism, or poisoning. Sensory defects, such as that of sight or hearing, lead to similar disorders of mind, confusion of ideas, with ideas of undue influence. Motor disorders probably play a part in the confusion as to time and place and also they cause ordinary giddiness. The chief marked intellectual defect is gradual and steady loss of mental power in all directions, loss of memory for recent events being the most characteristic. There is what I may call the sensory motor disorder seen in the epileptic; troubles so common in the advanced cases of this may be followed by a paresis resembling general paralysis or some form of local palsy. The progressive decay of the mind, due to alcohol, is marked by the progressive loss of moral sense, deadening of the feelings and of the higher civilisation, and later again in the onset of the affection a tendency to impulsive and dangerous acts. The form in which the alcohol is taken also has undoubtedly some effect. It used to be thought that there was little danger in beer, that there was some danger in wine, that there was still greater danger with spirit, and that liquors such as absinthe were specially pernicious—in fact, there was developed the term absinthism to indicate nervous disorders in which epileptiform seizures were particularly common.

Now to pass on to the next most important poison from without—namely, opium or morphine. The origin of the morphine habit (which occurs so commonly, unfortunately, in members of our profession and those connected with drugs) is often pain, more commonly sleeplessness, and extraordinarily commonly pure inquisitiveness. It is an interesting fact that I have rarely seen a serious acute attack of mental disorder follow the beginning of the taking of opium or morphine, even though a fairly large dose has been taken. I have seen a single large dose in habitual morphine-takers produce stupor, which has persisted, very similar to the stupor met with in alcoholics. As a rule, morphinomaniacs become such in a slow gradual way. There are slow progressive deterioration and loss of self-control, not so much loss of memory but an utter confusion of ideas, and there are disturbed ideas of time and place relationship. When mental trouble arises it not infrequently leads to profound melancholia, sometimes through the stage of acute mania when the morphine is withdrawn. Then the symptoms become acute and it is common for there to be at this time suicidal attempts. The moral decadence seems to be in relationship with the strength of the poison: a drunkard is a liar but a morphinomaniac is an accomplished liar. In some cases there is moral dementia out of all relationship to any intellectual defect. If with morphine there are ideas of poisoning and of persecution these are almost always associated with visual hallucinations, sometimes of the sensuous and sometimes of the sensual type. Not infrequently the individual who is poisoning himself accuses others of poisoning him.

Next to morphine I would refer to cocaine because it is not at all an uncommon thing to find that an individual who has been a morphine-taker, having made good resolutions and failed, determines to strengthen his good resolutions by taking cocaine. One advantage, from the medico-legal point of view of the cocaine-taker, is that he develops hallucinations of his senses which are readily detected and which call attention to his vice. The cocaine-taker hears voices much more commonly than the morphine-taker. The morphine-taker more frequently sees things, the cocaine-taker hears whispers and voices. Next to the auditory hallucinations are those of the skin. Persons who have been in the habit of taking cocaine will complain that there are worms under their skin, or will complain that by some means or other people are using the x rays or radium upon them. And such people, although there is n[illegible] will pinch it up and desire you [illegible] there. I have not come across [illegible] owed their origin directly to the use of cocaine. I have seen extraordinary susceptibility and in two cases I have seen temporary delirium and temporary stupor [illegible] the use of cocaine in the extraction [illegible] teeth.

seen the same thing follow on more than one occasion the instillation of atropine into the eye. Many years ago I heard somewhere that duboisin had been used as an exhilarant and I used it for dilatation of the pupils and one patient had, after the dilatation of the pupils, marked excitement, this patient having been melancholic before. I tried it in several other cases; in only one other did I meet with the excitement. Belladonna may produce delirium and there again, passing from the delirium, we may find delirious mania set up. In England we see nothing of hashish poisoning but it is only right to mention it in passing. When I was in Cairo some years ago I spent several days in the asylum there and saw a great many cases of delirious excitement depending upon hashish poisoning. The taking of paraldehyde even, loathsome as its taste is, may grow into a habit and may give rise to symptoms like those due to alcohol. I have seen one or two cases in which the taking of paraldehyde led to hallucinations of all the senses with ideas of persecution and poisoning.

Passing from the simpler poisons such as alcohol and vegetable poisons, I would refer briefly to mineral poisons such as lead. Almost any form of nerve disorder can result from lead poisoning. I have seen acute mania follow it. As a rule the symptoms are those affecting muscle rather than mind; they are cumulative in their effect. And what is most important is that lead alone or lead with alcohol will give rise to nearly all, if not all, the symptoms which are commonly met with in general paralysis of the insane. It seems pretty certain that lead will produce true general paralysis of the insane. I have seen cases of mental disorder following poisoning by coal gas. Following the use of any of the anæsthetics mental disorder may occur and I have met with several cases in which surgical dressings such as iodoform have produced temporary insanity.

Now comes, perhaps, the most important of all, next to alcohol, and that is the neurosis of influenza. Influenza, like other fevers, may set up any psychopathy, or any psychopathic changes may result from, or follow, influenza. Insanity may come on at various stages of the disease. One has seen influenza in an early febrile attack, with the temperature at 103° or 104° F., start acute delirious mania of a fatal type. One has seen the febrile stage of the disease give rise to maniacal disorders of various forms which may then start any form of insanity. The rôle of influenza varies in the production of the insanity. In some cases, undoubtedly, it is merely an exciting cause. People who have been subject to other attacks of insanity, sufferers from recurring mania or melancholia, get an attack of influenza and that again precipitates the attack. Therefore it may be the predisposing or the exciting cause of any form of mental disorder. But in nearly all cases where there is mental disorder following influenza it occurs in persons of neurotic inheritance or in those of a degenerate type. The alcoholic, for instance, may have been chronically alcoholic and not have suffered much from it perhaps, yet when he gets an attack of influenza he may become either a melancholiac or the victim of delusional insanity. The insanity follows, then, from an altered brain nutrition, possibly and most probably toxic, directly or indirectly. The onset of the insanity is often sudden and bears no relationship to the severity of the attack of influenza. Some of the most marked cases of insanity following influenza which I have come across have been those in which the influenza itself had been comparatively slight. The curability of the cases following influenza depends rather upon the form of the mental disorder than upon the severity of the influenza. Of course if the affection starts general paralysis of the insane or the evidences of general paralysis of the insane, it is no more curable because it was started by influenza than if it had been started by a blow or a shock. The insane are said to be less disposed to take influenza but I doubt it. It has occasionally had an interesting effect in curing psychoses. It is interesting also to remember that a person who is suffering from chronic insanity may, during an attack of influenza, have lucid intervals. There is no special indication so far as treatment is concerned.

The consideration of influenza leads to the consideration of neuroses following fever generally—that is to say, post-febrile disorders. One has seen disorder of mind following every one of the fevers. For instance, in typhoid fever there seems to be a post-febrile condition in which loss of memory is much more common than in any other disorder. In many of the others the mental disorder depends very greatly upon the fever and upon the delirious condition

It would be wrong for me to leave out gastro-intestinal auto-intoxications and I should like to speak of the acute delirious mania. Perhaps it is enough to say that one of the commonest symptoms which patients complain of when they come to me is constipation and indigestion—that is to say, various forms of gastro-intestinal trouble. Now and then the mental disorder has a direct relationship to the state of the stomach or of the bowels. And one has seen cases in which free purgation has brought about relief of the mental symptoms.

I have not time to speak of toxic conditions following upon surgical operations. I can only mention acute delirious mania or what has been called acute bacillary insanity. Under this head have been described cerebritis, acute meningitis, and by distinguished American physicians it has been termed delirium gravé. Acute delirious mania is a very good term unless bacillary infection can be proved. A shock of any kind will start a delirious condition, anything which alters rapidly and acutely the nutrition of the brain. I believe starting from the brain itself there may be auto-intoxication, a toxin which will produce delirium, and which develops into probably one of the most dangerous and fatal diseases which exist.

And now the time has arrived for me to sum up, and I feel that the whole subject must be left rather for your careful consideration; one has had to bring too many subjects under review. I do not wish to trace the origin of all mental disorders to micro-organisms, but I feel that we must accept the fact that associated with very many diseases there are bacillary growths, and yet that these micro-organisms are not the true causes. I would say that the part taken by such organisms varies greatly. I think the high tide of belief in bacillary causation has been reached and that we must next look for some cause of a physiological and chemical nature. But whatever we do we must be careful not to accept too readily the last idea, which is often very like the man seen against the sky who looks very big because of his position, and from that alone

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ON THE DIAGNOSIS AND TREATMENT OF HYPERTROPHY OF THE PYLORUS IN INFANTS.[1]

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THE importance of early diagnosis and of a clear understanding of the lines of treatment in the so-called "congenital hypertrophy" or "hypertrophic stenosis" of the pylorus in infants has become increasingly evident within the past few years, for it has been shown that what was formerly regarded as an incurable and inevitably fatal condition is, sometimes at least, amenable to treatment. Judging from my own experience I should say that many, perhaps even a majority, of these cases recover completely if only they are recognised sufficiently early and subjected to suitable treatment. I propose to deal chiefly with these two points, diagnosis and treatment, and my remarks will be based upon 20 cases which have been under my own personal observation either in hospital practice or in private consultation. Several other cases have been in the wards of this hospital and some of these also I have had the opportunity of watching, thanks to the kindness of my colleagues.

So much has been written recently about congenital hypertrophy of the pylorus that it is unnecessary to weary you with any detailed description of the disease; but let me remind you of its salient features. An infant under the age of four months has been vomiting his food. The vomiting began at the age of three or four weeks and for the first week or so was thought to be no more than a little indigestion might account for. But it persisted and soon began to attract notice, more by its persistency than by its frequency, for it occurred perhaps only two or three times in the 24 hours. Then the food was thought to be at fault and change after change was made in the feeding, each time, perhaps, with temporary diminution of the vomiting. But still the vomiting persisted and at times was noticed to be so sudden, copious, and forcible that the vomit was shot out a foot or more from the mouth and perhaps through the nostrils as well. Since the vomiting began the bowels have been costive, perhaps only opened with enemata. And now the infant is wasting to a marked degree and perhaps it is this wasting rather than any alarm at the vomiting which leads the parent to seek medical advice. Such is the history which leads one to examine specially for the two characteristic signs—visible and very marked peristalsis of the stomach and a palpable thickening of the pylorus—upon which the diagnosis rests.

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[1] This paper is founded on a lecture delivered at the Hospital for Sick Children, Great Ormond-street, on Feb 9th, 1905.

DIAGNOSIS.

Having said thus much by way of general description I shall proceed to consider in detail the various points which bear upon diagnosis. But first let me emphasise the fact that no symptoms or combination of symptoms, however suggestive they may be, are sufficient for the diagnosis of congenital hypertrophy of the pylorus in the absence of the two characteristic signs which I have already mentioned. No doubt such a history as I have outlined would be strong ground for suspecting the existence of this disease and the suspicion might or might not prove correct, but where treatment, especially operative treatment, is so vitally serious a matter we have no right to be satisfied with anything short of certainty, and this depends upon the presence of well-marked visible peristalsis of the stomach, associated with palpable thickening of the pylorus.

Sex.—I would not have you imagine that any great stress is to be laid on sex in the diagnosis of this disease, but none the less I think that the predominance of males is noteworthy. Of my own 20 cases 17 were in males; only three were in females.

Age.—Far more important is the age incidence. On this point some misapprehension has arisen out of the nomenclature of the disease. More than once when I have seen these cases in consultation and have spoken of the condition as "congenital hypertrophy of the pylorus" I have been met with the objection, "But this is impossible, for the baby was perfectly well until it was four or five weeks old. How can the condition, therefore, be congenital?" Let me say at once that whatever may be the correct view as to the pathogeny of the disease, whether it be a congenital hyperplasia of the muscular tissue of the pylorus or a congenital lack of coördination with resulting spasm and thence hypertrophy, as Dr. John Thomson has suggested, or, whether the hypertrophy be entirely of post-natal development, the symptoms are very rarely congenital. Of my own 20 cases only one began as early as the third or fourth day and only three others within the first week. The term "congenital," therefore, is misleading and although I retain it as, perhaps, representing a correct theory there is no proof that all cases are congenital in origin. That the obstruction is primarily due to spasm of the pylorus I regard as certain and to me it seems most probable that the hypertrophy also is the result of spasm; how long this hypertrophy may take to develop we cannot tell; but so far as the spasm is concerned I see no reason why it may not, like the disturbance of coördination which is evident in the hiccough which babies so easily get, or in the stuttering which is almost physiological in the young child who is learning to talk, be due in some cases to irregularity of function beginning after birth; may not the nervous mechanism of the stomach be as easily disturbed as the nervous mechanism of speech, particularly in the early days before function has become stereotyped by usage? Perhaps, indeed, the analogy may be closer than this and the tonic spasms of the muscles of speech find a counterpart in a stuttering stomach. But however this may be, the point I would emphasise is this, that the symptoms very rarely date from birth; of my own cases, 12 certainly, and one other probably, dated symptoms (vomiting) from before the end of the fourth week; in the remaining cases vomiting began between the fourth and the end of the seventh week. It is not always possible to be certain of the date of onset, for slight regurgitation which the parents have regarded as normal and which may, of course, be so in early infancy, has sometimes been present before the definitely abnormal vomiting began. I have never seen a case in which vomiting began later than the seventh week, but onset at least as late as the ninth week has been recorded.

Obviously these facts have an important bearing on diagnosis. For example, in the case of an infant, aged nine months, who had been vomiting persistently for three weeks, a diagnosis of congenital hypertrophy of the pylorus was suggested but in such a case the age alone, apart from various other indications, was almost, if not quite, sufficient to exclude this condition. I am aware that the name "congenital hypertrophy of the pylorus" has been applied to a condition supposed by some to be identical herewith in the adult and if the disease is primarily spasmodic it is conceivable that it might begin at any period of life, but so far as children are concerned the onset of the disease is almost, if not quite, invariably before the age of three months and unless vigorous measures are adopted death usually results before the end of the fourth month.

Vomiting.—Let me insist first with regard to vomiting that, however persistent and chronic it may be, it is never *per se* proof that an infant has congenital hypertrophy of the pylorus. Cases have been recorded as instances of this disease with no other evidence than persistent vomiting; let me warn you against such an entirely unwarrantable assumption. No doubt it is the symptom which in most of the cases has first suggested the presence of this condition but it is only when it is associated with the characteristic signs, the visible peristalsis of the stomach and the palpable thickening of the pylorus, that it becomes diagnostic.

Apart from its persistency the vomiting of congenital hypertrophy of the pylorus has certain features which are suggestive of the disease. 1. Its forcible character. A mother informed me recently that her child with this condition "pumped up" his food suddenly with such force that it shot out more than two feet from the mouth. Her account may have been exaggerated but it may serve to illustrate my point. She also mentioned another frequent result of this forcible expulsion, that the vomit comes through the nostrils also. 2. Its occurrence in an infant who has been carefully fed, particularly when, as happened in 10 out of my 20 cases, the infant was being fed by the breast only. 3. Its persistence in spite of such alterations of feeding and such general treatment as will usually control the vomiting of dyspeptic conditions. 4. Its large amount showing that the vomit represents more than one feed, perhaps the accumulation of several feeds, in the dilated stomach. When vomiting in an infant under four months has these features there is very strong ground for suspecting the presence of congenital hypertrophy of the pylorus, but each of the four, including the forcing of vomit through the nose, has occurred within my own experience, also in cases in which there was no reason to suppose the presence of pyloric obstruction

I have referred incidentally to the fact that the vomiting is sometimes distinctly influenced by diet. In most cases the improvement is only short-lived, perhaps for a day or two, but I have known this to cause error in diagnosis; the temporary improvement with each change of diet was taken to indicate that the vomiting must be dependent simply on some fault in the feeding. The observation was correct, the inference was wrong.

Naturally much stress has been laid upon vomiting as a prominent symptom of the disease, but it must be remembered that the vomiting is not necessarily frequent; it may be only once or twice in the 24 hours. There may even be an interval of 24 hours in which there is no vomiting. No doubt this depends to some extent upon the degree of dilatation of the stomach which has occurred but I suspect that it means more and points to [illegible] tion, a variation which see[illegible] varying degrees of spasm o[illegible]

As the result, no doubt, [illegible] some cases this symptom has sometimes attracted much less attention than the wasting which accompanies it, and in two of my cases at least the vomiting was thought scarcely worth mentioning, the condition being regarded as simply obstinate infantile marasmus. In one of these both the medical attendant and the nurse stated that the vomiting was "nothing particular," but on cross-questioning one found that the vomiting, although it occurred sometimes only once in the day, was often more in amount than one or even two feeds and that it was shot out with unusual force through the mouth and nose.

Constipation.—The association of chronic constipation with this persistent vomiting is of some importance in diagnosis, for where chronic vomiting in an infant at this age is dependent upon faulty diet it much more often keeps company with loose, or at least unhealthy, slimy stools and frequent action of the bowels. But there are exceptions in both ways. I have seen congenital hypertrophy of the pylorus with loose and frequent stools and I have notes of chronic vomiting with constipation in infants who showed no evidence of congenital hypertrophy of the pylorus. Nevertheless, I think it is a useful rule to examine carefully for congenital hypertrophy of the pylorus in all cases where chronic constipation is associated with persistent vomiting in an infant under the age of four months.

Wasting.—This, as already mentioned, may be the symptom which has attracted most attention and I only mention it again to warn you of the possibility of mistaking the case for one of marasmus from faulty feeding. I suppose there can be no doubt that until recently these cases of pyloric obstruction have mostly passed for the common marasmus of infancy or have been attributed to unsuitable feeding, and the mistake is easy enough to make, for the history may differ but little, if at all, from that of many a commonplace case of infantile wasting.

The two characteristic signs.—My own experience leads me to think that the condition is overlooked largely because the method of examination for the two characteristic signs is not generally understood. In three or four of my cases the presence of this disease had been suspected, but as the characteristic signs were supposed to be absent no diagnosis had been made, whereas when the case was examined under the requisite conditions the signs were shown to be extremely marked. In the first place it must be recognised that these two signs are only present at intervals, so that cursory inspection and palpation of the abdomen may, and almost always do, result in overlooking the condition altogether. Patient examination, occupying perhaps ten or 15 minutes, may be necessary before the signs can be elicited and occasionally, though, I think, rarely if proper precautions are taken, examination on a second occasion may be required. The reason of this is simple: both signs depend upon active contraction of the muscular wall of the stomach, and just as happens with the uterus during labour, at one time it is easily stimulated to activity and at another it remains inactive in spite of all efforts to excite contraction. The second point to be considered is the time at which the examination is to be made. I have almost always found that the abdomen has been examined without any reference to the time at which the infant was last fed and the result has been failure to detect the characteristic signs. The abdomen should be examined immediately after the infant has been fed. It is at this time, and apparently in some cases hardly at all except at this time, that the abnormal peristalsis of the stomach is to be seen, and it is during peristalsis that the thickened pylorus is to be felt. I think it is well also to watch the abdomen during the taking of the feed; sometimes after part of the feed has been taken vigorous peristalsis of the stomach commences. I would add as a third counsel, and one particularly applicable to these cases, that warm hands are no unimportant factor in the palpation of an infant's abdomen.

Visible peristalsis of the stomach.—Sometimes spontaneously, sometimes only after repeated stroking or gentle kneading of the epigastrium, a rounded lump, varying in size from half a large walnut to half a Tangerine orange, rises at the left costal margin and passes very slowly across the epigastrium slightly downwards towards the right hypochondrium. Before this lump has yet reached the mid-line a second similar lump is already rising at the left costal margin and sometimes before these two have yet disappeared in the right hypochondrium a third is already appearing on the left side, so that at one time three bulging eminences are seen like a chain of hills extending across the epigastrium. They move so slowly that at times they may even be seen to pause altogether but each in turn fades away in the right hypochondrium and a succession of these bulgings may continue to appear for one or two minutes. This peristaltic wave is so gross that it could easily be seen at a distance of two or three yards and in two of my cases the mother or nurse specially noticed it. Upon this grossness I lay some stress, for it is of importance in the diagnosis.

Two questions obviously arise with regard to the diagnostic significance of the sign: 1. Can any other movement be mistaken for this peristalsis of the stomach? 2. Does visible peristalsis of the stomach occur in infants apart from this disease?

There are two movements which I have known to cause doubt in diagnosis. One is the voluntary irregular contraction of the muscles of the abdominal wall, which in an infant "squirming" about as an infant often will, especially when the abdomen is exposed for observation, may cause local bulgings in the hypochondrium or epigastrium, but these, although they may deceive the unwary, ought not to cause any real difficulty, for the bulging produced thus does not travel transversely across the epigastrium, nor does it appear and disappear with the slow, even regularity of the gastric peristalsis; moreover, it is definitely coincident with voluntary muscular effort. The other movement is much more difficult to distinguish; it is peristalsis of the transverse colon in certain cases where, owing to an unusual arrangement of parts, peristalsis is from left to right in a portion of the colon. In an infant who was taken to King's College Hospital with vomiting at the age of five weeks I found definite but very slight peristalsis passing from left to right in the epigastrium; the pylorus could not be felt and the peristalsis was so slight that I doubted its significance. The infant looked ill and was admitted and died with broncho-pneumonia and pleurisy. It was found that the transverse colon passed across from the hepatic flexure towards the left hypochondrium and then turned back upon itself into the right hypochondrium before passing finally across the epigastrium to the splenic flexure; it formed, therefore, an S-shaped loop in one part of which, of course, the peristalsis would *travel from left to right*. In this case the feeble character of the peristalsis had suggested during life that it was not due to hypertrophy of the pylorus. With regard to the second question I think it may be said that visible gastric peristalsis of such marked degree as that to which I have referred is during the first few months of life almost, perhaps quite, peculiar to hypertrophy of the pylorus. So far as my own experience goes I have never known it to occur apart from this condition.

But I have purposely emphasised the degree of peristalsis, for I have seen in infants with chronic vomiting and constipation, where there was no other evidence of pyloric hypertrophy and where simple treatment by careful feeding and aperients caused rapid cessation of the vomiting, a very feeble peristaltic wave passing over the stomach just after feeding. I suspect that this might be found more often if specially sought. The peristalsis in these cases was so slight that it could only just be detected by inspection of the abdomen obliquely in a good light; the pylorus could not be felt. Of course, it may be argued that such cases were very slight degrees of pyloric hypertrophy, and this I cannot disprove. The peristalsis to which I have referred as a characteristic sign of hypertrophy of the pylorus, and which was seen in all my cases except the first (which occurred some years ago before the methods of examination were known to me), is something altogether more striking than this and if it happens to occur whilst the abdomen is uncovered is as obvious to the layman as to the medical man.

Palpable thickening of the pylorus.—On deep palpation, usually just outside the right nipple line and about a third of the distance from the umbilical level to the costal margin, a hard lump, barrel-shaped, and seeming perhaps about three-quarters of an inch long by half an inch wide, is to be felt *at intervals*. This tumour, the hypertrophied pylorus, behaves exactly like an intussusception in its variations of palpability. We are all familiar with the intussusception tumour, which at one moment may not be felt at all and the next moment is so hard that it is obvious to anyone. So it is with the pyloric tumour; it is during peristalsis that it is to be felt; at other times the muscle is so soft that no amount of *tactus eruditus* will enable you to feel it. For this reason palpation should be made during the visible peristalsis of the stomach and at these times I suspect that with experience the pylorus could be felt in every case, although perhaps more than one examination may be necessary. Out of my 20 cases the pylorus was distinctly felt in 19. Occasionally, even when there is no visible peristalsis in progress at the time, the pylorus can be felt evidently undergoing contractions, being palpable and hard one moment and completely lost the next. Such contraction may be excited by gentle kneading with the tips of the fingers pressed deeply into the abdomen in the situation of the pylorus.

It may be doubted whether any assistance is to be gained from an anæsthetic in this examination; indeed, it seems probable that it might actually prevent detection of the pyloric thickening by hindering indirectly the occurrence of peristalsis; certainly any anæsthetic is quite unnecessary; tact, patience, and warm hands are much more likely to be successful. No doubt the diagnosis of pyloric hypertrophy can be made with all but certainty from the visible, well-marked peristalsis of the stomach alone but it is my opinion that in every case the evidence should be clinched by feeling the thickened pylorus.

TREATMENT.

I shall preface my remarks by some general considerations on the treatment of this disease. You are all aware that within the past few years successful results have been obtained by operative relief of the pyloric obstruction— [illegible] method of relief which seemed at first to promise but littl [illegible] hope at so frail an age. But now it would seem that ther [illegible] is a danger lest the very brilliance of this success shoul [illegible] lead us into adopting as routine a mode of treatment which, however greatly methods may improve, can never be otherwise than dangerous in an infant a few weeks old. If the disease were incurable by other and fa [illegible] we might well accept the chanc [illegible] as I shall show you it is now [illegible] cases in which no operation whatever is necessary, and there are other cases in which the child's chance of surviving operation may be greatly increased by the use of simpler measures for a time until the infant is older and stronger and therefore in a better position for operative treatment. If, as I hold, the hypertrophy be merely a secondary phenomenon, the result of spasm, then we have a rational basis for adopting such treatment as may tend to allay the spasm, and if this can be done one may suppose that just as the hypertrophied muscles of the athlete degenerate when he ceases his exercises so the hypertrophied pylorus loses its hypertrophy and partly from the diminution in the thickness of its wall, but much more from the cessation of spasm, the obstruction ceases to exist. This seems to me the most natural explanation of the complete recovery which occurs in some well-marked typical cases under such simple treatment as repeated stomach washing and sometimes even with simple care in feeding. How these measures allay the spasm I know not, but that they do is I think actually demonstrable in the gradual disappearance not only of the vomiting but also of the two characteristic signs which I have mentioned.

Passing now from theory to more practical considerations I would warn you that by whatever method this disease is treated, whether by medical or by operative measures, the medical man must be prepared to give much time and much care to the case, not for a few days but for many weeks, if the infant's life is to be saved. It might be imagined that operation, inasmuch as it relieves all symptoms of pyloric obstruction forthwith, would solve all difficulties at once and that after the few days immediately succeeding the operation but little care would be required. As a matter of fact it is often far otherwise and the infant's life hangs in the balance for several weeks after operation.

One factor in success I will mention here, for it is equally important whatever method of treatment is adopted—namely, [illegible] in weight, so [illegible] of the utmost [illegible] juisite changes in the feeding may be many and may be of vital necessity and often have to be determined by the loss or gain of an ounce or two.

Treatment by dieting only.—As already mentioned, many cases are improved temporarily by change of diet, but it is probably very rarely that a cure can be effected by such treatment alone. Dr. H. Willoughby Gardner of Shrewsbury has published the case of a male infant whose vomiting began at the age of eight and a half weeks and who showed a peristaltic wave "almost the size of a small Tangerine orange" and had also a palpable thickening of the pylorus. The infant was fed with whey only for a time, then malt was added, then barley water and maltine were given occasionally, and gradually raw meat juice and white of egg were given also. For a long time all residue-leaving food was avoided and the amounts at each feed were only slowly increased from a teaspoonful every 20 minutes to two, three, and four teaspoonfuls at longer intervals. The [illegible] all symptoms disappeared, and [illegible] and a half months weighed 20 [illegible] ise in which the effect of even simpler dietetic measures was equally striking. A female infant, aged six weeks, was brought for persistent vomiting which had begun at the age of three weeks; the vomit was said to be "shot right out," coming through the nostrils as well as the mouth. The infant had been carefully fed with milk and barley water. A well-marked wave of gastric peristalsis was seen but on the two occasions on which I saw the child at this stage I was unable to feel the pylorus. The food was changed to peptonised milk and some bismuth was given. Four days later gastric peristalsis was still very obvious and vomiting continued; gradually, however, the vomiting became less and after about four weeks it ceased. The gastric peristalsis also gradually disappeared and when I [illegible] -lf months she [illegible] In this case [illegible] pylorus may [illegible] in absolutely certain but it does not alter the importance of the clinical fact that an infant with chronic, very forcible vomiting and with well-marked visible peristalsis of the stomach recovered [illegible] ith simple alteration of food.

[illegible] *by nasal feeding.*—My colleague, Dr. F. E. [illegible] published a case which I also had the opportunity of watching, in which an infant, aged 11 weeks, with typical symptoms and with the two characteristic signs pronounced, recovered completely with nasal feeding. All feeds (consisting of two ounces of milk and one ounce of barley water) were given by the nasal tube for 27 days, except on one day when bottle-feeding was unsuccessfully tried. I have not usc [illegible] hat it is lia [illegible] which, apart from operation, promises, I think, to be of most value and it is my own opinion that when careful feeding with some thin fluid, such as whey and raw meat juice, fails after a trial of a few days to arrest the loss of weight, which is the chief indication of the gravity of the vomiting, stomach washing should be given a trial in every case, the duration of its trial to be determined by its effect upon the weight. It is certain that some cases which, so far as can be judged clinically, are in every way typical instances of pyloric hypertrophy and which show just as marked signs, a peristaltic wave travelling in bulging prominences across the epigastrium and a hard palpable pylorus, recover completely and so far as my present experience goes show no tendency to recurrence after no other treatment than stomach washing.

The stomach is washed out twice daily for several weeks just before a feed and then once daily for some weeks longer with a solution of sodium bicarbonate (two grains to one ounce) through a Jacques's soft rubber catheter, No. 12 or 14. The frequency of the washings and the duration of treatment depend upon the improvement in the vomiting and espe- [illegible] remained almost stationary, or even [illegible] ounces at one weighing and regained its former level at the next, for two or three weeks, in one case for five weeks, before continuous gain began. So long as the infant is not definitely losing ground there is no need to rush to operation. Of course, with wasted infants at this early age every ounce is of importance and the utmost care and judgment [illegible] or against the continuance [illegible] long as there is any gain [illegible] my opinion should, be deferred. The food during this treatment has generally consisted of whey with raw meat juice or a very weak peptonised milk mixture, perhaps with a very small quantity of cream. As to the actual results of the treatment in my own cases, two recovered completely [illegible] the patience and perseverance [illegible] one patient was under the c [illegible] Streatham Hill and the other was under the care of Mr. C. F. Wakefield of Horley. The former patient I saw first at the age of eight and a half weeks; he showed, in addition to chronic forcible vomiting, very marked visible peristalsis of the stomach and at times the pylorus could be felt. He had lost 2 pounds ¼ ounce in weight since birth. The stomach was washed out first twice and then once daily for 19 weeks. All vomiting gradually ceased, the weight after two and a half weeks began to rise steadily, the two characteristic signs disappeared, and when he was last weighed at 14 months old he had been quite well for more than six months and weighed 23½ pounds. The other patient I saw first at the age of eight weeks. He was wasting and had been vomiting forcibly since six and a half weeks old; he showed the two characteristic signs in a marked degree.

Mr. Wakefield washed out the stomach at first twice and then once daily, then from two to three times per week for 16 weeks. During this time all symptoms and signs had gradually disappeared and the patient is now, at the age of two years and seven months, a bonny, healthy child weighing 35 pounds.

At the present time I have under my care in King's College Hospital an infant who, at the age of three weeks, was brought with the usual history and the two characteristic signs. My house physician, Mr. G. P. Young, has washed the stomach out twice daily for ten weeks and although for the first five weeks the weight was almost stationary and some vomiting continued the weight then began to rise and the child, whose weight on admission was 5 pounds 14 ounces and who was so feeble and puny that laparotomy would have been a desperate measure, has gained 22 ounces in the last five weeks and now weighs 7 pounds 4 ounces and has altogether more strength and vitality.

In another case an emaciated infant, with the usual signs and symptoms of pyloric hypertrophy, aged seven weeks, and already "almost too feeble to cry," was treated by stomach washing for six weeks; at first she gained weight slowly if at all and after about a month was only half an ounce heavier than when washing began; then she began to gain weight steadily and in 13 days had gained 13½ ounces. The child being now stronger it was decided to operate. From the day of the operation, although the vomiting was stopped thereby, continuous marasmus occurred and the child died in convulsions 25 days after the operation. It is easy to be wise after the event but here the steady gain in weight which had commenced before the operation makes it probable, in the light of the two cases already mentioned, that had the stomach washing alone been continued the child would have recovered.

In one case after washing out the stomach for 14 weeks there had been a gain of 22 ounces but progress was so slow that operation was done and the child recovered. In two other cases where stomach washing was done for a few days only there had already been slight gain in weight but it was decided to operate.

Whether the weight rises at once or not there is usually a marked diminution of the vomiting after the stomach has been washed out for a few days; but this must not be taken as an indication for stopping the stomach washing until the infant has been making steady and considerable progress in weight for several weeks.

Having said thus much of the success of stomach washing in this condition it is only right to mention its failures and possible risks; in four cases where stomach washing was tried for a few days only there was no improvement; in one case death occurred with some pyrexia about 48 hours after stomach washing was begun, and although the necropsy showed no evidence of vomited material in the respiratory passages death may have been due to matter drawn into the lungs in vomiting during the stomach washing; if so it must be an exceedingly rare accident, for I have had infants' stomachs washed out many hundreds of times without such an occurrence. In another case a dry rotten tube was inadvertently used and the end broke off in the stomach, necessitating immediate resort to the operative treatment which we had intended to defer; the pylorus was stretched, but an accidental rupture of its wall was overlooked (the operation was done in great haste owing to extreme feebleness of the infant), and death occurred about 27 hours later. Such exceedingly rare accidents must, however, weigh but little, and I think it remains true that stomach washing is a procedure which should certainly be tried in the pyloric hypertrophy of infants before resorting to operation; in some cases it is sufficient alone to secure complete recovery, in others by increasing the nutrition and the strength of the infant and by enabling us to postpone operation till the infant is a few weeks older it increases the chances of success from operation; where, however, the weight is steadily diminishing for several days in spite of stomach washing the question of immediate operation must be considered.

Lastly, I would insist upon an important point—namely, that the degree of gastric peristalsis (I mean the size of the bulging wave which is seen) and the palpability of the hard pylorus are no criterion of the possibility or even probability of recovery or improvement by stomach washing or of the likelihood of necessity for operation; the most pronounced signs and symptoms may occur in cases which respond well to stomach washing alone.

Operative treatment.—The actual operation to be done, if any be necessary, is a question which falls outside my province; forcible dilatation of the pylorus, pyloroplasty, and gastro-enterostomy have each their advocates. Nine cases out of the 20 included in my series (one of which was only seen by me once in consultation and was subsequently operated upon successfully by Mr. H. J. Stiles of Edinburgh) were treated by forcible dilatation of the pylorus—all except one by my colleague, Mr. F. Burghard—and seven of these nine recovered. One of these died several months later from broncho-pneumonia. Operation has risks apart from those connected with shock and with the operation itself. There is a tendency to looseness of the bowels after it and also a difficulty of nutrition which in some of my cases seemed to make death from marasmus almost inevitable for some weeks after the operation, although they ultimately recovered; an important point this, which increases the need for careful consideration before embarking on operative measures, and which increases also the importance of previous stomach washing if thereby even a few ounces of weight can be gained.

As to the proportion of cases in which operation is necessary much more experience is required before a trustworthy estimate can be formed. It must be pointed out that three of the 20 cases in my series occurred several years ago before the modes of treatment were known and two are at present under treatment. In many cases, including several in my own series, stomach washing was not tried or was given up because it was assumed that the condition was incurable without operation. That in some of the cases operation is the only method of saving life is, I think, certain, but as I have already said there is no way of determining this until other measures have been thoroughly tried.

Harley-street, W.

ACUTE ASCENDING PARALYSIS IN CASES OF CHRONIC CYSTITIS.

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IN the comparatively limited field offered in my private practice, general and consulting, I have met with three cases of long-standing chronic cystitis which terminated fatally by acute ascending paralysis of a most malignant type. Although urinary paraplegia has been generally recognised by the profession for 70 years, since 1833 when Stanley directed attention to the malady in a communication to the Royal Medical and Chirurgical Society, I can find no allusion by authors dealing either with urinary diseases or with Landry's paralysis to the occasional association of the latter ailment with chronic cystitis. Stanley gives a short note of the case of a man admitted with gonorrhœa and phimosis into St. Bartholomew's Hospital, under the care of Dr. Erle, who died suddenly three weeks after admission and 12 hours after paraplegia had set in; but Stanley expressly mentions that the paralysis was not higher than the waist and as the man suddenly fell back in his bed and died the case was certainly not identical with those which occurred in my practice. Saundby gives the case of a man, aged 60 years, who was admitted into the General Hospital at Birmingham and who died four weeks after the onset of symptoms of a progressive paralysis. The disease here was possibly pathologically of the same nature although not showing the same terrible rapidity in its course as did the cases of which I will now detail the salient points.

CASE 1.—The patient was a man, aged 40 years. When 15 years old he fell astride a rail and injured his perineum. Ten years later he came under my care for retention of urine and stricture of the urethra and was treated in the Peterborough Infirmary. The retention had come on gradually, the patient having gone about habitually with a distended bladder. He never completely lost the chronic cystitis, which did not inconvenience him greatly and did not prevent his taking and working a baker's business. He seldom sought medical aid unless there was an acute exacerbation or some indication of the stricture requiring dilatation. In April, 1877, such an exacerbation occurred and the patient had been under treatment by my partner Dr G Kirkwood and myself for nearly a month when, on the morning of May 19th, I was sent for and found that in the course of the previous night he had felt numbness in the feet and some loss of power in the legs. When I saw him there was paresis of the limbs up to the thighs. By the evening the paralysis had extended upwards to the arms and the thorax and the breathing was already embarrassed The symptoms rapidly progressed and death took place 18 hours after their onset

No post-mortem examination was made but it seemed probable that some direct causal relation between the urinary disease and the rapidly fatal almost fulminating ascending paralysis must exist My notes of the case are very meagre but to the best of my recollection the patient did not require the use of the catheter or bougies during this last illness

CASE 2—The patient, a man, aged 62 years, was first seen by me about the year 1877, when, in consultation with Dr C N Elliott of Oundle, I operated upon him for a stricture of the meatus of the urethra for which he sought medical aid only when the symptoms of distended bladder and cystitis with painful micturition made his life intolerable A few years later, having come to live close to Peterborough, he came under my care and I learned that he had never lost his cystitis.

On Dec 31st, 1886, I was called to him on account of an acute exacerbation of his bladder trouble, accompanied with much malaise and some fever The symptoms were not urgent, there was no difficulty in micturition, and no catheter was passed I saw him again on Jan 2nd, 1887, when he was somewhat better He was not visited on the 3rd but on the early morning of the 4th he experienced uncomfortable sensations and some muscular feebleness in the lower limbs and at my visit about midday I found distinct indications of paraplegia The sudden onset of the paralytic symptoms, with the history of long standing cystitis, &c , and the feeble general condition reminded me at once of the case which I had seen ten years previously I gave a prognosis which led to the patient promptly settling his affairs By the 5th the symptoms had made considerable progress and early on the morning of the 6th, 48 hours after the first [illegible] patient succumbed. A necropsy [illegible]

CASE 3—This case was seen by me in consultation with the late Mr W J Pilcher of Boston, whose son, Mr C W Pilcher, has furnished me with notes of the case The patient, a man, aged 67 years, who resided at Boston, had for many years suffered from chronic cystitis and for the three months preceding his death had been under Mr Pilcher s care suffering from prostatic disease and cystitis requiring catheterisation He had been confined to his bed for some time On the morning of March 13th, 1894, when the patient got out of bed, he appeared feeble and unsteady on his feet He was catheterised as usual by Mr Pilcher and in the course of the day I was sent for I saw the patient at about 8 P M I noticed when I wished to feel his pulse that the movements of the hand and arm were impaired and on further examining into the history recognised that I had another case of the same character as Cases 1 and 2 Already, only 12 hours after the onset of the symptoms indicating implication of the nerve centres, the paralysis had progressed upwards until the upper extremities were involved With my experience of the former cases I gave *a prognosis of urgent* danger, demanding the immediate settlement of the patient's affairs This opinion was justified by his death 18 hours after the first onset of the paralytic symptoms No necropsy was made

Each of these three cases of progressive ascending paralysis is distinguished by the sudden invasion of the attack, by its terribly rapid progress, and by the fact that it occurred as the fatal termination of a chronic cystitis As to their pathology I am unfortunately able to give no certain information, they are recorded mainly for the benefit of those actively engaged in the prosecution of our art—those who, like myself, have little time or opportunity to advance our science

I can recall only two other cases of Landry s paralysis of this virulent type in which I have been consulted, so that my experience is that out of five cases of this malady three were associated with urinary disease, and yet by none of the authors whom I have been able to consult is this association referred to Farquhar Buzzard, in the important paper on the pathology and bacteriology of Landry's paralysis published in *Brain*,[1] speaking of the associated morbid conditions met with sufficiently often to justify their mention, names only two—enlargement of the spleen and evidence of extensive pleurisy in the form of old and recent adhesions. But in the light of my experience I cannot believe that the absence of recorded cases must be taken as a proof of the rarity of the association of Landry's paralysis with disease of the urinary organs , it is rather that this association never having been recognised as causal in its nature cases have not been published A very brief glance at the pathological history of the nervous affections known to be associated with disease of the bladder and at that of Landry's paralysis will, I think, help to show the probability of the occurrence of cases such as those which I am reporting in which, as I believe, the one disease gave rise to the other. Although rarely alluded to by writers on diseases of the urinary organs, "urinary paraplegia" has, as I have already said, been recognised since Stanley, in 1833, directed attention to the malady, accounting for it in accordance with the dominant pathological theory of that date as a form of reflex paralysis, and even 53 years before this Troja (as quoted by Leyden[2]) stated that violent inflammation of the kidney may produce an irritation of the nerves of that organ which may extend to the nerves of the spinal cord giving rise to paralysis and loss of sensation in the lower limbs

Gull, in a paper published in Guy's Hospital Reports for 1861, attacked the wavering faith in the nervous reflex view of the pathology of urinary paraplegia, contending that it was due to an inflammation of the cord which escaped detection in fatal cases owing to the imperfection of the examinations made at that time (1861) In this paper he enumerates the characteristics of urinary paraplegia under 15 heads, the second, third, and fourth of these being: (2) usually only lower limbs paralysed , (3) no gradual extension of the paralysis upwards , and (4) usually paralysis incomplete , from which it is clear that every character of "the symptom complex" (Farquhar Buzzard) which we call Landry s paralysis is wanting in "urinary paraplegia" as hitherto described

Leyden,[3] in a clinical lecture on the subject of reflex paralysis, goes fully into the history and pathology of urinary paraplegia and he concludes that in a considerable number of cases of paraplegia urinaria an anatomical affection of the cord has been proved in the form of a myelitis which begins in a circum*scribed lesion in the upper part of* the lumbar enlargement He assumes that the inflammation first passes to the nerves and induces in them a progressive neuritis which as has been proved by experiment may lead to myelitis He concludes that this may therefore be looked upon as the most natural *and frequent mode of occurrence* in paraplegia urinaria

Hurry Fenwick,[4] who gives a fuller consideration to the matter than any other of the writers on urinary diseases whom I have [illegible] he points out that it would be rash [illegible] possibility of reflex paralytic sym[illegible] urinary diseases, accepts the more recent view of the pathology of urinary paraplegia as expounded by Leyden and others

Beyond this stage the pathology of urinary paraplegia has not been advanced I can find no record of bacteriological investigation in this malady Affections of the bladder associated with but secondary to, disease of the nervous system have *not, I think*, any bearing on the question under consideration, therefore I now pass briefly to the history of Landry's paralysis, by which I mean acute ascending paralysis such as that which proved fatal to my patients, a mortal malady which until now, as Farquhar Buzzard points out, is to us only a " symptom complex," not a disease

Landry, in his original paper,[5] published ten cases of ascending paralysis showing a pernicious and malignant cha[illegible] of general progressive para[illegible] morbid conditions in the [illegible] these cases an absence of every appreciable nervous lesion This, which he regarded as the essential characteristic, can no longer be so regarded, as since 1859, when Landry s paper was published, the microscope, at first unaided by the various hardening and staining processes, and latterly with their most valuable help, has been brought into use for the examination of the nervous structures and the number of fatal cases of acute ascending paralysis in which no pathological change can be found has been proved to be very small. In the great majority there are microscopical changes in the cord and in the meninges such as could not be detected by the pathologists of 1859, and the opinion of the most recent investigators is that the symptoms are due to an acute intoxication of the nervous system caused by microbic toxins.

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[1] Brain 1903 p 94

[2] German Clinical Lectures New Sydenham Society, vol lxvi.

[3] Op cit

[4] Cardinal Symptoms of Urinary Diseases 1893

[5] Gazette Hebdomadaire de Medecine et de Chirurgie, vol vi , 1859.

Farquhar Buzzard, after a careful consideration of the results of the bacteriological and microscopical examinations of these cases, concludes that it has been shown by investigations on man and the lower animals that the clinical manifestations of Landry's paralysis are the result of a local infection, a general pyæmia, or, lastly and most frequently, of an acute intoxication. Beyond this stage he has himself advanced the pathology of the disease by his discovery of an organism which he regards as specific and as the cause of the disease, although he is careful to say that he does not as yet claim to have in any way proved that this is the only microbe that can produce the fatal toxins.

Assuming, then, that it has been proved by competent investigators that Landry's paralysis is an intoxication of the nervous centres due to infection by specific microbes and that urinary paraplegia is the result of the spreading from the urinary organs to the lumbar portion of the cord of a specific inflammation, I think we have grounds to justify a probable explanation of the pathology of the cases to which I am directing attention. In every infection three factors are necessary: (1) the presence of microbes having active infective powers; (2) a medium in which these microbes when conveyed to it can develop; and (3) the resistant power of the tissues must be weakened. I venture to suggest as a provisional view that in my cases these factors existed. First, the specific microbes were to be found in the urinary organs, probably in the bladder; secondly, at a certain stage of the disease they were conveyed along the same course, almost certainly the nerves, by which inflammation spreads from the urinary organs in paraplegia urinaria to the cord, in which medium they developed rapidly, producing a virulent intoxication; and thirdly, the tissues were weakened by the long-standing cystitis.

Whether this view be accepted or not, whether it be confirmed or disproved by future investigation, the clinical facts remain the same; and although in neither of my cases did my being able to come to a correct diagnosis and prognosis prolong or save the life of the patient, I look forward to the time when, the pathological association of this acute ascending paralysis and chronic urinary disease having been definitely established, remedial measures (probably organo-therapeutic) may be discovered which may stop the rapid course of the malady and avert its fatal termination. It is with this hope that I press these observations on the notice of my fellow practitioners and especially of those members of the profession who can devote themselves to pathological investigation.

Peterborough.

FURTHER NOTES ON THE AFTER-HISTORY OF CASES OF PYLOROPLASTY.

BY G. GREY TURNER, M.B. DURH., F.R.C.S. ENG.,
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IN THE LANCET of Feb. 11th, p. 351, there appeared a short paper on Pyloroplasty by Mr. Rutherford Morison. In that paper I am credited with having followed the after-history of his patients and in support of this some few brief particulars of the cases are given. As a matter of fact I prepared a table giving full details of each patient with a note of their progress up to the last time I heard of them in August, 1904. This table, very much to my regret, has been lost after leaving our hands. I wish to take this opportunity of amending the very brief particulars given in Mr. Morison's paper, so that those who are interested in this subject may be better able to judge why that surgeon still adheres to an operation which appears to have a rapidly waning popularity.

CASE 1.—The patient, a woman, aged 48 years, was operated on in October, 1894. The pylorus was thick and firm and would not allow a pair of closed Spencer Wells forceps to pass. She has remained well ever since the operation. She takes ordinary food and has very good health. In August last she weighed 10 stones 7 pounds, which is more than double her weight at the time of the operation and about three stones more than her previous normal weight.

CASE 2.—A woman, aged 37 years, was operated upon in October, 1895. The pylorus was bound down but was œdematous and reddened and on the upper margin there was a cicatrix; it only admitted the tip of the little finger. The patient has remained well ever since the operation. At present she has better health than she has enjoyed for years, can take any kind of food, and has no trouble whatever. In August, 1904, she weighed 9 stones—a gain of 1 stone 3 pounds since the operation.

CASE 3.—The patient, a man, aged 31 years, was operated upon in January, 1896. There was a hard nodular mass surrounding the pylorus which admitted the tip of the forefinger. The patient has been in very good health since the operation, has no stomach trouble, takes any kind of food, and in August last weighed 10 stones, a gain of 2 stones 7 pounds since the operation.

CASE 4.—A man, aged 32 years, was operated upon in August, 1896. The pylorus would only admit a pair of closed Spencer Wells artery forceps. The patient has remained well ever since; he went through the South African war without any stomach trouble and at present, in spite of drink and poor food, he has none of his old symptoms. When seen in August, 1904, he had just recovered from pneumonia and looked thin and ill but he was able to take as much of any sort of food as he was able to get. His general health is better than before and he weighs 9 stones, a gain of 1 stone 9 pounds.

CASE 5.—The patient was a man, aged 25 years, who was operated upon in October, 1896. The pylorus looked and felt normal from the outside but would only admit the tip of a Spencer Wells artery forceps. He has remained well since operation; his general health is better than before and he can take ordinary food. In August last he weighed 9 stones 7 pounds, a gain of 2 stones 7 pounds since operation.

CASE 6.—A man, aged 42 years, was operated upon in March, 1897. There was no organic change at the pylorus and it was then suggested that the symptoms might be due to spasm. The patient has remained fairly well since operation; he takes ordinary food in small quantities and has no vomiting but he complains that he does not gain strength. In August, 1904, he weighed 11 stones 10 pounds, a gain of 1 stone 5 pounds. He does his ordinary work.

CASE 7.—A man, aged 38 years, was operated upon in March, 1897. An ulcer was found on the posterior wall of the pylorus but there is no note as to stricture. This patient remained very well until the early part of 1901, when he had a "stomach attack," which lasted for two weeks; in spite of this in June, 1901, he weighed 10 stones—a gain of 1 stone 7 pounds. Since then he has had a recurrence of his trouble each spring; he had pain after food and vomiting, but between the attacks was fairly well. For about three months before his re-admission to the hospital in June, 1904, he was quite ill with pain and vomiting and had lost flesh. The stomach was very much dilated and the vomit contained sarcinæ. On exploration the stomach was found to be dilated and there was an œdematous mass at the pylorus but there was no certain evidence as to its nature. Posterior gastro-enterostomy was performed; he made a good recovery and there followed a very rapid gain in weight.

CASE 8.—A woman, aged 39 years, was operated upon in September, 1897. The pylorus would not admit the tip of the forefinger. The patient has remained very well since the operation, her health is better than before, and she takes ordinary food. Since she reported herself in June, 1902, she has vomited once or twice every three months but there are no other symptoms and her gain in weight is now greater than it was at that time. In August, 1904, she weighed 8 stones 3 pounds, a gain of 2 stones 1 pound since the operation.

CASE 9.—A man, aged 56 years, was operated upon in September, 1897. The omentum was adherent to the pylorus which was hard to the touch and only admitted the tip of a closed Spencer Wells forceps. The patient remained very well until two years ago when he began to suffer from indigestion with occasional vomiting; for two or three months he would remain free from symptoms but a year ago his attacks became more frequent. During the six months preceding the second operation he vomited every day and had to live entirely on liquids. At the second operation in May, 1904, the stomach was found to be dilated and there was a mass at the pylorus; there were no positive signs of malignancy. Posterior gastro-enterostomy was performed and up to the present he has done well.

CASE 10.—The patient, a woman, 46 years of age, was operated upon in November, 1897. The pylorus admitted the little finger. She remained very well until the autumn of 1903, when she had a transient return of her old symptoms. She can now take ordinary food and her general health is better than before and she has gained 2 stones 7 pounds, weighing in August last 7 stones 12 pounds.

CASE 11.—A man, aged 23 years, was operated upon in June, 1898. No ulcer or constriction was found and the symptoms were supposed to be neurotic. The patient has remained well without any of the old symptoms and he can take ordinary food. In August last he weighed 8 stones 6 pounds, a gain of 1 stone since the operation.

CASE 12.—A man, aged 41 years, was operated upon in [illegible]

[illegible] very well since the operation and has had no trouble beyond an occasional bilious attack. She takes ordinary food. In August last she weighed 8 stones 6 pounds, a gain of 2 stones 4 pounds since the operation.

CASE 14.—A woman, aged 39 years, was operated upon in November, 1898. The pylorus admitted the little finger. This patient was never robust, she has been better since operation and can take ordinary food with care, though she occasionally has pain and vomiting; before the operation the pain was continuous. In August last she weighed 6 stones 7 pounds, a gain of 7 pounds since the operation. In 1901 Dr. W. H. Mackinlay reported as follows: "Patient never was robust and is not now robust, but from leading a life of constant pain she now suffers an inconsiderable amount. She is profoundly grateful for benefit derived."

CASE 15.—The patient, a man, aged 46 years, was operated upon in November, 1898. The pylorus would only admit a closed Spencer Wells forceps and there was the scar of an old ulcer just on the stomach side of the pylorus. He has remained well ever since the operation. He has none of his old trouble, takes any kind of food, and in August, 1904, weighed 14 stones 5 pounds, a gain of 3 stones 5 pounds since the operation.

CASE 16.—The patient, a woman, aged 45 years, was operated upon in March, 1899. The finger could be passed through the pylorus but there was a scar on its posterior wall. For 12 months she was very well and could take any sort of food but at the end of that time she began to complain of her old symptoms, especially pain after food and vomiting. She continued to have "attacks" of stomach trouble and by June, 1903, she was in a miserable state, being afraid to eat on account of the pain which food produced; she had lost a great deal of weight. The abdomen was reopened; there were no great dilatation of the stomach and no mass at the pylorus, no ulcer was seen or felt in the interior of the stomach, and the new pylorus admitted three fingers with ease. Anterior gastro-enterostomy was performed and recovery was uneventful. For six months the patient remained well and was able to take any kind of food without trouble. She had gained 1 stone 4 pounds since the operation. Her symptoms now began to recur but she has not continually lost ground, for from time to time she has periods of good health without pain or vomiting.

CASE 17.—The patient, a woman, 36 years of age, was operated upon in May, 1899. There is no note of the condition of the pylorus but the stomach was very much dilated. She has remained well since the operation without ever having any trouble. In August last she weighed 8 stones 10 pounds—a gain of 2 stones 10 pounds.

It is scarcely necessary to add that in every instance the operation was performed for symptoms of stricture of the pylorus and that in every case physical examination disclosed a dilatation of the stomach.[1]

Newcastle-upon-Tyne.

Clinical Notes:
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF RUPTURE OF THE BLADDER IN A YOUNG CHILD.

By JOHN CROPPER, M.D. CANTAB.

ON Sept. 26th, 1904, a fellah boy, aged four years, fell from a flat roof 12 feet high on to his stomach, striking a coping of stone. He suffered great pain but when he was brought to me soon afterwards I could discover nothing beyond some bruising, especially on the left side of the abdomen. I was told later that he had voided urine the same evening. The next day the pain was worse with great distension of the abdomen and on my return in the evening I passed a No. 1 indiarubber catheter, drawing off less than half a pint of bloody urine at the patient's home, the catheter being left in position. The distension was considerably relieved and the bowels were opened. His pulse rate was 150 and his temperature was slightly raised.

I explained the condition of affairs to the parents, telling them that the bladder was certainly ruptured and that an operation was urgently required. On consultation with friends they refused either to have an operation performed or to allow the child to be taken into the hospital in Jerusalem. On the next day (Sept. 28th) he had slept and was much relieved; his bowels had been moved twice and he had passed urine twice; his temperature was 100° F. On the 29th the distension had increased and the motions were foul and light coloured. Five ounces of clear urine were passed but the child looked worse; his temperature was 99° and his pulse rate was 150. Seeing his condition and knowing that he had little chance of recovery the parents, convinced also by some very plain speaking on my part, consented to an operation which was accordingly performed under ether on the afternoon of the same day. Before the operation the patient had a very bad ashy-grey colour; his abdomen was tympanitic in the upper half, while the lower half was dull and firmly resistant, especially during the anæsthesia. An incision was made from below the umbilicus almost to the pubes. On reaching the peritoneum the bowel was found to be firmly adherent [illegible] to it, but on separating the [illegible] bloody urine at once welled [illegible] space bounded on either si[illegible] was very plainly felt. At [illegible] bladder could be felt. The rupture in it was of course intraperitoneal, was to the right of the apex, and admitted two fingers easily. Owing to the thickness of the abdominal wall (at least one inch of fat) and the length of time (three days) which had elapsed since the accident I considered that any attempt to close the bladder was out of the question. Certainly in the event of want of union the bladder sutures would have complicated matters and probably led to a fatal result. Accordingly I p[illegible] to the bladder and packed the [illegible] otherwise widely open. The [illegible] was 180. The patient slept well. Next day he was in very fair condition and enjoyed the ride of ten miles into Jerusalem to the Hospital of the London Jews Society, proper nursing being impossible in his own home. For the first few days there was a good deal of offensively smelling discharge with the urine which drained away freely. On using a considerably stronger lotion than had been used at first—namely, a [illegible] strength 1 in 2000 solution of [illegible] is twice daily—syringed thr[illegible] beyond a lit[illegible] the conditio[illegible] in an silver nitrat[illegible] painted on the wound there was nothing to note in the treatment. In spite of a smart attack of remittent fever with splenic enlargement the wound was firmly closed on Nov. 5th. The only trouble after this was incontinence of urine which persisted for some days. The patient was discharged from the hospital in very good condition four or five weeks later.

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[1] See tables in The [illegible] of Feb. [illegible] l, and Med. Jour., Oct. [illegible]

In conclusion, it may be remarked that in native villages in this country almost the only accidents to children arise from falls from the flat roofs which are quite unprotected. In this case, as already stated, the child fell fully 12 feet.

Ramallah, Palestine.

NOTE ON A METHOD OF EXTENSION OF THE "GRIDIRON" OPERATION FOR APPENDICITIS WITHOUT DIVIDING MUSCLE FIBRES.

BY M. P. HOLT, M.R.C.S. ENG., L.S.A.,
MAJOR, R.A.M.C.

VERY occasionally the classical muscle-splitting operation unexpectedly fails to provide sufficient room. The following is a method which I have several times adopted of extending the area and which I have not seen described elsewhere. On such occasions the tendon of the external oblique is by a few touches of the knife separated from that of the internal oblique, where these begin to blend together for the formation of the sheath of the rectus, to well beyond the outer edge of the rectus and then retracted inwards; the line of splitting of the internal oblique and transversalis muscle is then carried on through their tendons well on to the rectus sheath for an inch or so; the remaining part of the anterior sheath of the rectus is then divided upwards, or downwards, whichever be desired, as far as is necessary; the rectus is then displaced inwards and the posterior sheath is similarly divided in a vertical direction, in a line a full inch nearer the middle line than the site of the outer border of the muscle. The triangular flap thus obtained is displaced outwards and downwards (or outwards and upwards, as the case may be). The incision in the peritoneum is easily extended to any desired point in the line of original incision and very free access is obtained. This method takes but a few minutes but its chief advantages are only obvious when the layers are severally united by sutures. When the posterior sheath of the rectus has been sutured, the rectus muscle secured by a few points in its original bed, and the anterior sheath similarly united, the internal oblique and the transversalis muscles will be found accurately lying together in the line in which they were split; the external oblique, of course, comes together without the least difficulty. In this way there has been no division of muscle fibres and the nerve- and blood-supplies to the rectus are practically untouched. The method provides precisely the same security against hernia as does the less extensive classical "gridiron" operation, a matter that cannot be overrated in young men. Drainage, if necessary, is made through a separate wound. I have used this method where a small localised abscess within omental adhesions due to a perforated appendix was found firmly glued to the posterior surface of the symphysis pubis and quite recently where an unusually long appendix was adherent by its tip behind the ascending colon close to the hepatic flexure, as well as in other less difficult cases. I quite recently saw in the dissecting room an appendix adherent throughout its whole length in front of the ascending colon, the tip lying actually on the hepatic flexure. Operating surgeons must necessarily have experienced many similar instances. I would emphasise that the method has only been used for those cases where the abdomen has already been opened by McBurney's incision and where investigation has shown that unexpectedly much more room is necessary and it is in no way recommended to take the place of a "right semilunar" incision. This method of extension of the "gridiron" operation can be demonstrated very easily on the *cadaver*.

I would add that Lennander's method of displacing the rectus *outwards* after a "right semilunar" incision is far preferable to that in which it is displaced *inwards*, as by the former absolutely no interference with either blood- or nerve-supply is risked.

Royal Infirmary, Dublin.

A Mirror
OF
HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

LEEDS GENERAL INFIRMARY.

TWO CASES OF DOUBLE MALIGNANT TUMOURS OF THE INTESTINES.

(Under the care of Mr. A. W. MAYO ROBSON, Dr. C. M. CHADWICK, and Mr. R. LAWFORD KNAGGS.)

CASE 1.—A man, aged 35 years, was admitted under the care of Mr. A. W. Mayo Robson to the Leeds General Infirmary on May 27th, 1902, with symptoms of chronic intestinal obstruction. These had commenced in December, 1901, and he had lost three stones in weight. No tumour could be felt in the abdomen and on examination the rectum was found to be healthy. At the operation on May 29th a stricture, causing almost complete obliteration of the lumen of the bowel, was found about the middle of the ileum. It was excised and end-to-end anastomosis was performed. No secondary deposits were seen. The growth (No. 2529 C in the Museum of the Royal College of Surgeons of England) is described as a portion of jejunum "which was excised for the close stricture shown, the constriction being due to the shrinkage accompanying the growth of a carcinoma which has invaded the muscular wall and advanced into the tissues beyond." It was obviously a carcinoma but no microscopical examination had been made as the interest of the specimen lay in the tightness of the stricture. The patient was readmitted on July 29th, 1904, under the care of Mr. R. Lawford Knaggs. He had had good health since the operation till about five weeks before, when he began to suffer pain in the sacral and left iliac regions and had experienced some difficulty with his bowels. In the scar of the old incision there were two hard masses. One at the upper end was as large as a walnut and involved the deeper structures of the abdominal wall. The other at the lower end was larger and felt as if it were not limited to the parietes but extended to parts beneath. Within the rectum, two inches from the anus, the finger impinged on a raised mass on the anterior wall which proved to be the indurated edge of an excavated ulcer large enough to lodge the terminal phalanx of the examining finger. The ulcer was about three-quarters of an inch deep. The mass was firmly fixed to the parts in front of the bowel. Several enlarged and hard glands could be felt between the sacrum and the posterior wall of the bowel and both glands and the posterior bowel wall felt tethered to the bone. Examination was not painful. A left lumbar colotomy was performed on August 2nd and the patient went home on the 17th.

CASE 2.—A man, aged 27 years, was admitted to the Leeds General Infirmary on Nov. 26th, 1903, under the care of Dr. C. M. Chadwick for an enlarged liver and a malignant growth in the rectum. He had suffered from typhoid fever when he was 21 years of age. In July, 1903, he began to have diarrhœa and to lose flesh. He had had "hæmorrhoids" for the last 12 months. He suffered from constant pain in the sacral region and the tenesmus was so distressing that he was transferred to the surgical wards and inguinal colotomy was performed to lessen his sufferings. He died two or three weeks later on Dec. 21st.

Necropsy.—The stomach appeared to be "trifid." On laying it open, however, it was found that the appearance was caused by a polypoid growth involving and distending the parts in the region of the pylorus. With regard to the rectum and the anus, there was a mass of growth (ulcerating) at the lower end of the rectum involving the anal mucous membrane and the skin about the anus. There was another growth constricting the gut just below the colotomy wound. The mucous membrane between these growths presented a curious polypoid appearance. Otherwise the intestines were normal. The liver weighed 12 pounds. There were weak adhesions to structures in the neighbourhood. The surface showed several large umbilicated growths of a cream colour. On section almost the whole of the liver was seen to be occupied by large masses of secondary growths uniformly distributed. The gall-bladder was normal. The pancreas, the spleen, the kidneys, and the thoracic viscera were normal.

The microscopical examination of the different tumours may be briefly stated. The stomach growth was an adenoma. There was an overgrowth of glandular tissue but the arrangement was regular and nowhere showed any tendency to invade the muscular layer. The polypoid projections on the rectal mucous membrane were also adenomatous in character; in some places the glandular cells showed a disposition to proliferate. Both here and in the stomach there was evidence of inflammatory infiltration. Both upper and lower rectal growths were columnar carcinomata. The secondary growths in the liver were also columnar carcinoma.

Remarks by Mr. LAWFORD KNAGGS and Dr. O. C. GRUNER.—It has been already stated that the polypoid condition of the rectum was limited to the tract between the two growths and that the mucous membrane was healthy above the upper one. This fact would seem to point to the development of the "polyposis" subsequently to the formation of the upper growth. And if this inference is correct the altered condition of the mucous membrane was due to influences introduced by that growth. At the anal extremity of the rectum the polypoid mucous membrane gave place to another carcinomatous tumour. Which of the two malignant growths was the first to make its appearance? The microscopic appearances are if anything rather in favour of regarding the upper one as the older of the two; the fact we have alluded to in connexion with the limitation of the polyposis would tend to confirm this view. Further assistance may be derived from the probable origin of the anal growth. It is impossible not to associate that origin with the polypoid state of the mucous membrane. Where the irritation is naturally greatest—viz., at the anus—the pro- [illegible] ılar layer [illegible] ·ction can [illegible] he actual [illegible] be determined. The growth is too extensive.

What was the cause of the polyposis? Irritation or passive congestion? The only form of irritation that suggests itself [illegible] until they [illegible] ı the cause [illegible] ıre also to have been affected. On the other hand, passive congestion was not unlikely to be produced by the constriction of the [illegible] nphatics in the [illegible] -mortem obser- [illegible] ımour is clear. It cannot, therefore be regarded as a secondary or metastatic growth. But it is [illegible] hronic inflammation and it is sit[illegible] ..ere malignant disease most commonly occurs. Of the goal towards which it was tending there can be little doubt when the conditions connected with the anal growth are borne in mind. The term "pre-cancerous" may be fairly applied to it. The only possible connexion that it may have had with the rectal growth is through the dyspepsia which obstruction may have caused. We are unable to express an opinion as to whether the secondary growths in the liver were derived from one or both rectal growths.

Finally, our conclusions may be stated as follows: (1) There existed a tendency to cell proliferation and hypertrophy in parts of the gastro-intestinal tract when inflammation was excited; (2) the stomach growth was a direct result of this tendency and was not malignant; (3) the upper rectal growth was probably the primary disease; (4) the polypoid state of the rectum was in some [illegible] pendent of the upper growth and in no sense a "secondary" or metastatic tumour); and (6) the liver deposits were secondary to one or both of the rectal growths.

Microscopic report by Dr. GRUNER. — 1. The stomach. The polypoid condition was preceded by a rather œdematous condition of the gastric mucous membrane with some round-celled infiltration around the orifices of the glands. Near the hypertrophic portion the round cells became very abundant and there were even small accumulations like minute abscesses here and there in the submucosa. The polypoid [illegible] by shrun[illegible] was conti[illegible] the least tendency to ingrowth into muscular tissue. 2. The polypoid rectal mucous membrane. This consisted of [illegible] the glands—namely, proliferative processes in the former [illegible] the mucous membrane was traced from above towards the growth the glandular elements were seen progressively to increase their proliferative tendencies until at the seat of growth the gland acini were actually embedded in groups of muscle fibres constituting true columnar-celled carcinoma. The cells lining these glands were more cubical in shape than were those lining the glands of the mucous membrane above and they did not show excess of mucin. Where the proliferation of mucous membrane was commencing there was definite evidence of inflammation in the interglandular connective tissue. 4. Upper rectal growth. The mucous membrane in the immediate vicinity of this growth was much more œdematous than that in the lower growth, the glandular elements being widely separated by a very loose connective tissue in which there was great accumulation of leucocytes. This inflammation extended no deeper into the intestinal walls than the mucous coat, and the outskirts of the growth had merely the aspect of overgrown glands without any tendency to invasion of tissue. This portion of the tissue passed continuously but rapidly into true columnar celled carcinoma. The gland spaces in this growth were large, in marked contrast to those in the lower growth. The cavities were filled with mucoid material and the lining cells were distorted, presumably from the overproduction of mucin. The portions in the deepest parts of the growth showed tracts of dead cells amongst the carcinoma acini. There was not much fibrous tissue around the growth. 5. The liver. The liver substance in the neighbourhood of the secondary growths was profoundly altered. The vessels were surcharged with blood, the liver trabeculæ were attenuated, and the cells had lost their shape for some considerable distance away from the growth. There was, however, little cellular exudate from the vessels. The growth had the characters of a columnar-celled carcinoma resembling the rectal growths but not showing such large spaces as were seen in the upper one of the two. The cells were, however, much shrunken and the interstitial tissue was very loose. It would be impossible to state whether the secondary growths in the liver arose from one rectal growth more than the other but the stage of growth which each of the three growths presented showed that the secondary growths (the last to appear) were more like the lower rectal growth, which would thus be more recent in origin than the upper one (the gland spaces of which had become much larger and showed degenerative processes).

POLICE HOSPITAL, BANGKOK, SIAM.

A CASE OF LIGATURE OF THE LEFT SUBCLAVIAN ARTERY.

(Under the care of Dr. H. CAMPBELL HIGHET.)

THE patient in this case was a young man, a Siamese, who was admitted into the Police Hospital, Bangkok, Siam, in August with a fishing trident firmly embedded in the muscles around the front of the left shoulder. Mr. E. A. Bryan, the hospital assistant, finding that the prongs of the trident were too firmly fixed to be easily removed, administered chloroform and with much difficulty and some enlargement of the wounds extracted the weapon. This proved to consist of three prongs, each four and a half inches long, three-sixteenths of an inch in diameter, and furnished at about an inch from the point with a strong barb one quarter of an inch long. The three points formed an equilateral triangle, each point being one and a half inches from its neighbour. The wounds were two and a half inches deep. As the trident was in a highly septic condition when it was thrust into the man's shoulder, and as it had been embedded there for over two days, it is not surprising that all the wounds were suppurating and that the arm and shoulder were much swollen and reddened. After some days' treatment the cellulitis seemed to improve but 11 days after admission hæmorrhage commenced and could not be controlled by plugging. On the night of August 30th the wound from which most blood was exuding was therefore enlarged and an attempt was made to tie the axillary artery in its third part. This was found to be impossible owing to the fact that a large portion of the artery was in a sloughing condition. The left subclavian artery was then tied in its third part; the operation being rendered somewhat difficult as the assistant had to maintain direct pressure on the bleeding point and so the shoulder could not be depressed. Three days after the operation a herpetiform eruption appeared on the left loin and on the right shoulder and upper arm accompanied by considerable fever and an icteric appearance of the skin and conjunctiva. The fluid from the vesicles was examined and found to be sterile. The man left the hospital practically well and was seen again by Dr. Highet two months later when the following note was made: "Seen at the Criminal Court to-day. Is well and strong; all wounds cicatrised; humeral and radial pulse imperceptible; movements of shoulder-joint very good; arm rather thinner than right arm but not markedly so."

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Annual Meeting.

THE annual meeting of this society was held on March 1st, Sir R. DOUGLAS POWELL, the President, being in the chair.—The annual report showed that the financial condition of the society was extremely satisfactory but that the attendance at the meetings of the society left something to be desired. With a view to improve this it had been decided by the council to print abstracts of papers in advance and to send them with formal invitations to persons named by the authors. During each session at least one special discussion would be arranged. The President's address in connexion with the centenary of the society would be delivered on May 22nd and the Marshall Hall prizeman, Dr. Henry Head, F.R.S., would give an address on Afferent Nerves under a New Aspect on May 23rd. A banquet would be held on May 22nd at the Hotel Cecil, at which the society would entertain His Royal Highness the Prince of Wales and other distinguished guests. A conversazione would be held on the night of May 24th and during the week there would be an exhibition illustrating medical matters of 100 years ago.

The HONORARY LIBRARIANS announced that a card catalogue of the books in the library had been completed.

The PRESIDENT gave the Annual Address, in the course of which obituary reference was made to those Fellows of the society who had died during the last year. In discussing the work of the society the question of a possible amalgamation of the various metropolitan medical societies was raised and the advantages accruing from such a scheme in the way of economising time and money were clearly emphasised.—Dr. J. E. POLLOCK proposed, and Sir WILLIAM H. BROADBENT seconded, a vote of thanks to the President for his address and supported the idea of initiating an amalgamation of the societies.—Sir THOMAS SMITH proposed that the council of the society should be requested, with as little delay as possible, to invite the leading medical societies of London to arrange for a joint meeting for the purpose of considering the advisability of amalgamating and to take the necessary preliminary steps for that purpose.—The motion was seconded by Mr. D. H. GOODSALL and unanimously carried.

Sir W. H. Broadbent and Dr. T. Buzzard were elected new vice-presidents of the society. Dr. Howard H. Tooth, Dr. Dawson Williams, Mr. Clinton T. Dent, Mr. A. Marmaduke Sheild, and Mr. Thomas Wakley, jun., were elected new members of the council.

Discussion on the Subsequent Course and Later History of Cases operated on for Appendicitis.

An adjourned meeting of the society was held on March 7th, Sir R. DOUGLAS POWELL, the President, being in the chair.

The PRESIDENT resumed the discussion on the Subsequent Course and Later History of Cases operated on for Appendicitis. He said that he had nothing to add to the subject of absence of relief after operation in cases of appendicitis. He had met with pulmonary embolism many times in the sequel of injuries and of surgical operations and, without giving actual numbers, he felt sure that it had been more frequent in his experience after operations *for appendicitis than after other operations.* Although this complication did not appear from the statistics to be very common it was probable that many of the cases of pleural effusion and dry pleurisy occurring after operation were due really to pulmonary infarction. In Oppenheimer's series 16 per cent. of the acute cases developed pulmonary embolism. With a view to prevent this complication it was advisable in the chronic cases to keep the patient in bed for a few days before operation, to order a simple diet, and to give small doses of calomel as an intestinal antiseptic An interesting case of secondary pulmonary infarction which had become tuberculous occurring some months after an operation for appendicitis had been observed in consultation with Mr. Charles Hartley and the patient was now progressing satisfactorily abroad.

Dr. H. P. HAWKINS drew attention to the fact that in spite of increased earliness of operation the mortality from appendicitis showed no fall and in some cases a slight rise as compared with a period of ten years ago. He accounted for this by a gradual rise in the severity of the disease which was occurring *pari passu* with its increased frequency. He agreed that a great reduction in the mortality was to be anticipated by continual insistence on early operation. As regards imperfect relief or recurrence of symptoms after excision he thought cases were few. Putting on one side cases where confusion occurred between appendicitis, floating kidney, and renal and biliary colic (the occasional difficulty of differential diagnosis being allowed), he believed that the rest of the cases of imperfect relief should be attributed to a colon neurosis. Of this group mucous colitis, a non-inflammatory motor and secretory neurosis, was the best known example, but it shaded off into minor grades of pure enterospasm of which a clinical description could be given. In all degrees of the neurosis, if the trouble occurred in the ascending colon with attendant neurasthenia and secondary hypochondriasis the appendix could be excised without necessarily giving relief.

Sir WILLIAM H. BENNETT believed that the real value of statistics lay in their relative rather than their absolute application and that those derived from hospital practice presented a gloomier picture than the truth. In cases of appendicular abscess it was not desirable to attempt to remove the appendix for the sake of making sure that the origin of the disease was destroyed. He had never regretted leaving the appendix in such cases but he had on more than one occasion regretted making the attempt to remove it Complications often arose from inadequate operations in simple cases of appendicitis and the practice of leaving a stump was, in his opinion, often a source of after trouble. The fact that a stone in the right ureter might give rise to symptoms suggesting appendicitis was illustrated by a case in which a healthy appendix was found but in which a ureteral calculus was discovered at the operation and passed four days later per urethram. It was advisable to submit doubtful cases to examination by the x rays for the purpose of excluding this source of error. No prolonged pain in the scar was ever met with if a rule was made never to apply a ligature through the undivided peritoneum. Recurrence of symptoms had been present in three cases, in all of which a history of malaria, and in two of which a history of dysentery, had been noted. Fæcal fistulæ occurred in 5 per cent. of cases but many of these healed very quickly and would be better regarded as temporary fæcal discharges rather than true fistulæ.

Mr. C. B. LOCKWOOD stated that the main object of the discussion was to learn what happened to those patients who had had the appendix removed. It was clear that the method of proceeding by clinical statistics alone was incomplete and fallacious, mainly because so many possibilities were ignored and so much was omitted. The future of the patient must in a large measure depend upon the disease which existed in the appendix at the time of its removal. For instance, some were tuberculous, some were cancerous, and some were actinomycotic. Correct conclusions could not be arrived at by examining the appendix with the naked eye and in a scientific inquiry clinical evidence should be supported by microscopical and, if possible, by bacteriological examination. Some of these requirements had been fulfilled in the synopsis of 200 cases of his own which he had provided. In a case of primary columnar-celled carcinoma of the appendix *the disease was unrecognisable by the naked* eye and although the cæcum and the end of the ileum were removed the disease continued to grow slowly in the pelvic glands and ultimately proved fatal. A section of the ordinary type of carcinoma of the appendix had been given to him by Mr. W. McAdam Eccles who said that on removal the nodule was thought to be tuberculous. If appendices were systematically examined probably 1 in 250 would prove to be cancerous. Only four instances of tuberculous disease of the appendix occurred in the *200 cases but the prognosis of this condition* was unfavourable. The question of removing the appendix after an appendicular abscess had been evacuated should be decided in each case on its merits, but as a general rule that course should be adopted if the general and local conditions did not forbid it. The commonest disease of the appendix was ulceration of the mucosa with penetration of bacteria into the tissues of the mucosa and into the lymphatics and onwards through the hiatus muscularis into the peritoneum. The ulceration was associated with septic, muco-purulent, or fæcal contents and the latter with concretion in 23 out of 200 cases. Reference was made to two cases of mesenteric thrombosis in patients suffering from acute intestinal obstruction. Among the causes of recurrences of appendicular symptoms was the presence of enormous dilatation of the cæcum with fæces which could be readily treated by means of enemata and care in diet.

Mr. W. H. BATTLE referred to five cases in which there was a return of symptoms after an abscess had been evacuated with success. In all of these the appendices were removed later and showed marked pathological changes. In five other cases a secondary abscess formed, the appendix not having been removed at the first operation. Sinus formation occurred in six cases after a localised abscess had been opened and drained. In two other cases operation was performed for commencing peritonitis where there had been previous localised suppuration. The appendix had been removed in seven cases after an abscess had been evacuated and all inflammatory symptoms had subsided. In several of these cases concretions were found and in all these were evidences of pathological conditions which might give rise to further trouble. Similar conditions were found in the appendices removed after evacuation of the abscess into the lower part of the bowe[illegible] sfully extirpated in seven [illegible] was present but in one of [illegible] from a cardiac seizure four days after the operation. The condition of the appendix was also described in several cases which had died from general peritonitis or from some other cause which was *not fully explained by the post-mortem examination.* In conclusion, early evacuation of an abscess and secondary removal of the appendix were advocated in the majority of cases and the removal of a concretion at the first operation was not considered an indication for believing that the patient would be free from recurrence of symptoms.

Mr. GEORGE R. TURNER preferred to operate on all acute cases as early as possible unless they were obviously [illegible] nortality was 10 in 125 and [illegible] s were obtained in patients [illegible] ack. Operation during the [illegible] ility of 0·5 per cent. in the combined statistics of five hospitals; in all other cases the combined statistics showed a death-rate of 23 per cent. A great reduction of fatal results would be produced by operating at an early period in the disease and at the same time complications and unfavourable sequelæ would also be much reduced in numbers. The method of opening the abdomen by separation of muscular fibres was justifiable in simple cases but was inadequate when pelvic complications had to be dealt with.

Mr. H. F. WATERHOUSE referred to the fact that although appendicitis was three times more common in the male than in the female sex complications were infinitely more frequent in women. The appendix should be removed flush with the cæcum and the absence of this precaution was responsible for recurrent trouble in some cases. Ventral hernia did not occur when [illegible] incised —a method [illegible] had empha[illegible] right ovary and tube at the time of operation. Pyonephrotic kidneys and ureteral calculi were possible sources of errors in diagnosis. Early operation was a very important factor in reducing the mortality of the disease and in 19 cases which had been operated on within 24 hours of the onset of symptoms *there had been no deaths in* spite of the fact that perforation had been present in three instances. The appendix should not be removed when evacuating an abscess.

Mr. J. P. LOCKHART MUMMERY emphasised the importance of care in the after-treatment of operation cases.

The discussion was then adjourned until the next ordinary meeting of the society.

OBSTETRICAL SOCIETY OF LONDON.

Chyluria complicating Pregnancy.—Pregnancy in a Rudimentary Uterine Cornu.—"Grape-like" Sarcoma of the Cervix Uteri.

A MEETING of this society was held on March 1st, Dr. W. R. DAKIN, the President, being in the chair.

Captain J. C. HOLDICH LEICESTER, I.M.S., read a short communication on a case of Chyluria in a Eurasian, 18 years of age. She had been married eight months and had advanced to the eighth month in pregnancy. She presented herself for treatment at the Eden Hospital for Women, Calcutta, on account of severe pain on micturition. The urine had become milky for the first time on the previous day. For five months she had had a swelling in the right thigh which had occasionally given rise to pain. The swelling felt like an enlarged gland in the femoral ring; it quickly subsided. On examining the urine drawn by catheter it was milky-white in colour with a faint pink tint and contained some white sediment; it had a specific gravity of 1022 and was *faintly acid; the albumin amounted* to one-quarter. Traces of blood and chyle were present. Phosphates were in excess. On microscopical examination, besides phosphates and oxalates and blood corpuscles, bladder epithelium and several filaria embryos were found. The urine was found to clot shortly after being passed but soon broke down again and remained fluid. Both the labour and the puerperium passed naturally except for a rise of temperature to 101·8° F. on the sixth day after delivery. The urine as a rule continued to preserve its milkiness. *The blood* was examined *on three separate* occasions and on each was found to be swarming with filaria embryos. The case resisted all treatment, whether of diet, drugs, or posture, and the condition of the urine remained practically the same throughout. The patient's general condition showed considerable improvement during the time she was in hospital. In Captain Leicester's opinion there was little doubt that in this case the pregnancy was the exciting cause of the chyluria, which was due to the disturbance of the pelvic lymphatics which had been previously affected by filarial obstruction of the thoracic duct.

Dr A. H. N. LEWERS related a case of Pregnancy in a Rudimentary Uterine Cornu in which he had operated for severe internal hæmorrhage. The patient was 24 years of age and had been married 13 months. She had had a miscarriage at about the sixth month of pregnancy six months after marriage. One menstrual period had occurred 13 weeks after the miscarriage. On the day prior to her admission to the London Hospital she was suddenly taken ill with severe pain in the abdomen. Preparations were at once made for operation. The patient's condition was so bad that both rectal and intravenous saline injections and hypodermic injections of strychnine were resorted to. On opening the abdomen the ovum was discovered on the left side. The sac burst on handling and a fœtus of at least three months gestation escaped with the liquor amnii. The pedicle was found to be much thicker than in a tubal gestation; it was transfixed and tied a second time to render it secure. On subsequent examination the wall of the sac proved to consist of muscular tissue, about half an inch in thickness, formed by the rudimentary horn on the left side. It was noted that the left *ovary did not contain* the corpus luteum, from which Dr. Lewers inferred that external migration of the ovum from the opposite ovary had occurred. The patient passed a decidual cast eight days after the operation and made a good recovery.

Dr. HERBERT WILLIAMSON showed a specimen of "Grape-like" Sarcoma of the Cervix. He remarked upon the rarity of this form of sarcoma of the cervix, only 16 cases having been previously recorded. The specimen (which was removed by operation from a woman 39 years of age) consisted of a firm central core to which were attached a number of branching processes. These processes here and there throughout their length were dilated into cyst-like bodies of the size of cherries. Microscopically the growth was a mixed-celled sarcoma; the cysts were covered on the surface by several layers of stratified squamous epithelium and their fluid contents appeared to have accumulated as the result of œdematous infiltration rather than of myxomatous degeneration of tissues.—Dr. M. HANDFIELD-JONES brought forward the history of a case in which sarcoma of the same type had been found springing from the whole lining membrane of the body of the womb. In his own experience the disease had shown very little evidence of malignancy and the patient's life had been prolonged for several years after the disease was first recognised.

The PRESIDENT delivered his inaugural address.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

The Etiology of Carcinoma.

A MEETING of this society was held on March 1st, Professor JOHN CHIENE, the President, being in the chair.

Dr. GEORGE THOMAS BEATSON (Glasgow) read a communication on the Etiology of Carcinoma. He said that recently various authors had strongly endorsed the view that in carcinoma they had to deal with a microbic disease. He referred chiefly to the researches of Professor Doyen of Paris and of Dr. W. Ford Robertson and Mr. Henry Wade of Edinburgh and stated that so far apparently as they went they did not fulfil the postulates laid down by Koch. There was yet wanting in connexion with them the crucial test of the reproduction of carcinoma in animals by means of the respective micro-organisms and this was almost an essential for the establishment of the position which these authors took up. If it were true that Professor Doyen's serum had a curative effect in carcinoma it formed a most convincing evidence in favour of his theory. He had been most impressed in the communications he had read on the effects produced by Doyen's serum by the absence of any evidence of changes in the cancer cells themselves. Great stress was laid on the mobility that it induced in the growth. This was what might be expected to result when the source of the serum was considered and the conditions which were usually present in cancerous growths. The presence of generally an extensive area of small cell infiltration was one of the most constant features of such growths. This infiltration was inflammatory in its nature and formed the factor that served in many instances to fix down the growth to the surrounding tissues. The presence of this condition was not considered by surgeons as a favourable condition for operation as it seemed to be associated with a tendency to recurrence. It was not unreasonable to hold that a serum made from microbic tissue (as Doyen's was) should have an effect on this inflammatory area as was seen in other instances of serum-therapy. This would allow of an operation being done which otherwise might be contra-indicated. If this were so such a serum would be of great value and its future rôle might be as an adjunct to operative treatment, being used as a preliminary to localise the tumour and to lessen the tendency to dissemination of the cell growth. Assuming that the parasitic theory of carcinoma had not yet been established Dr. Beatson was entitled to bring forward certain views that he had formed either as the result of experimental or clinical observations. The more he worked at carcinoma clinically the more he was inclined to regard it as a tissue vice and the more he leaned to the views which he had put before the society nine years ago and which he might designate as "*the germinal theory of cancer.*" He then stated that cancer consisted in the epithelium of the part affected taking on the active proliferation which was the marked characteristic of the germinal epithelium and that the special cells seen in sections of cancer (cancer bodies) would eventually be shown to be special ova or germinal cells. After alluding to the beneficial effects on mammary carcinoma induced by removal of the tubes and ovaries, the nature of the change consisting in a great increase in the stroma of the growth and a marked disappearance and fatty degeneration of the epithelial cells—an atrophic condition being induced, Dr. Beatson stated that it was on these grounds that he had based his germinal theory. To establish it on a scientific and trustworthy basis, however, they ought to find (1) nuclear protrusions (polar bodies) and (2) fewer chromosomes in the so-called germinal cells. In certain films from carcinomatous tissue made by Mr. Ernest G. Fortune there were appearances in certain of the cells containing the so-called parasite which indicated a body (stained green) either leaving or just entering the cells. In some cases it was surrounded by a distinct vacuole but it was not absolutely clear whether this was an extrusion or intrusion of a possible leucocyte and so no actual proof of the formation of polar bodies was established. Cancer cells which were dividing and undergoing mitosis showed a clearer appearance than the other, as if the process of division had some clarifying effect on the whole protoplasm of the cell. Mr. Fortune had also observed that while in the films made from cancer tissue cells could be found in all stages of karyokinesis, the cells containing the alleged parasite had never been seen dividing, though the cancer cells in their vicinity were doing so. Dr. Beatson drew attention to the work done by Professor J. B. Farmer, Mr. J. E. S. Moore, and Mr. C. E. Walker, in which they showed that the division of the nucleus of malignant cells very closely resembled that found in developing reproductive tissue. He drew attention to the marked *cellular* character of carcinoma, which was always regarded as made up of (*a*) epithelial cells and (*b*) connective tissue stroma. Its characteristic feature, however, was the disorderly distribution of its large, irregular, and polymorphic cells. The stroma was derived from the connective tissue spaces into which they were forced and they had no blood-vessels, nerves, or lymphatics of their own. Cancer cells simply lay in an intercellular fluid unpermeated by any newly formed blood-vessels. A cancerous tumour was composed of cells only, its stroma being a pre-existent element into which the cells had been forced by pressure. In such a tumour there was only a massing together of cells which had no tendency to develop into permanent tissue and so were entirely devoid of organisation. Cells so situated were of low vitality and were liable to decay, a characteristic which specially marked carcinomatous swellings (e.g., malignant ulcers). Another characteristic of the cancer cell lay in its *unirritating* nature. When cast off from the primary tumour and arrested in a distant part no local disturbance took place or constitutional derangement. Small local foci of dissemination in the lungs or the liver were often not revealed by any physical signs or symptoms. This had always seemed to Dr. Beatson a strong point in favour of the view that the carcinomatous cell was one which was the offspring of the body tissues and was in no way a stranger to them. Were this not so they ought to have in both primary and secondary tumours that disturbance of nutrition known as inflammation and this was generally observed in microbic or protozoal infections. The delay often found in seeking medical advice was frequently unavoidable. He was thoroughly opposed to the teaching that the general public should be instructed in the early symptoms and manifestations of carcinoma. The apprehensive frame of mind thus induced Dr. Beatson regarded as a powerful predisposing cause of the very condition which they wished to avoid. He alluded to the general good health which was so frequently associated with carcinomatous disease. The very pigmented condition of the fat in some of these cases had also attracted his attention. It presented a reddish-yellow (yelk of egg) appearance and had a colouring matter present which was not found in ordinary fat. This might also be associated with the lemon-tinged cachexia often seen in cancerous patients. He had also noticed while operating on cases of mammary cancer that the fat was in an oily and fluid condition and it was a general experience that in such cases carcinoma disseminated itself more rapidly than in those of spare build. As regards the source of the procreative fluid of the human body the ovaries and testes prepared certain modified epithelial cells (ova and spermatozoa), by the union of which the human embryo was produced. Maturation had first, however, to be accomplished and in the case of the ova and spermatozoa a series of cell divisions took place by which in each case there was a reduction of half the number of their chromosomes. In both these organs this process was accomplished by great cellular activity and the question arose, What was the stimulus which set it in motion so that in the ovum they had the polar bodies extruded and the reducing division in spermatozoa? It must be a secretion of some kind and it might be elaborated by the testes and ovaries themselves or by all the tissues of the body. In the latter case the testes and ovaries were merely instrumental in elaborating the work done by the rest of the body. The fluid portion of the seminal fluid, largely produced by the seminal vesicles, prostate, and Cowper's glands, was not only essential to the motility of the spermatozoa but also to their fertilising power. Again, removal of tubes and ovaries led to an increased deposit of fat in the body as if some secretion were being stored up and was no longer being removed from the tissues (as mucin accumulates in myxœdema). If this theory were correct there was a secretion which had to be reckoned with which not only bestowed vigour on the tissues themselves and which might even in certain circumstances confer on them a proliferating power but which seemed to have a special affinity for one particular tissue—viz., the fat. In this latter it might be retained and kept as a reserve, as when functional activity on the part of the ovaries and testes did not utilise it. It was generally stated that a tumour in the human body performed no physiological function and in carcinoma the cells had been likened to an invading host advancing to the conquest and eventual destruction of every tissue in the body. The more, however, that Dr. Beatson had thought over the subject the more he felt that the so-called autonomous proliferation of cells was a mere assumption and that possibly carcinomata were doing work for the organism by eliminating or dealing with some body product. If so this would bring them into line with the other body cells and presented them not as rebels but as taking up some new [illegible] duties of other cells no longer [illegible] ground for such a view be [illegible] shape of rounded bulbs or nodules in the roots of healthy bean and clover plants bore, Dr. Beatson thought, on the work of Dr. Robertson and Mr. Wade. These growths varied in size from a small pin-head up to a fair-sized potato and occurred on the healthiest plants. These nodules were packed with nitrifying organisms which absorbed nitrogen from the air and supplied their hosts, the plants, with the only food they required. The healthier the plant was the greater was the number of these nodules. Dr. George Moore of Washington grew these bacteria and packets of them were now made up and sold commercially to inoculate the ground. The result is that crops on soil so treated have increased a hundredfold, thus making the barren places to rejoice. Paget long ago drew attention to the [illegible] case of carcinomata he thought there were indications that this was so and this seemed to be confirmed by Farmer, Moore, and Walker, who found that there existed in malignant growths special cells which were characterised by a reduced number of chromosomes and which had their prototype in the reproductive cells of the body. Thus in functional inactivity or diseases of the testis or the ovary the part affected by the carcinoma did vicariously their work or helped them in an excess of work thrown upon them. If the procreative fluid were elaborated in the body tissues the possibility of this interchange was not unreasonable. The absence of organisation in the crowds of cancer cells of the tumour would suggest that they were *cast-off cells* which, were they not shut in by the tissues, would escape, as did those in the testes by the vasa deferentia. There were enacted in the tissues of the tumour the same cell activity and proliferation which went on in the testis and the ovary. Some of the neoplasms were glandular in character. Another point which had some bearing on the question of cancer as a secreting organ lay in the effects of operations for carcinoma. It was a very general experience that after removal of the tumour patients often put on flesh, cachectic signs might disappear. This was not easily explained unless the removal of the carcinoma had put a stop to something which was draining the tissues and markedly modifying them. Did the putting on of fat point to the fatty tissue of the body again taking on storage property to deal with a secretion which was no longer being used up by the carcinoma? If this were so, and Dr. Beatson inclined to the view, then the fat of the body bore some relation to carcinoma both previously to the onset of that disease and after its successful removal by operation. Under both conditions it had a salutary influence and it might be that only when its storage power was weak the more specially developed though degenerate cells of any body organ or tissue might draw upon the body secretion that the fat contained and by dealing with it in a different way manufactured it into an epithelial secretion on the lines of the normal reproductive tissue of the body. The beneficial results of oöphorectomy might result not only from a lessening in the amount of Dr. Beatson's suggested body secretion but also by adding to the capacity for fat development. In conclusion, Dr. Beatson said that the germinal theory of carcinoma harmonised most with the facts and course of the disease though it assumed the existence of a general tissue secretion. In the event of the testis or the ovary being unable to deal with this procreative fluid through decay or disease, and the fat of the body having no special capacity for storing it, it was probable that tissues or organs which had retrograded physiologically might take upon themselves the function of secreting it. If this were correct then in carcinoma they had a tissue secretion to deal with in relation to which the fat of the body probably acted as a middleman. This being so Dr. Beatson thought they should not take too pessimistic a view of the therapeutic position in connexion with the disease or despair altogether of its successful treatment.

In the discussion which followed Mr. **Harold J. Stiles** said that they ought to look at carcinoma from the widest and from the most fundamental points of view and this was what Dr. Beatson had done, and his propositions were deserving of the most careful consideration. The starting point of a carcinoma was in the epithelial cell. The essence of the condition was the atypical uncontrolled proliferation of cells. In opposition to what had been said he affirmed that these cells did cause inflammatory proliferation and so fibrous tissue was produced. In a carcinomatous lymphatic gland distinct diapedesis from venules could be observed. What originated the starting process? This ought not to be studied in the mamma but in an exposed epithelium—e.g., ulcer of the tongue, or in the conversion of a chronic ulcer of the leg into a carcinomatous one. In such there was a proliferation of epithelium and this got into new surroundings. In the case of the ulcer the epithelium endeavoured to cross over and to cover the granulations, while at the same time there was a proliferation downwards at the edges of the ulcer and ultimately the deeper layers took on a deeper growth and thus a lymphatic infection ensued. Mr Stiles did not think that the testes or the ovaries had any part to play in the production of carcinoma, for this disease was found in every kind of individual, thin or fat, healthy or weakly. If malignant cells were decendants of epithelial cells they did not know what converted them into germinal cells and he doubted if they ever would find this out. The glandular appearance seen in certain cases of mammary carcinoma was simply due to the fact that epithelial cells endeavoured to perform their normal function. This could be best studied in those conditions which were on the border line between inflammatory breast tumours and real carcinoma. The most interesting condition was Paget's disease; here one found the malignant cell isolated in the midst of perfectly healthy epidermis. It looked very like the ova. Each proliferated and formed a cluster in the deeper layers of the epidermis. Where had they come from? If a section were made of the mammary duct as it passed through [illegible]

The [illegible] functio[illegible] also be [illegible] every malignant tumour was an excessive local reproduction. The migration was due entirely to want of food and the large cells in Paget's disease were migratory. Did the tumour arise because of an excessive amount of the maternal or of the paternal element? Under normal conditions there was a healthy balance between these and an [illegible] grew, or, in other words, [illegible]e ovaries this maternal [illegible] still hope for improve[illegible] the woman was past ovulation.

Dr. **William Russell** remarked that Dr. Beatson's argument was based upon observations showing that removal of the ovaries was useful in cases of mammary cancer. One had to remember, however, the close sympathetic relation between the pelvic organs and the mammæ in women. It was not claimed that this operation was equally useful in carcinoma of other parts and so he did not quite follow the drift of the argument. In the removal of the testes for enlargement of the prostate and of the ovaries in myomata the atrophic influences induced had to be remembered. The blood serum was the expression of the secretion from all cells in the body, so the serum must be modified by the removal of any important gland. This had been abundantly proved in the work on bacteriolysis, hæmolysis, and especially cytolysis. In the case of epithelioma of the lip the germinal view was that certain germ cells in the epithelium multiplied and so formed the tumour. Even if it were true that epithelioma of the lip began in two or three cells the mass of epithelioma took on a general proliferation and this process extended to adjoining columns of epithelium. He could not believe that any maternal plus process could cause this. It was very distinctly an infective process. This was further shown by the occurrence of metastases. A cell was carried by the blood or lymph stream and was arrested in some organ. In spite of all the protective properties of the cells around it the cell which ought to have been destroyed proceeded to multiply and not only so but cells in the new organ sometimes became cancerous. A malignant nodule on the surface of any abdominal organ, if it broke down and the débris escaped into the abdominal cavity, caused a general infection of the whole peritoneum. Dr. Russell hoped that before long it would be shown that carcinoma is caused by an external parasite which gains entrance and stimulates cellular reproduction.

Professor A. R. SIMPSON, Dr. P. MACBRIDE, Dr. W. TAYLOR, and Dr. JAMES RITCHIE also took part in the discussion and Dr. BEATSON replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

A New Plaster Apparatus for Fractured Femur.—Fracture of the Tibia.—Excision of Joints.

A MEETING of this section was held on Feb. 24th, Mr. E. H. BENNETT being in the chair.

Dr. W. I. DE COURCY WHEELER exhibited an Apparatus designed by himself to facilitate the application of plaster of Paris to fractures of the femur either as a primary dressing or at any period before union had taken place. It consisted essentially of two gates swung on an upright iron bar on which rested a padded crutch to receive the perineum. The machine was so arranged that accurate extension could be kept up during the entire operation of encasing the leg and the pelvis in plaster. At the same time (extension being applied by means of a clove hitch attached to the ankles and rollers surmounting the end of the gates) abduction and adduction could be made relatively equal and the errors arising from obliquity of the pelvis could be avoided. The amount of extension put on could also be estimated by two Salter's balances which intervened between the rollers at the end of the moveable gates and the clove hitch attached to the legs of the patient. Five or six cases had been treated on the apparatus with success. The ideal fractures were those near the middle of the shaft. Extension was put on until both legs were the same measured length, no errors being likely if the gates were open to the same extent; this latter measurement could be read off a graduated bar provided for the purpose. The plaster was rapidly rolled on and very free access to the limbs was obtained. Only one assistant was necessary. Special provision was made for the surrounding of the pelvis with the roller bandage and this could be done without any hoisting of the patient from the table by a simple manipulation of the apparatus. The apparatus was very simple, could be made by any ironmonger, and cost about £2. In suitable cases the injured limb was encased with the pelvis and also the sound limb as far as the knee-joint, leaving a strong wedge of plaster in the perineum. The patient was allowed to move about on crutches in a few days and frequently no shortening resulted.—Mr. BENNETT expressed the opinion that the apparatus was probably useful in general hospital work but could hardly be used by country practitioners.—Mr. R. F. TOBIN said that Mr. Wheeler's method would be useful in the treatment of fractures of the femur in field service.

Mr. BENNETT read a paper on Oblique Fracture of the Tibia. He said that fracture of the tibial shaft alone was rare as a result of indirect violence, although common enough when the violence acted on the bone directly. Oblique fractures of the central portion of the shaft without accompanying fractures of the fibula were rare. In a case which recently came under his notice the patient, a girl, aged 15 years, jumped from a height of about 12 feet on to the ground and immediately fell backwards. Although she was able to stand up she could not put any weight on the injured limb or attempt to walk. On being taken to hospital soon afterwards she was found to be suffering from pain and complained of loss of power in the limb but it was not possible to obtain crepitus or to detect any evidence of abnormal motion in the limb. An x ray examination, however, revealed the presence of a fracture. It was very oblique, traversing almost four inches of the shaft of the tibia in its middle segment. Its direction was from above, and without downwards and inwards. The progress of the case was uneventful and union was perfect in the ordinary time. The absence of deformity was explained by the integrity of the fibula. The skiagrams obtained from this case afforded the only example which he had seen of *oblique fracture of the shaft of the tibia only from indirect force.*—Dr. W. S. HAUGHTON said that in studying the long bones stereoscopically it was found that the oblique direction of the lamellæ was the rule and not the exception and that when fractures were regarded from the anatomical standpoint it could be seen that their planes ran parallel to the direction of these bone lamellæ.—The communication was also discussed by Mr. TOBIN, Mr. EDWARD H. TAYLOR, and Mr. G. JAMESON JOHNSTON.

Mr. KENNEDY read a paper on Some Cases of Joint Excision. One case of excision of the knee was remarkable as the joint was riddled with sinuses and had been fixed at a right angle for years; the patient also showed symptoms of well-marked pulmonary tuberculosis, a cavity being present in one lung. Nevertheless recovery quickly followed operation, the lung healed rapidly, and the patient was enabled to get about. In connexion with this case Mr. Kennedy dwelt on the importance of fixing the bones together after excision of the knee by Tobin's clamps or by suturing. A case of excision of the shoulder and one of excision of the elbow were quoted as examples of dry caries of the articular ends of bones. Although in each the disease had existed for years not a trace of suppuration was present in either. The diagnosis was difficult and was made clearer by skiagraphy.—Dr. HAUGHTON said that stereoscopy was of great value in diagnosing early tuberculosis of joints by means of the x rays. By its aid areas of rarefaction could be discerned and their true relations to each other and to the joint made out.

Mr. JOHNSTON exhibited a patient who had the power of voluntarily producing a partial dislocation of the knee.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held in the medical school, Sheffield, on Feb. 17th, Dr. D. Lloyd Roberts, the President, being in the chair.—Dr. S. Buckley showed an example of Multiple Parovarian Cystic Disease together with Uterine Fibroid. The fibroid was enucleated and both appendages were removed as there was in close relationship to each ovary a cluster of small cysts of parovarian origin.—Mr. R. Favell showed a Dermoid of the Ovary as large as a seven months uterus which contained a well-developed mammary gland with a nipple as well as teeth and hair.—Dr. Sinclair White showed a similar specimen from a girl, aged 13 years, which was generally adherent and had a doubly twisted pedicle but had caused no symptoms.—Dr. Donald had removed an ovarian dermoid from a patient, aged 71 years.—Dr. A. Wallace showed three Uteri removed from patients, aged 50, 51, and 53 years, on account of hæmorrhage. Two were examples of cancer of the body, while the other had within the uterine wall a thickening layer composed of fibrous trabeculæ enmeshing muscular tissue. This uterus three weeks before operation was so large as to reach to the umbilicus. It was much less at the operation and was removed vaginally by means of vaginal incisions. Schuchardt's paravaginal incision was used in one of the other cases, while the abdominal route was chosen in one where the vagina was very narrow. Dr. Wallace had seen marked suppuration in Schuchardt's incision in several cases and had observed rapid recurrence of cancer in the scar.—These observations were confirmed by subsequent speakers.—Dr. Buckley men- [illegible] cyst of the outer part of one tube lined by granulation [illegible] Microscopic examination [illegible] chorionic structure.—Dr. [illegible] patient on whom he *operated for the relief of pain and hæmorrhage. A single soft* [illegible] Fibroid Tumour of the Uterus from the fundus of which a soft vascular red fan-shaped growth was springing. This was a spindle-celled sarcoma. The fibroid had been present for two [illegible] caused pain [illegible] ed the case [illegible] size in the lower uterine segment. She became pregnant and at the sixth month was very ill through pressure symptoms, jaundice, and albuminuria. The position of the fibroids excluded every measure short of hysterectomy. This was accordingly done, after which the symptoms rapidly disappeared.—Dr. J. E. Gemmell mentioned two cases of Primary Sarcoma of the Ovary in girls, aged 17 and 20 years. *These were remarkable for their rapid growth and extremely rapid recurrence in the form of soft generalised sarcoma of* the omentum and the mesentery.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on Feb. 22nd, Mr. W. B. Holderness, the President, being in the chair.—Mr. A. A. [illegible] ssion upon the subject [illegible] might be divided into [illegible] obstruction of the lumen [illegible] fæces, or bands; (2) inflammation without suppuration; (3) inflammation with abscess; (4) sloughing and peritonitis with sup- [illegible] no acute attack. The [illegible] transient and acute, the [illegible] ach disturbance, such as [illegible] children. Those in the [illegible] onset and were often preceded by nausea and abdominal discomfort. The pain was often all over the abdomen or more in the epigastrium. When general abdominal pain had subsided a lump was often to be felt and might remain long after the pain had gone. In the third class the onset was as in the second but often more severe. Occasionally a rigor was present. The pain and fever might persist after three days or the fever might [illegible] h day. [illegible] h day. [illegible] re was often a definite shock with the sudden onset. There was a low temperature with a rapid pulse which soon tended to become feeble. The pain was very acute at first but might decrease as the patient became more ill. Mr. Bowlby next detailed the treatment that he was in the habit of adopting in this disease. In all cases of sudden onset of pain apparently due to the appendix he would give morphine. No food should be given by the mouth, the patient being fed with enemata. He would continue the treatment by morphine and strychnine and apply fomentations locally. If the case belonged to Classes 1 or 2 the symptoms generally quickly improved and an operation for removal of the appendix might be undertaken in about three weeks or after a longer interval if the attack were more severe. He would avoid operation in the acute stage. In Class 3 as soon as the pus was localised he would open the abscess but would not search for the appendix. In these cases, however, he would still avoid early interference. In Class 4 he would operate at once and remove the appendix at the same time.—The discussion was continued by the President, Mr. J. W. Gooch, Mr. E. W. Adams, Dr. E. S. Norris, Mr. W. H. Beresford, Mr. J. O. Skevington, Dr. Wood, Dr. W. Wrangham, Dr. W. A. Ellison, and Dr. C. R. Elgood.

BURNLEY AND DISTRICT MEDICO-ETHICAL ASSOCIATION.—A meeting of this society was held on March 2nd, Dr. A. M. Sinclair being in the chair.—Dr. Thomas Snowball read a paper on Myopia in which he discussed various causes of the condition, including among others the performance of close eye work with defective illumination and stooping at eye work which tended to prevent the free return of venous blood. Myopia usually began in early school life and gradually increased. Bondi made an examination of 2000 school children and found that in the board schools (Volkschule) 4 per cent. were myopic, in the secondary schools (Burgerschule) 12 per cent., and *in the Obergymnasien 27 per cent.* Mr. C. H. Usher of Aberdeen, in an examination of the students at the *University of Aberdeen, found that 15 per cent. were myopic* and that the town-bred myopes were to the country-bred myopes in the proportion of 7 to 5. In the Report of the Royal Commission on School Training (Scotland) it was stated that girls were more myopic than boys and that the degrees of myopia increased with age up to 15 years. Dr. Snowball eventually discussed the formation of the myopic crescent and true posterior staphyloma, defective light sense, *diminished field of vision, and the causes for defective* central vision, especially that occurring in myopes between 40 and 50 years of age. He said that the complications of myopia included the black spot, the formation of cataract, opacities of the vitreous, displacement of the lens, thinning of the cornea, increase of intra-ocular pressure, and (most serious of all) detachment of the retina. He related instances of hereditary myopia which had occurred in his own experience and spoke of Head's observations with regard to local and referred pain in ordinary and progressive myopia. *There were two kinds of treatment—one by glasses and one by operation. In prescribing glasses some adopted* partial correction and some preferred full correction. Mr. Ernest Clarke recommended full correction and in cases of progressive myopia removal of the patient from school to open-air life in the country. Other preventive measures must be attended to, such as holding work well away from the eyes, avoidance of stooping, good illumination, and writing in an [illegible] be useful or operation was contra-indicated.—Dr. H. Edmondson corroborated Dr. Snowball's remarks about heredity in myopia and gave examples of it in several successive generations of cotton-weavers. He advocated the discission operation, as from his own cases and from cases about which he had inquired he found that over 50 per cent. were highly benefited.—Dr. J. S. Wilson and Dr. G. S. Pullon *also took part* in the discussion.

CHELSEA CLINICAL SOCIETY.—A meeting of this society was held on Feb 21st, Dr. T. Vincent Dickinson, the President, being in the chair.—Mr. J. Foster Palmer read a paper entitled "Pre-appendicectomy Appendicitis, its Bearing on Causation and Treatment." Referring to the largely increased numb [illegible] last few years [illegible] and "sixties," [illegible] period, the di [illegible] room. *Many of these cases, therefore, would have been* saved by modern treatment. In addition to the fatal cases *the nature of* which was thus discovered there must have been a number of others in which no diagnosis was made, besides a large proportion of milder cases which recovered. Taking, therefore, the number of recorded fatal cases as a kind of basis on which to form an approximate estimate of the total number of cases it would appear that about the end of the "fifties" and the beginning of the "sixties" there [illegible] appendicitis of [illegible] which had take [illegible] inference drawn was that the prevalence of the disease was not to be accounted for entirely by mechanical causes but that certain cyclical or quasi-epidemic influences might be at work which they did not at present fully understand. With regard to treatment it was only necessary to compare the post-mortem records of this earlier period with the results attained by modern surgery to be convinced of the great saving of life which had been brought about by their present methods.—Mr. C. Edward Wallis read a paper on Dental Caries, with lantern slides illustrating the pathological changes that [illegible] the opinion that to improve the [illegible] only be necessary [illegible] child's life but also [illegible] ng the period of pregnancy included in her dietary such calcium and other salts as would enable the teeth of her offspring to be properly calcified. Besides this, investigations had shown that breast-fed children possessed far better dentitions than those brought up on cow's milk and its many derivatives.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held at Birmingham on March 1st, Dr. E. W. Wood White, the President, being in the chair.—Dr. J. W. Russell showed a man, aged 29 years, suffering from Acromegaly.—Mr. L. P. Gamgee showed a man, aged 45 years, the subject of Adiposis Dolorosa. The disease had been in existence for five years and the patient had symmetrical masses of fatty tissue at the back of the neck, a mass in the right axilla, and a large one in the subcutaneous tissue of the abdominal wall. The tumours were softer and of less definite outline than ordinary lipomata, while those in the axilla and the abdominal wall were very tender on pressure. One of the tumours on the back of the neck was the seat of severe neuralgic pain. There was no abnormal pigmentation of the skin over the tumours and there had not been any subcutaneous hæmorrhages. The patient had for many years been a confirmed alcoholic. Attention was called to the fact that this disease very rarely occurred in males.—Dr. J. Jameson Evans showed an Eye which contained a Melanotic Sarcoma which had perforated the sclerotic near the corneal limbus. Before the eye was removed the large extra-ocular mass projected between the eyelids on to the patient's cheek. The following were the points of interest in the case: 1. The growth had arisen in an eye the sight of which had been destroyed by an injury from a piece of steel three years previously. 2. The symptoms before the growth perforated the globe were comparatively mild but its growth afterwards was exceedingly rapid. There was never any increased tension but there were a cystoid cicatrix at the site of subsequent perforation and some ciliary injection. According to the patient's statement the extra-ocular growth had only existed for three weeks. 3. The patient now (ten months after excision) was suffering from metastatic growths in the lung, liver, and in the skin of the face, chest, abdomen, and extremities. Dr. H. E. Utting of Walsall records that the number of growths on the surface exceeds 200.—Mr. J. W. Taylor read a paper on the Value of Colpotomy in the Thrombotic Form of Puerperal Fever (early thrombotic pyæmia).

ROCHDALE AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on March 2nd.—Dr. W. Hirst Bateman opened a discussion on Puerperal Pyrexia from the point of view of immediate treatment. It was important to decide (1) that the rise of temperature was connected with the puerperal condition and (2) to distinguish between sapræmia and septicæmia. Treatment should be (1) a calomel purge; (2) if the temperature did not fall within a few hours the uterus should be douched with perchloride of mercury; (3) a mixture of quinine and ergot should be given; (4) if the temperature remained high after two or three douches the uterus should be curetted, douched, and packed with iodoform gauze, the packing to be removed in five or six hours; and (5) antistreptococcic serum might be used.—Dr. S. B. Brentnall drew attention to the value of polyvalent serum.—Mr. G. W. Malim emphasised the importance of distinguishing between sapræmia and septicæmia. He doubted the advisability of curetting except in cases where there was retained membrane. Douching should be avoided altogether in real septicæmia.—Dr. W. E. Jameson spoke of the value of antistreptococcic serum.—Mr. S. T. Lord, Dr. J. Melvin, Mr. H. H. I. Hitchon, Mr. W. Pooley, Dr. J. G. Standing, and Dr. H. Harris also took part in the discussion.—Dr. Bateman showed a case of Acromegaly presenting the characteristic features. The feet were not markedly enlarged. There was complete atrophy of the left optic nerve and the right showed neuritis with temporal hemianopsia.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held at the Royal West Kent Dispensary on March 3rd.—Dr. W. E. Pountney was elected an ordinary member of the society.—Dr. F. S. Toogood showed the following clinical cases: (1) Gout; (2) Tuberculous Wrist-joint; (3) Tuberculous Abscess of the Head; and (4) Phthisis.—Dr. R. D. Muir showed a case of Herpetiform Morphœa and a case of Multiple Fibroma.—Dr. R. E. Scholefield showed a case of Myxœdema and a case of Senile Chorea.—The cases were discussed by the members present.

Reviews and Notices of Books.

Museums, their History and Use. By DAVID MURRAY, LL.D., F.S.A. Glasgow: James MacLehose and Sons. 1904. In three Volumes. Total pages 1043. Price 32s. net.

VOLUMES II. and III. of this intersting work are composed of catalogues and bibliography, subjects which, although eminently important and useful, do not lend themselves to review. But Vol. I. comprises a history of museums that sets forth the ideas of a scholar and antiquary and a museum expert upon the right use of museums and these ideas merit the serious consideration of all those interested in education, whether as teachers, ratepayers, or philanthropists. Dr. Murray gives a delightful account of the very early museums, using the term to mean a collection of rarities. Passing over the ark and the collection of curiosities which, according to some authors, King Solomon had got together, he reminds us that in the Middle Ages the churches were the great storehouses of curiosities. Excluding relics, a common object to be seen in churches was an ostrich egg. These eggs may be seen any day at the present time in sundry Eastern churches and occasionally in those of the West. Durandus gave various mystical reasons for their presence but the most probable explanation is that they were regarded as a symbol of life. Their use was common in all branches of the church and almost universal in Mohammadan mosques. But from the very beginnings of "religion" the egg was regarded as a symbol of life and even in these days the Pace egg—i.e., the Easter egg—is still in use.

Dr. Murray says that the griffin's eggs, of which there were several in Durham Abbey, are believed to have been ostrich eggs. We can hardly agree with this theory for the ostrich egg was well known in mediæval times. Raine in his "St. Cuthbert" (Durham, 1828) gives a list of the treasures which were in Durham Abbey in 1383, and among them were nine griffin's eggs. He also suggests that they might have been ostrich eggs. One is said to have been ornamented and cut in two. Now Lethaby in his "Architecture, Mysticism, and Myth" points out that in at least one instance the griffin's egg is described as being hairy, of a brown colour, having a hard white and clear yelk. Nowadays we call them cocoa nuts. Carved ostrich eggs are fairly common but carved cocoa nuts are much more so and such nuts, whether carved or not, may well have filtered into England by way of Venice. Anyone who looks at Ruskin's drawing of the Lombard Griffin will see at once that it would lay an egg much more like a cocoa nut than that of an ostrich.

Other chapters of Dr. Murray's work treat of the Progress of Science, of the Beginnings of the British Museum, of Scottish Collectors and Museums, and of the Non-Scientific Character of Early Museums. Finally he ends with an admirable chapter on the Use of Museums. This chapter, as we have already said, merits the attention of all who are interested in education. Dr. Murray shows how valuable a well-arranged museum can be if used by a sensible teacher; a museum, he says, quoting Schelhammer, is a *bibliotheca sine libris* and it is just as important to provide objects for study as to provide books which tell about them. He has a poor opinion as to the use which is made of rate-supported libraries. On the other hand, he is rightly not satisfied with the way in which our museums are utilised. "Many of our museums do nothing but exhibit specimens; they make no provision for research and give no encouragement to systematic study. Our municipalities receive large sums of money from the State for educational purposes, but no municipality, so far as I am aware, has devoted any part of its funds for utilising its museums and publishing the results of research." Here we must take leave of what is certainly a most interesting work, one moreover which should, if its precepts are taken to heart, be of great use both to those who have money to give and to those to whom is intrusted the spending thereof.

Progressive Medicine. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; assisted by H. R. M. LANDIS, M.D., Assistant Physician to the Medical Dispensary of the Jefferson Medical College Hospital. Vols. I. and II. 1904. Vol. I., pp. 337; Vol. II., pp. 334. Price 12*s*. each volume.

THE first contribution in Vol. I. is by Dr. C. N. Frazier. It gives a *résumé* of the progress recently made in the surgery of the head, the neck, and the thorax. Particularly interesting is the section on wounds of the heart. In *Progressive Medicine* for March, 1903, a table was published containing particulars of 39 cases of operations for closure of wounds of the heart. Since that time Dr. Frazier has been able to collect 21 cases, bringing the total number of recorded cases to 60. Of these 35, or 58 per cent., proved fatal and 25, or 42 per cent., recovered after operation. The absolute indications for operation after punctured wounds appear to be severe primary hæmorrhage and oppression of the heart's action from the accumulation of blood within the pericardium. In the case of gunshot wounds an expectant treatment should be carried out, inasmuch as many cases are known to have recovered spontaneously.

Under the heading of "Infectious Diseases, including Acute Rheumatism, Croupous Pneumonia, and Influenza," Dr. R. B. Preble reviews the work that has been accomplished by various observers in regard to diseases which have a bacterial origin. He considers that the questions most vigorously studied have been the unity or duality of human and bovine tuberculosis, the relation of cholera nostras and of sporadic dysentery to the Shiga-Flexner bacillus, and the nature and the frequency of paratyphoid infection. With regard to the last-named affection he regards it as being of the nature of a general infection. So far only three deaths have been recorded. In these cases on examining the intestines the Peyer's patches and the solitary follicles were found to be normal; but inasmuch as five cases of paratyphoid fever have been recorded in which intestinal hæmorrhage occurred it is probable that in some cases at least intestinal lesions exist. The fatal cases were all due to the "beta paratyphoid" bacillus. These pathological findings suggest that some of the reported cases of typhoid fever without intestinal lesions were really instances of paratyphoid instead of true typhoid infection. In relation to this subject we may draw the attention of our readers to a paper read before the Royal Academy of Medicine in Ireland by Dr. A. R. Parsons on Jan. 20th and reported in our columns on Feb. 18th, p. 430.

Dr. F. M. Crandall is responsible for the article on the Diseases of Children. He gives some interesting statistics bearing on the mortality of early life. After a careful consideration of the circumstances affecting infant life which obtain in various countries he quotes the opinion of Dr. Freeman who has made a special study of the subject in the United States. Dr. Freeman's conclusions are that the infant mortality of all countries is exceedingly high and this is shown to be unnecessary by the fact that infants who are well cared for show a very low mortality. The influences that contribute to the high mortality he believes to be defective feeding, "with heat, humidity, and bad surroundings as contributory causes." He states that there has been a marked decline in infant mortality during the past ten years in the United States, and especially in New York city, due for the most part to the decline in mortality from summer diarrhœa. He believes that the most important agency in reducing this mortality is the general adoption of pasteurising and sterilising milk for infant feeding. This method has been tried with success in some cities in this country.

In Vol. II. one of the most interesting communications is that by Dr. Alfred Stengel on Diseases of the Blood, Diathetic and Metabolic Diseases, and Diseases of the Spleen, Thyroid Gland, and Lymphatic System. An exhaustive account is given of Professor Bloch's views on pernicious anæmia. This observer insists that the term "progressive pernicious anæmia" fails properly to distinguish the disease from secondary anæmias which may run a pernicious course and suggests the name of "Biermer's progressive anæmia," under which are to be included only those cases the clinical course of which coincides with the features laid down by Professor Biermer. One of the most popular theories of the causation of pernicious anæmia is that it is due to a toxin formed within the intestinal tract, absorption of which brings about the hæmolysis believed to be the direct cause of the anæmia. Professor Bloch does not accept this view and offers the suggestion that "Biermer's progressive anæmia" is not an essential disease of the blood but can be traced to a primary asthenic composition of the blood-forming tissues. Further investigation is necessary before Professor Bloch's views can be accepted. We trust that the term "Biermer's progressive anæmia" will not be adopted. The association of an observer's name with a disease is, in our opinion, undesirable from several points of view. A name indicative of the pathological nature of the disease and the organ or the tissue of the body which it affects is more exact and more scientific.

These two volumes form a valuable addition to those that have preceded them.

Ex-Cathedrâ Essays on Insanity. By T. CLAYE SHAW, M.D. Lond., F.R.C.P. Lond. London: Adlard and Son. 1904. Pp. 250. Price 5*s*. net.

THESE *obiter dicta* deal mainly with subjects of a speculative kind and do not readily lend themselves to criticism. The following are amongst the topics dwelt upon: the nature of insanity, the symptoms of insanity, psychology and nervous diseases, surgery and insanity, and the treatment of insanity. The essay on the Nature of Insanity points out that that term means want of conformity with an artificial scale or standard which exists for each social level, there being no absolute universal standard. The author considers that there are numbers of persons in asylums who are much less affected mentally than are many in the outside world, who are lunatics by law alone, who ought to be restored to liberty but for the fact that they are unable to earn their own living and that the law is elastic. This view is somewhat disconcerting and likely to be misunderstood. That these persons cannot get their living argues that they are not *compos mentis.* Some such could, no doubt, be allowed out (boarded out) under guardianship. The mentally affected whom Dr. Shaw describes as at large at any rate mostly earn their living, do not run counter to the law, and are not under any social ban. The inmates of asylums who appear whilst there to be but little affected mentally have frequently an unpleasant way of showing their insanity when asylum control is removed. Referring to the germ theory of insanity, Dr. Shaw states that this must be admitted to be partially true and we agree that no more than this can at present be said. The author states his belief that in the insane the mucous membrane of the digestive tract undergoes ulceration as a result of trophic change. If this is a reference, as we presume, to the condition formerly known as ulcerative colitis but now commonly called asylum dysentery, we can only say that no valid evidence for such a belief is forthcoming. While it is open to anyone to speculate upon the trophic condition of the part affected it is incumbent upon all to recognise the rôle of the micro-organism in the production of these ulcerated conditions.

The author has some interesting remarks upon psycho-physics and their value, to which space does not allow us to refer. Referring to the subject of consciousness he mentions telepathy and second sight, and considers it ridiculous to deny that there are forms of matter visible and tangible to some few in view of existing well-authenticated instances. A chapter is devoted to the discussion of the symptoms of insanity; it is pointed out that undue prominence is given to mere forms of insanity (mania, melancholia, and so on) in text-books; these are "merely states of the same thing" with different degrees of reduction; the terms are convenient but connote nothing as regards causation, prognosis, and treatment. Dealing with the association between ideas and emotional states it is pointed out that in the insane ideas (delusions) frequently have not the emotional tone which normally they should have; thus persons expecting to be hanged show no fear and "emperors" will scrub the floor without sense of incongruity. Interesting speculation follows as to instances of the same separation of idea and emotional content in the sane. Reference is made to destructive acts, to the frequent commission of the suicidal act without consciousness, "and it is only when the brain is relieved from congestion (as in cut-throats and drowning attempts) that consciousness of the condition returns." This vascular interpretation of the rise and subsidence of impulsive states is hypothetical and dubious. In a chapter on Surgery and Insanity there is some highly speculative writing as to possible relationships between delusions and altered conditions and actions of groups of cells which, even if it is helpful, seems without any basis. Exception may also be taken to the suggestion that a narcotic "simply affects that part of the brain which is not affected by the disease" (insanity). There is no evidence for the localising views here implied. Dr. Shaw relates a case of trephining in acute insanity with the object of relieving pressure and thinks that "with a better knowledge of those localities specially affected in insanity of different kinds direct interference will be of service beyond our dreams." Before acquiring "better" knowledge we require simply knowledge of the localisation referred to, and we are not aware that there is any, nor have the years which have passed since these surgical procedures were advocated led to their adoption. Dr. Shaw is confident that many cases of chronic delusional insanity are left uncured because we have not the courage to attack them surgically. Certainly we cannot yet claim that surgical familiarity with the contents of the cranial cavity that exists with respect to the abdominal. The localisation of delusions, here referred to, is at present hardly within the realm of sober thought. In a case of olfactory hallucination where sclerosis of the olfactory centre was found, Dr. Shaw thinks operative treatment would have been proper. Do surgeons remove the tip of the uncinate gyrus? There is much sound sense in the author's remarks in his last chapter on the treatment of insanity and on the value of official figures as to recovery. We regret that space does not allow us to refer further to these and to other interesting matter.

LIBRARY TABLE.

The Purification of Sewage. By SIDNEY BARWISE, M.D. Lond., B.Sc. Birm., M.R.C.S. Eng., D.P.H. Cantab. Second edition. London: Crosby Lockwood and Son. 1904. Pp. 220. Price 10*s.* 6*d.*—We entertained a favourable opinion of this book in our review of the first edition in THE LANCET of March 11th, 1899, p. 700. Since then further progress has been made in the application of biological methods to the disposal of sewage. In particular, improvements have been made in the mechanical arrangements for making the action of percolating filters automatic and in apparatus for the distribution of sewage. This section of the subject receives attention in Chapter X. of Dr. Barwise's book. The text is interleaved with illustrations of these mechanical appliances. Further, Dr. Barwise has added an appendix on the analysis of sewage and sewage effluents which formed the subject matter of a book issued separately some years ago. Dr. Barwise's ample experience of modern methods of sewage treatment makes what he has to say of practical value and an excellent idea of the present position of the sewage disposal question will be gained from consulting this volume, while his directions as to gauging the efficiency of a given method of purification by chemical analysis are to the point. For the most part these methods are simple and give valuable indications.

Elements of Anatomy and Physiology especially adapted for Nurses. By W. BERNARD SECRETAN, M.B. Lond., F.R.C.S. Eng. London: The Scientific Press, Limited. 1905. Pp. 74. Price 2*s.* net.—When lecturing to the nurses of the Royal Berkshire Hospital the author was struck by the difficulty of obtaining a suitable text-book which although embracing the whole of anatomy and physiology as far as these subjects are required by the average hospital nurse was yet devoid of all unnecessary and confusing matter. This little manual is an attempt to provide such a work. It is concise, the language is simple, and it is sufficiently illustrated. The book will be useful to nurses.

Religion and Health: their Mutual Relationship and Influence. By NORMAN PORRITT, M.R.C.S. Eng., L.R.C.P. Lond., Consulting Surgeon to the Huddersfield Infirmary. London: Skeffington and Son. 1905. Pp. 186. Price 3*s.* 6*d.*—This is an interesting volume. After dwelling on the analogies between religion and health Mr. Porritt gives a survey of the effects of Christianity on the healing art, followed by a relation of the bodily ills that the absence of religion has carried in its wake. In his chapter on the cult of Mrs. Baker Eddy the author offers that lady many possible ways of proving the doctrine which she propagates. The book is intended specially for the ministers of religion and throughout it runs the expression of opinion that it is to the moral reformer—the minister, the priest, the clergyman, the lay reader, the evangelist—we must look to bring home to the people the grave injury to the race and the physical deterioration which are brought about by the neglect of the laws of health. Every minister ought to be a minister of health, for he penetrates where no one else can, he alone knocks at a man's door and claims the right to enter and yet not be considered an intruder. The minister and his helpers should be able "to render 'first aid' in health and sanitation." The gospel preached in this volume will benefit the work of any minister of religion who considers it; the tidings make for health and sanity. We have read the book with much pleasure.

Handbook of Diseases of the Ear, for the Use of Students and Practitioners. By RICHARD LAKE, F.R.C.S. Eng., Surgeon to the Royal Ear Hospital; Lecturer on Practical Otology at the Medical Graduates' College. With three coloured plates. Second edition. London: Baillière, Tindall, and Cox. 1904. Pp. x.-242. Price 6*s.* net.—We noticed the first edition of this useful work shortly after its appearance and we are glad to see that it has reached a second edition, for it deserves success. It is sufficiently brief and elementary to be suitable for the reading of those who are desirous of obtaining a good general knowledge of the subject without being overburdened by an excess of detail. The present issue does not differ to any very great extent from the first edition but a careful comparison of the two will show that numerous small alterations have been made, while here and there new sections have been added, for instance, the section dealing with rupture of the membrana tympani.

Burdett's Hospitals and Charities, 1905. London: The Scientific Press, Limited. Pp. 966. Price 5*s.* net.—The issue for the current year of this most useful work is quite up to the level of its predecessors. The information which it gives about hospitals, convalescent homes, homes for inebriates, and nursing institutions, not only throughout the British empire but in sundry foreign countries, is invaluable. The introductory chapters, too, whether we agree or not with Sir Henry Burdett's views, are most interesting reading. It is a book which no one who has anything to do with hospitals or their management can afford to be without.

The Land of the Blessed Virgin. By WILLIAM SOMERSET MAUGHAM. London: Heinemann. 1905. Pp. 228.—The land of the Blessed Virgin is Andalusia and Mr. Maugham possesses an evident faculty for enjoyment of that fascinating country. To begin with he can rightly appreciate the joys of laziness. Andalusia is a land where no one is in a hurry and for a worker in London, where most people have to do things whether they wish to or not, there is no greater charm than to go to a place where the prevailing feeling is, "If you can do a thing to-morrow don't do it to-day." Mr. Maugham seems to have found only one blemish—namely, the food; but in that respect we do not quite agree with him. He says: "The stomach used to roast meat and Yorkshire pudding rebels against Eastern cookery, and a Christian may sooner become a Buddhist than a beef-eater a guzzler of olla podrida." Rancid oil and garlic are not appetising here but they may be in Andalusia, and, like the Hebrews of old, anyone who has once been in the East, and Andalusia is the East, will remember the fish which he did eat in Egypt, the cucumbers and the melons and the leeks and the onions and the garlic. Mr. Maugham gives a delightful picture of Cordova and of Seville but Granada does not seem to have appealed to him so much as we should have expected. In one place he speaks of the sky being blue mixed with silver, an admirable description of the wonderful Spanish sky which produces the same effect on the eye as does a Morpho butterfly in certain lights. Altogether we commend this book as one written by a traveller who knows how to travel and who can rightly appreciate colour, sunshine, and the lotos land atmosphere of Moorish Spain.

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, K.C.B., F.R.S., and J. N. LANGLEY, F.R.S. Vol. XXXII., No. 2. Feb. 28th, 1905. London: C. F. Clay. Price 7*s.*—The contents of this number are: 1. On the Distribution of Potassium in Animal and Vegetable Cells, by A. B. Macallum, professor of physiology in the University of Toronto, with two plates. Professor Macallum finds that the hexanitrite of cobalt and sodium in solution and in the presence of acetate of sodium precipitates potassium from its solutions, the precipitate being an orange-yellow triple salt which is, according to K. Gilbert's investigations, the hexanitrite of cobalt, sodium, and potassium. As revealed by this method potassium occurs in both the cytoplasm and the extracellular structures. The cell nucleus contains none, nor is there any in the head of the spermatozoon or in nerve cells. The quantity is scanty in smooth muscle fibre but in striated fibre there is a condensation of the potassium in the dim bands, the rest of the fibre being free from it. It is abundant in the granular zone of the secreting cells of the pancreas immediately adjacent to the lumen. 2. On the Relation of Enterokinase to Trypsin, by W. M. Bayliss and Ernest H. Starling. These authors support the view of the Russian physiologist Pawlow that enterokinase acts as a ferment upon a precursor or prozymin, trypsinogen, which it converts into trypsin. 3. The Physiological Effects of Peptone and Allied Products; Part vi.: The Metabolism of Arginin, by W. H. Thompson. Feeding with arginin occasions an increase of nitrogen in the urine the greater part of which appears as urea. 4. The Action of Anæsthetic Quantities of Chloroform upon the Blood-vessels of the Bowel and Kidney, with an account of an artificial circulation apparatus, by E. H. Embley and C. J. Martin. 5. Researches on the Autolytic Degradation of Tissues; Part ii.: On the Influence of the Thyroid on Autolysis, by S. B. Schryver. 6. Effect on Blood Pressure of Proteolytic Products, by C. G. L. Wolf. 7. Experiments on Cystin and its Relation to Sulphur Metabolism, by C. H. Rothera. 8. On the Inter-relationship of Calcium and Magnesium Excretion, by John Malcolme. 9. The Postnatal Changes in the Thymus of Guinea-pigs and the Effect of Castration on Thymus Structure, by Alexander Goodall. This number of the journal also contains the Proceedings of the Physiological Society for Dec. 17th, 1904, and Jan. 21st, 1905.

The Journal of Nervous and Mental Disease for January contains an article by Dr. S. D. Ludlum, assistant physician at the Friends' Asylum, Philadelphia, entitled "A Preliminary Report on the Possible Relationship of Neuro-Fibrillar Changes to Insanity." Dr. Ludlum's work is based upon the examination of nerve cells of the cortex, the medulla, and the spinal cord in two cases of insanity, in a starved rat, and in an artificially exhausted rat. For comparison he used fresh normal tissue of the rabbit and the rat. The neuro-fibrils were stained by Cajal's method. The changes were practically the same in the starved rat and in the insane patients, the neuro-fibrils being almost absent in the cell bodies, represented by broken pieces of fibril and by lines of fine granules, whilst they were less affected in the cell processes. The exhausted rat's cells showed an early change, taking the stain feebly and presenting swollen fibrils. One of the patients was a case of mania-melancholia of long standing with mild dementia, in which acute depression came on 16 days before death. Dr. Ludlum thinks that the state of the neuro-fibrils accounts for this depression and that this state plays an important part in the insanities arising from malnutrition. He deduces this from the experiments upon the rats but all these experiments show is that under the conditions produced (starvation and exhaustion) the neuro-fibrils degenerate. The changes observed in these fibrils in the first insane patient might have been the result of the long-standing brain disease, not the cause of the final exacerbation of insanity which preceded death. The same explanation, that the changes were merely the outcome of disease, may be applied to the second case examined, which was that of a general paralytic. It is obvious that the task of separating cause from effect is rendered more difficult by working with cases of long-standing disease. This number also contains a report of a meeting of the New York Neurological Society held in October, 1904, at which Dr. B. Sachs opened a discussion on Dementia Præcox. Dr. Sachs thought that widely different cases were grouped under this term with little gain, that the old plan of clinical subdivision was more commendable, and that too grave a prognosis was given in the youthful insanities. The tenor of the discussion was to show that different types of mental disease were embodied under this heading and that in course of time subdivisions would be formed out of the cases so grouped, the present grouping being only provisional.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The Registrar of the Royal College of Physicians of London [illegible] for the Membership [illegible] instead of [illegible] week.

THE LANCET.

LONDON: SATURDAY, MARCH 11, 1905.

The Registrar-General's Sixty-Sixth Annual Report.

WE are indebted to the Registrar-General for a copy of his annual report for 1903, a volume which is always welcomed by THE LANCET and which this year has seen the light several months earlier than is usual. In reviewing previous issues of this work we have given expression to the hope that having regard to their importance to a large section of our profession these reports might in future be issued within a reasonable time after the close of the period to which they relate. It has not escaped our notice that in the final remarks appended to his first annual report the present Registrar-General endeavoured to justify the late appearance of these reports on the ground that more expeditious preparation would probably lead to less accurate, and therefore unsatisfactory, results. We are, of course, aware that the Treasury authorities are constantly clamouring for reduction of expenditure in the conduct of the Government offices under their control and we believe that the General Register Office is one of these. But we trust that Sir WILLIAM DUNBAR will forgive us if, on the ground of the high appreciation in which his reports are held by the medical profession, we urge yet again that increased efforts should be made to render them available more promptly—at any rate, in a shorter period than the 14 months which now have elapsed since the completion of the year dealt with in the report before us.

The Registrar-General's sixty-sixth annual report suffers nothing by comparison with its two predecessors, both of which we noticed in appreciative terms at the time of their publication. Several new features will be found in the present report. The presidents of the statistical bureaux of the principal European countries have responded to the invitation to augment the somewhat meagre information hitherto published in these reports with respect to the births, deaths, and marriages in the several countries and the Registrars-General of those British colonies in which records are available have for the first time contributed such information as they possess. The results now appear in the form of a new series of tables giving fairly uniform particulars for some 28 foreign countries, not only of births, deaths, and marriages, but of infantile mortality and of the mortality from the chief epidemic diseases, as well as from cancer and pulmonary tuberculosis. Not all of the foreign countries addressed have been able to comply fully with the English request but the Registrar-General entertains the hope that in process of time the list of countries able to furnish trustworthy statistics will be extended, thereby increasing the value of these international records. In view of the widespread anxiety caused both at home and abroad by the continued depression of the birth-rate the ordinary methods of presenting the ratios of birth and of marriage have been subjected to criticism in the General Register Office. As a result we learn that the total population is not the most satisfactory basis for the calculation of rates. As regards marriage-rates, a better standard is obtained by eliminating the already married persons from the population and by calculating the rates on the unmarried and widowed who are living at ages beyond 15 years, thus dealing with that section of the people among whom alone marriages take place. Calculated by this method the English marriage-rate is seen to have declined steadily throughout the last 20 years, whilst the rate computed in the ordinary way indicates, on the contrary, a slight increase in that period.

With regard to the birth-rate again we learn that the total population is not the best standard by which it may be measured because it does not take account of the age constitution of the female population and particularly of that portion of it which is of child-bearing age. For example, the population of women aged 15–45 years to the total population, which was 23·1 per cent. in 1871 and in 1881, rose to 25·0 per cent. in 1901; if, therefore, the average fecundity of the female population had remained constant the births registered in 1903, which, as a matter of fact, numbered only 948,271, would have amounted to more than 1,250,000. In view of these facts it is evident that a preferable method by which to measure the birth-rate is to calculate the proportion of births per 1000 women of child-bearing age. The disturbing factor of changing constitution of the population is mainly, though not entirely, eliminated by this method of measuring the birth-rate, which shows the amount of decrease to be far greater than that indicated by the rates based on the aggregate population. We have not space to reproduce the interesting tables in the report which fully support the above contentions, but we may say generally that whereas the English birth-rate calculated in the ordinary way appears to have decreased by 6·8 per cent. only in the last ten years the decrease computed on the numbers of women aged from 15 to 45 years is shown to have amounted to 11·5 per cent. As regards the calculation of rates of mortality, the same disturbing factor of changing age constitution of the living is operative in a similar way and necessitates the adoption of a standard population which is assumed to remain constant in regard to age and sex. In England this has for some years been the practice but owing to the impossibility of satisfactorily estimating the numbers of these sections of the population and of ascertaining the sex and age constitution of the people in the various foreign countries for which the details are now published, it is only possible for the purposes of international vital statistics to employ the total population as the basis for calculating the rates of birth, marriage, and death. In close relation to the question of a declining birth-rate, especially in those countries where the decline is serious, is the question of mortality among the infants who survive. With few exceptions we learn that a high rate of infantile mortality prevails in those countries possessing a high birth-rate; nevertheless, English experience shows that a high rate of infantile mortality may accompany a comparatively low birth-rate. In this country in the ten years 1893-1902 infantile mortality averaged 152 per 1000 births. Of 24 countries or colonies furnishing the necessary data there were seven—viz., Italy, Chili, Ceylon, Prussia, Jamaica, Hungary, and Russia—where the average birth-rates ranged from 34·3 to 48·6 per 1000 of the population and the average infantile mortality ranged from 170 to no less than 333 per 1000 births. On the other hand, in Scotland and in Norway, with comparatively high birth-rates of about 30 per 1000, the average rates of infantile mortality were as low as 127 and 94 respectively in each 1000 births. Of the 28 countries furnishing returns France has the lowest average birth-rate, while the average rate of infantile mortality in that country amounted to 158 per 1000 births. In 13 of the 16 countries contributing additional statistics for the year 1903 infantile mortality was below the average of the previous ten years—the exceptions being Chili, Jamaica, and Queensland.

The question of the falling birth-rate in this country as well as in other parts of the British Empire has been prominently brought to the notice of the public by the recent Royal Commission on the Decline of the Birth-rate in New South Wales and by the interesting and instructive report of the Duke of DEVONSHIRE'S Inter-departmental Committee on Physical Deterioration. In connexion with this subject it is necessary to repeat a statement which has been many times advanced in these columns—namely, that the rate of mortality is affected in a serious and peculiar manner by changes in the birth-rate. The first effect of a continuous decline in the rate of birth is to *lower* the rate of mortality owing to the reduced proportion in the population of very young children, among whom the death-rate is always very high. In subsequent years the death-rate, as measured by total population, will be increased owing to the smaller numbers of survivors reaching those ages which are subject to lower death-rates; and this effect will last so long as the survivors of those born before the birth rate began to decline form an abnormally large proportion of the population.

With regard to the proportion of deaths among the population that remain uncertified either by medical men or by coroners the Registrar-General remarks that the percentage of uncertified to total deaths in the year 1903 was the lowest on record. With reference to this subject, however, particular attention is directed in the report to the still abnormally high percentage recorded in the counties of Carnarvon and Hereford, as well as in the boroughs of Gateshead, Warrington, South Shields, and St. Helens, all of which held the same unenviable position in the annual report for 1902. It is, however, a remarkable coincidence that each of the above localities should have a *high* proportion of uncertified deaths together with a correspondingly *low* proportion of inquests. Analysis of the returns shows that the percentage of inquests and uncertified deaths to the total deaths in England and Wales was respectively 6·9 and 1·7. In the above-mentioned counties and boroughs, however, the proportion of inquests was low, ranging only from 3·6 to 5·5 per cent., whereas the percentage of uncertified deaths was excessive, ranging from 4·0 to 6·7. The Registrar-General, therefore, expresses the hope, in which we fully concur, that the coroners of these districts will give their cordial support to the object aimed at, by considering whether it might not be attained by holding inquests more frequently in the case of uncertified deaths which are referred to them. In the present connexion, however, and in justice to the coroners we may mention an important fact which probably may be unknown to the Registrar-General—namely, that the decision as to the number of inquests to be held in any particular place does not always rest with the coroner who in recent years has become in certain cases the officer of the local authority. As the holding of inquests means a considerable increment to the local expenditure it will readily be understood that these authorities will in some cases endeavour to reduce that expenditure to the lowest practicable amount. Having devoted so much space to a consideration of the important innovations in the Registrar-General's present report we have no room left for noticing the question of the death-rate, which is, after all, of most importance to our readers. To this subject, however, we purpose to return hereafter; meanwhile we congratulate Sir WILLIAM DUNBAR on the fact that the death-rate of England and Wales in the year 1903 was the lowest since the establishment of civil registration.

School Legislation and the Demands of Hygiene.

OF all the social problems which demand solution at the present day none is more urgent than that implied in the hygienic management of the children whom legislative enactments compel to attend our elementary schools. Since attendance is enforced rigorously by law, it is an obvious duty of the State to insure that school life shall not be fraught with danger to the health and the happiness of the scholars. There are reasons for thinking that a satisfactory state of things is as yet far from realisation. Only too often do we hear complaints from parents that school life involves risks of infection, with maladies of varying degrees of seriousness, which no amount of care can avoid. Many medical authorities, upon good evidence, are inclined to associate the great increase that has taken place in the prevalence of diphtheria with the herding together of children for purposes of instruction. If it is difficult to acquit our school system of all responsibility for the propagation of epidemic diseases, yet so far no trustworthy statistical evidence has been available for estimating the extent of its evil influence. A very interesting attempt to remedy this defect of evidence has recently been made by Dr. MYER COPLANS, the medical inspector of the schools which are under the Gloucestershire Education Committee, whose report to a subcommittee of this board will, we believe, shortly be published. Dr. COPLANS examined medically 6652 children in the schools of the Stroud district with a view to ascertain the effects of school life in spreading infectious diseases or evoking other ailments and the results of his inquiry tend to acquit the school system of so great a share in the propagation of scarlet fever, measles, and diphtheria as is sometimes assigned to it. We hope that this conclusion will be justified on further inquiry, but the question is very difficult to decide. The comparative prevalence of infectious maladies among children too young for attendance at school and among those of school ages affor[illegible]or example, no sound test, for we have to bear [illegible] and t[illegible]ren not yet old enough to go to school associate at home with those who do attend and that if a single child of a family contracts, say, scarlet fever at school he will probably be a source of infection to his younger brothers and sisters. Hence the fact of children suffering from such maladies before they reach school age does not acquit the school of responsibility for spreading the disease. The original source of infection in the case of many infants may have arisen thus. The comparative susceptibility of children at different ages also complicates the question, for if infants are more liable to suffer than older children, then the number of sufferers at home will tend to rise disproportionately when infection is introduced into any district. Only a comparison of the figures for each class extending over a long period of time could supply trustworthy grounds for arriving at a conclusion.

The Dundee Social Union lately has directed the preparation of a series of reports upon the physical condition of a large number of children attending six Dundee schools—four under the control of the Dundee school board and two voluntary schools. The reports have been made upon 1000 children taken upon no selective plan from the registers of the schools and have been collated by Miss MARY L. WALKER and Miss MONA WILSON, with the valuable assistance of Dr. CHARLES TEMPLEMAN, medical officer of health of Dundee, who has furnished an introduction. The report on the general medical examination of the boys was made by Dr. ALEXANDER P. LOW and of the girls by Dr. EMILY C. THOMSON, while Dr. G. TAYLOR GUILD reported on the ears, throats, and noses of the children, and Dr. E. F. MACLEOD NEAVE and Dr. W. E. FOGGIE on their eyes. The results are exceedingly interesting and show, as Miss WALKER and Miss WILSON say in their general preface, that an enormous amount of actual suffering among children is unnecessary or preventable, though the causes of the various evils being many the remedies must also be many. Taking pediculosis as an example of an obviously and easily preventable malady we find that of 1000 Dundee children the number, not only of those who were verminous but of extremely bad cases where the heads and the bodies of the children were in a foul state, was large. As a numerical statement under the heading of "cleanliness of body" 177 of the 1000 were classified as "bad," a tabulation which indicates the presence of vermin. Let us pass now to the more important subjects of physical development and definite bodily lesions. Some average measurements of Dundee children were submitted to the Inter-Departmental Committee on Physical Deterioration as evidence of retarded development and these figures have since been confirmed by the larger number of observations made at the instance of the Dundee Social Union. In these last-mentioned observations the average weights and heights of children from five to 13 years of age attending the elementary schools are compared with the weights and heights furnished by Mr. FRANCIS GALTON to the Anthropometric Committee of the British Association in 1881 and with figures given by that committee in 1883. At a secondary school in Dundee—the Harris Academy—480 children were also weighed and measured in order that a comparison might be made between children attending the elementary schools and children living in the same locality under better home conditions. At all ages from five to 13 years the height of the boys attending the Dundee elementary schools compares unfavourably with Mr. GALTON'S figures, while the average weight of boys of 13 years is about nine pounds less than Mr. GALTON'S estimate and the average weight of girls of 12 years attending the elementary schools is more than nine pounds below the average of the girls attending the Harris Academy. The children in the Dundee elementary schools were, at all ages from which a comparison could be made, distinctly below those at the Harris Academy in both weight and height.

Of the diseases of special organs and regions described in the reports compiled for, and published by, the Dundee Social Union we can only mention those affecting the heart, the eyes, and the teeth. Heart diseases were found in the large proportion of 7·47 per cent. of the children; among the boys these included 30 instances of valvular defect, the several forms being mitral stenosis, mitral incompetence, pulmonary systolic murmur, and slight impurity of the first sound in the mitral area. With respect to vision it was found that only 52·2 per cent. of the children could see to read the standard types at the proper distance. This did not necessarily mean that their refraction was normal, for, as a matter of fact, only 26 per cent. showed normal refraction and the remainder must have been straining their accommodation in order to read the types. The examination of the teeth led to the general result that caries of the teeth was very prevalent, hardly any of the children being free from it. Attention has been drawn lately to the insufficient food upon which many of the children of the poor have to subsist and to the impossibility of ill-nourished brains assimilating a due amount of mental pabulum. The food may in other instances be sufficient and the child yet may be unable to thrive upon it owing to defect in those much-neglected organs the teeth. An inquiry carried out by Mr. E. RICE MORGAN[1] into the state of the teeth of children in the Swansea educational area showed that of 295 children of both sexes only 11 had mouths free from dental defects, while on an average each child had more than three decayed teeth. Such figures need no comment. If we cannot, as HORACE says, permanently expel nature with a pitchfork, we may yet perhaps repel physical degeneration with a tooth-brush. The result of reading these various interesting reports is to learn how much preventable disease is present among the children of the poor; while the depression produced by this knowledge is tempered by the feeling that never before have so many wise and charitable efforts been directed towards the problems of school hygiene as are now at work.

The Colonies and Cancer Research.

A GOVERNMENT Blue-book of some 96 pages dealing with the subject of cancer research has just been published and presented to both Houses of Parliament. It contains the correspondence between the Colonial Office and the governors or high commissioners of the various colonies with the object of acquiring information as to the incidence of malignant disease and its causes, together with material both from man and animals for the Cancer Research

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[1] Swansea Education Committee. Quarterly Report upon the Schools in the Upper Division of the County Borough of Swansea, by E. Rice Morgan, medical officer. Dec. 28th, 1904.

Committee to investigate. While its publication is a welcome evidence of the general interest which is now aroused by the inquiry into the nature and the causes of malignant disease, it must be confessed that as regards the information which it contains it is, on the whole, very disappointing. A gratifying feature of the book is the active and sympathetic interest in the work evinced by so many of the high officials of the colonial service. Both Mr. JOSEPH CHAMBERLAIN and his successor as Colonial Secretary, Mr. ALFRED LYTTELTON, emphasise very strongly and repeatedly the importance of the research, while many of the governors write sympathetically of the objects of the Cancer Committee and promise to assist by all means in their power the furtherance of those objects. Among these we may mention especially Lord MILNER and Sir F. M. HODGSON, the former of whom made valuable practical suggestions, which were subsequently adopted by the Imperial Cancer Research Fund, to promote the acquisition of material for microscopical investigation. The correspondence begins with a circular letter by Mr. JOSEPH CHAMBERLAIN, then Colonial Secretary, dated May 27th, 1903, and addressed to the governors and high commissioners of all colonies and protectorates, containing inclosures giving details of the scheme for cancer research and describing the constitution of the executive committee being formed for that purpose, together with an outline of its aims and requirements, with a view of "enlisting general interest in the scientific objects as well as the pecuniary position of the fund." Mr. CHAMBERLAIN in his letter requests that the matter may be furthered by giving publicity to it and by any other suitable means. This was followed by a second circular letter, dated May 29th, 1903, addressed to governors and high commissioners of Crown colonies and protectorates, inclosing a memorandum drawn up by Dr. E. F. BASHFORD, the general superintendent of research, and stating that "great importance is attached by the directors of the inquiry to the scientific investigation of cancer in communities where the conditions of life differ so widely as in the British Crown colonies," and requesting that the medical officers will carry out the directions in Dr. BASHFORD'S memorandum as completely as possible. A similar despatch was sent out next day to the governors of responsible government colonies Copies of these documents were sent to the Foreign Office with the request that, subject to Lord LANSDOWNE'S approval, they might be sent to protectorates administered by the Foreign Office. On Jan. 13th, 1904, Mr. LYTTELTON sent out another circular letter giving details of the results obtained up to that time and requesting information from those colonies from which no reply had then been received and urging "the necessity of not allowing this important matter to drop but of doing all that is possible to obtain for the Commission the material and information which they require for their difficult inquiry."

The replies to these repeated requests for information with a few noteworthy exceptions, among which we may specially mention those from Ceylon, Mauritius, Barbados, the Transvaal, and Queensland, have been unsatisfactory, varying from an almost curt statement of the impracticability of acquiring the information desired to a mere general statement or even a vague expression of opinion without statistics to support it. It cannot be too strongly urged that such expressions of opinion, though interesting and perhaps in some instances containing important truths, are valueless from the point of view of exact scientific investigation. From a number of colonies where there are extensive native or aboriginal populations, such as British Central Africa, British East Africa, and the Gold Coast, the medical officers state with almost striking unanimity that cancer is rare or unknown amongst them, and yet isolated cases are from time to time recorded, so that the possibility of conditions operating to prevent such cases coming to the notice of the medical officers, as pointed out by the committee of the Cancer Fund, must not be lost sight of. At the same time it is just in such countries that statistical details would be of the utmost value could they be obtained, for although the value of statistics is a matter of much dispute and often ridicule, at the present stage of cancer investigation, when we are groping in the dark for likely clues, statistics may afford valuable and promising indications of lines of research, more especially if it should be found that the incidence and the most frequent site of the disease are found to vary in different countries. Thus if it should be substantiated that cancer is rare amongst certain aboriginal tribes in certain countries a promising field for research would be opened up.

Among the most interesting reports sent in response to the circular letters from the Colonial Office is that from Sir ALLAN PERRY, principal civil medical officer of Ceylon, summarising the cases of cancer and sarcoma observed there. He finds that about 220 deaths occur from these diseases per annum; that cancer is a comparatively slight disease in Ceylon, one death from cancer occurring in every 16,820 persons living in 1903. In striking contrast to the condition in this country he finds that it is more common in men and that the most common site is in the oral cavity, which accounts for 55 per cent. of the cases. The preponderance in this situation is not confined to men but is also nearly as marked in women. The next most common situation is the penis which is affected in 32 per cent. of the cases. Cancer is stated to be more common in the northern province of Ceylon and it is suggested that the frequency of the mouth as the primary site is due to chewing betel which consists of tobacco, betel leaves, areca nut, and a little slaked lime It is said that the people of the northern province are much addicted to betel chewing. The report of Dr. H. LORANS, acting medical director of Mauritius, is also of interest. He concludes from the statistics of cases treated in the general hospitals that cancer in Mauritius is much less prevalent than in England. During 1903 67 cases of malignant growth occurred among a total number of 21,356 patients treated and 20 only out of 1277 deaths in the hospitals were due to malignant disease. Statistics such as those from Ceylon and the equally interesting statistics of the Mayo Hospital, Lahore, published by Captain D. W. SUTHERLAND, I.M.S., in the Third Report of the Cancer Research Laboratories of the Middlesex Hospital, show that valuable information may be obtained from the statistical investigation of hospital and other records. No doubt the difficulties in the case of some of the colonies are very great, especially where there are large native populations and no system of death registration, but much could be done in the matter of careful record of individual cases and the determination of the proportion which they bear to the total number of cases seen by each medical officer of those countries. We feel sure that the circular letter of Mr. LYTTELTON, dated Nov. 18th, 1904, pointing out the great importance of this very question of the incidence of cancer among native populations will meet with a generous response from the medical practitioners of those districts.

Annotations.

"Ne quid nimis."

CONVALESCENT HOMES ASSOCIATION.

A CONFERENCE of delegates from all the chief convalescent institutions supplying charitable relief to London patients was held at 20, Hanover-square, London, W., on March 2nd, Sir E. Hay Currie being in the chair. The Presidents of the Royal Colleges of Physicians of London and Surgeons of England and the President of the Hospitals Association were present, together with representatives from the following convalescent homes: Metropolitan, Seaford, Eastbourne, Gladstone, and St. Andrew's, Folkestone. The object of the conference was to obtain some form of union and coöperation between the various convalescent homes and it was thought that that could be best initiated and carried out through a central association in immediate touch with the hospitals on the one hand and the homes on the other. The first of the four propositions submitted, which were all unanimously agreed to, was that the increasing needs of medicine and surgery required some alteration in the character of the relief afforded by convalescent homes to the poor of London. In proposing this motion, Sir William S. Church said that the conference was not intended to reflect in any way on convalescent homes. All members of the medical profession were most grateful for the benevolence which had provided such institutions. He explained how the one scale of diet that was the rule at convalescent homes rendered them unsuitable places for the after-care of patients recovering from certain well-known diseases. He also pointed out the disadvantage of another almost universal rule that no patient could be received at these institutions who had an open wound. These defects could be obviated by rearrangement amongst the homes. Mr. J. Tweedy, who seconded the motion, showed how the need had arisen for alteration in the character of the relief afforded to convalescents. Sir Thomas Smith pointed out how the great increase in the number of operations at the London hospitals had intensified the need for the conference which had been convened. Sir R. Douglas Powell insisted on the recognition of the fact that there was no necessity for building new institutions and explained how the present accommodation for convalescents could be utilised by means of suitable coöperation. The next motion, proposed by Mr. E. A. Gruning, seconded by Lady Frederick Cavendish, and supported by Mr. M. O. Fitzgerald, arranged for the formation of an association to be called "The Convalescent Homes Association," which shall consist of convalescent institutions supplying charitable relief to London patients, the object of the association being to form a representative council to centralise effort and to promote efficiency and economy. On the proposition of Lord Lytton, seconded by Dr. J. Kingston Fowler, it was decided that the council shall consist of one representative from each convalescent institution and one representative from each of the great general hospitals of London and of such other lay and medical representatives whom it may be considered advisable to invite, the following to be *ex-officio* members of the council: The Presidents of the Royal Colleges of Physicians of London and Surgeons of England, the Dean of the Faculty of Medicine of the University of London, the President of the Central Hospital Council, and one representative from each of the great hospital funds. Sir Henry Burdett in a short speech proposed that a small executive council should be elected from the general council and that the honorary secretaries should be Dr. S. H. Habershon and Mr. Fitzgerald. This was seconded and after having been duly passed by the meeting a hearty vote of thanks to the chairman concluded the proceedings.

"THE NATION'S DRINK."

UNDER the above heading the *Standard* has recently published two admirable articles by "an expert" on (1) wine made in England; and (2) whisky made in England. The readers of THE LANCET well know our attitude upon the subject of drink and its adulteration and the writer in the *Standard* indorses in a striking way all that we have written. He completely exposes the humbugging tricks of a certain, and, it is to be feared, very large, section of the wine and spirit trade and his contribution throughout furnishes a strong appeal for immediate and serious legislative intervention. The worst feature of it all is, perhaps, that the practice of blending spirits is conducted under the very noses of Government officials who know perfectly well how flagrantly misleading to the public is the nomenclature adopted on the labels of bottles of brandy, whisky, and other spirits. We are almost weary of keeping these facts before the notice of our readers but our hope is that by doing so the day of retribution will be brought near. When shall we have a Government brave enough honestly and seriously to face this question? The articles in the *Standard* are surely sufficiently convincing for any intelligent person and they are evidently written by a well-informed writer. If they are not convincing the statements are a sufficient indictment to warrant the appointment of a committee of inquiry to determine what are the real facts. Its labours would, we are sure, reveal a discreditable state of things. If the public were merely conceded an honest description and an honest label they need hardly ask for more. The detention of all spirits in bond for a specified number of years would, we fancy, be a wholesome provision for the nation and the adoption of a revenue stamp on the bottle certifying how long the spirit had been so detained would be a progressive step.

THE IMPORTATION OF DISEASED PORK FROM DENMARK.

AN interesting correspondence has recently taken place between the Danish Minister of Agriculture and the medical officer of health of the City of London in regard to the importation of diseased meat from Denmark. It would appear that some years ago an arrangement was made that in all cases in which such meat was condemned in the City markets as unfit for food the labels attached thereto should be forwarded to the Danish Commissioner in order that inquiries might be made in each particular case. This system of returning labels was agreed to, provided that steps should be taken which would preclude the possibility of any diseased meat being imported from Denmark. So far as relates to beef this system produced an excellent result but it has miscarried in the case of pigs. During the three months October, November, and December, 1904, Dr. W. Collingridge reports that 39 pigs so marked were seized and during the first fortnight of the present year 49 more were condemned. This would appear to be due to the application by the City medical officer in 1903 of the recommendations of the Royal Commission on Tuberculosis—recommendations, however, which were not generally adopted in Denmark. Subsequently (in January, 1905) "a Supplement to Instruction" was issued to the veterinary inspectors in Denmark in the following terms: "As it has been brought to the notice of the Minister that carcasses of pigs which have suffered from tuberculosis, even in a very minute degree, are condemned by English officers of health as unfit for human food, it shall from now henceforth be the duty of the veterinary inspectors authorised to inspect meat for export to retain from export to Great Britain the carcass of any pig examined according to the order of August 15th, 1903, in which, or in the organs of which, is found the smallest deposit of a tuberculous nature." Further, "as the removal of any part of the serous membranes in several markets in England causes a suspicion that the animal in question has suffered from tuberculosis, the veterinary inspector shall not pass for export to Great Britain any carcass of an ox or pig examined according to the said order from which any part of pleura or peritoneum has been removed." It is pointed out that carcasses of pigs showing no sign of disease when slaughtered will, nevertheless, if sent off closely packed before being properly cooled, arrive in a distant market in a state unfit for food. Small pigs in particular have of late developed a rickety state and it being unprofitable to "feed them off for bacon" they have been killed young for pork in many cases for export. Whilst these have been found perfectly sound and fit for food at the slaughter-house such has not been the case for export. Such carcasses have therefore not been detained by the inspector. In future, however, according to an additional "instruction" issued on Jan. 18th, "carcasses of pigs must not be passed for export before they are quite cold and in that state have been found perfectly firm and dry. Carcasses of rickety pigs must not be passed for export." Dr. Collingridge is to be congratulated on the satisfactory results of his representations and a word of praise is due to the Danish Government authorities for the courteous manner in which they have received these representations and have acted upon them.

CURRENT THEORIES OF THE HEREDITARY PROCESS.

THE sixth lecture of the series[1] was delivered by Professor W. F. R. Weldon at University College, London, on Jan. 31st, the subject of discussion being the Mendelian theory of heredity. This theory published in 1865 was forgotten for long and was rediscovered and brought into publicity in 1902. Mendel's work consisted of a laborious and long-continued investigation, chiefly carried out on certain varieties or races of peas and constituted an advance in the knowledge of the formation of hybrids, of the theory of inheritance, and of other biological matters. It was the first attempt to elucidate from the systematic study of heredity in definite races and varieties a formula of inheritance of characters. He thus crossed peas which had special differential characters as regards colour of cotyledons (yellow or green), shape, and outline (round, smooth, or considerably wrinkled). He found *on crossing* green-seeded plants with the yellow-seeded variety that the hybrid progeny of the first generation was uniformly yellow. This was an instance of dominance of the yellow character, the green character having become latent in the products of the crossing. These yellow hybrids, however, when intercrossed, gave rise to a mixed progeny of yellow-seeded and green-seeded plants, in the proportion of three yellow to one green, the latent green character reappearing in one-fourth of the descendants while the yellow still continued to show its dominance in the remaining three-fourths. The green character was thus seen to be recessive, and the yellow dominant, in the hybrids. These recessive green hybrids, when carefully intercrossed bred true—the offspring were always green (purity of character). The dominant yellow hybrids, however, were only apparently pure, for when intercrossed they produced varied or mixed offspring—viz., true yellow plants which reproduced yellow descendants and spurious yellow plants which yielded both yellow and green descendants. To account for these facts Mendel designed a scheme or formula of inheritance in which the colour, form, and outline (smooth or wrinkled character) of the seeds were made to depend on embryonic "determinants" supposed to be present in the pollen grains and the ovules of plants. (The subject of determinants was discussed and explained in the fifth lecture.) Cast into the form of a genealogical table of generations the following represented the actual facts:—

1st generation.	Green seeded "pure" plant.			Yellow seeded "pure" plant.
2nd generation.	Yellow hybrids all. By intercrossing they yielded the following —			
3rd generation.	Yellow (pure type).	Yellow (impure *type*).	Yellow (impure *type*).	Green (pure type).
4th generation.	Yellow (pure type).	Mixed green and yellow offspring.	Mixed green and yellow offspring	Green (pure type).

Mendel states that the determinants of certain characters showed in some cases repulsion towards determinants of other characters, that on the whole they tended therefore to segregate, and that in one generation certain determinants grew potent while others became latent. The distribution of the determinants, he said, was governed broadly by the law of chances or probability, and the distribution of the coloured seeds accordingly followed the same law. Thus it was possible to account for several of the actual facts and numerical proportions of characters obtained by the interbreeding of various races. Quite similar results in transmission occurred when long smooth peas were crossed with deeply wrinkled peas. In this case roundness was dominant in the first generation of hybrids. These hybrids when intercrossed gave rise to mixed offspring in the proportion of one of the wrinkled type to three of the smooth and long-seeded type. Finally, of the three smooth and long-seeded type two produced in turn mixed seeds and one produced round seeds. These conditions of colour, shape, wrinkling, and smoothness were *severally independent in transmission* and therefore complex segregations of characters occurred in later generations of the hybrids. Thus experimenting with two types of peas—viz., a green wrinkled form and a yellow round form—some 16 varieties of hybrids showing distinct aggregates of characters were obtained in a series of experiments conducted over four generations. To elucidate the complex process of the hereditary transmission of characters Mendel postulated a theory of "gametic purity" which has found many adherents at the present day.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

THE annual report of the council of the London and Counties Medical Protection Society was presented at the annual general meeting of the members held at the offices of the society at 31, Craven-street, Strand, London, on March 3rd, Dr. J. W. J. Oswald being in the chair. The first part of the report is taken up with the discussion of the new schemes of medical defence and the council states that it is still waiting for some definite proposal to be made by the British Medical Association before binding itself to any definite course of action. Under the heading of "A Stitch in Time" the council impresses upon its members the importance of referring matters to the society at the earliest possible moment. Every year loss falls upon the society and upon one or two of its members owing to delay in reporting threatened troubles to the society. Occasionally also members begin by attempts to deal with difficult matters for themselves and only refer to the society when it has become obvious that a wrong line of action has been adopted. This is contrary to their own interests and the council advises that when a member becomes aware that accusations of negligent treatment are likely to be made or have already been made against him he should apply at once to the society and not, as often happens, begin by giving unrestrained vent to his wrath and then proceed to hand over to the society a case already prejudiced. In one case a member had his account for medical attendance disputed on the ground of alleged damage by a plaster which the patient said was a pitch plaster whereas it should have been a belladonna one. The member sued for his fees in the county court and the society's general secretary gave evidence on his behalf. The evidence showed that no mistake had been made and that the treatment was proper. The county court judge ruled that the medical man was in any case not liable and the patient was ordered to pay the medical man's bill. The claims during 1904 against members for damages for alleged negligence or unskilful treatment were uncompromisingly resisted and after more or less prolonged proceedings were abandoned. The forms of negligence and unskilfulness alleged were of very varied character and exemplified some of the disadvantages arising from a fancied knowledge of medicine by patients and their friends. In one case where a servant girl had been the source of a story to the effect that a member of the society had committed an indecent assault upon her under chloroform the prompt investigation instituted by the society put an end to what proved to be an absolutely impossible story. The society has also been able to check a considerable amount of the malicious gossip which is often very detrimental to medical practitioners. In view of the steady increase in the amount of the reserve fund, which on Dec. 31st, 1904, represented £2402, the council has decided to impose an entrance fee of 10*s.* on new members joining the society. Owing to the fact that the society has closed the year with two heavy cases for hearing in the High Court on hand the legal expenditure for the 12 months has exceeded that previously incurred in any one year by the society. The annual report and the balance-sheet were unanimously received and adopted by the meeting and the President, Vice-Presidents, council, officers, and auditors were all re-elected.

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[1] Abstracts of the first, second, third, fourth, and fifth lectures were published in THE LANCET of Jan. 7th (p. 42) and 21st (p. 181), Feb. 4th (p. 307) and 25th (p. 512), and March 4th (p. 634), 1905, respectively.

UNITY OF THE TUBERCLE BACILLUS.

EVEN those who hold most tenaciously to Koch's contention in favour of the duality of human and bovine tuberculosis must admit that the evidence which he adduced was almost wholly of a negative character and the results of subsequent researches have been such as to leave no reasonable doubt as to the essential identity beneath superficial and accidental differences of the bacilli of tuberculosis, avian as well as mammalian. This has recently been demonstrated by the almost exhaustive investigations reported in a "Habilitation Schrift" by Dr. Paul H. Römer of Marburg, embracing every possible combination and permutation of factors save only inoculation of the human subject. He experimented with no fewer than 52 strains derived from man, cattle, and rodents, and two from birds; these he passed in varying sequence through cows, sheep, goats, horses, guinea-pigs, rabbits, white mice, and fowls, cultivating them in glycerine serum, glycerine agar, potato agar, potato glycerine, and glycerine broth, diluting with physiological salt solution in regulated dosage for purposes of inoculation. The general results of his experiments, which with tables and plates fill over 100 pages, were that all animals were susceptible to infection by each and every strain, though some methods of culture and the passage through particular species of animals enhanced, and others enfeebled, the virulence of certain strains, and that consequently smaller or larger doses might be required. Thus, white mice, said by many observers to be immune, succumbed to long treatment with large doses of No. 1, a tubercle bacillus of human origin that had been cultivated for seven years and passed through a long succession of guinea-pigs. The differences in the appearance of the several cultures were determined by the media and the methods of cultivation rather than by the original source, some forming moist, viscid, and slimy deposits and others a dry, wrinkled felt, while morphologically some human, bovine, and ovine strains were quite indistinguishable and animals infected with one—e.g., ovine—tubercle culture reacted to human, bovine, and other tuberculins as well as to ovine, and *vice versâ* each tuberculin caused a reaction whatever the source of the tuberculous disease. Generally a strain more virulent than another to one animal was found to be so to all others under all conditions. The order of susceptibility was the guinea-pig, the rabbit, the horse, the goat, the sheep, and the ox, guinea-pigs being the most, and oxen, contrary to general belief, being the least, susceptible. The avian tubercle was obtained from two fowls which had fed on, and probably had been infected from, the viscera of a cow which had died from tuberculosis. Unlike the mammalian tubercles it was most virulent to cattle and least so to guinea pigs, unless previously passed through some other mammal. Its immediate action on the guinea-pig was shown rather in the setting up of a toxic pneumonia than of the usual tuberculous process, but the most remarkable feature of this strain was that whether introduced by intravenous or intramuscular injection it failed to infect other fowls, although it was very virulent to rabbits. Intentional experiments on man are, of course, inadmissible, though from time to time we hear of undesigned and accidental inoculations with bovine tubercle, an instance of which was recently reported by E. Schindler of Prague.[1]

THE NEW CONVICT PRISON RULES.

IT has been a much debated question whether any attempt should be made to reform those who are sentenced to long terms of penal servitude. Elaborate experiments in this direction have been tried in America at the Elmira State Reformatory in New York and at the convict prison at Neudort, near Vienna, but with regard to Elmira it seems that the Government of New York State has declined to support the institution on the ground that the prisoners were made too comfortable. While it may be impossible to carry out any extensive reformation of habitual criminals, it is obvious that many first offenders may be amenable to kindly treatment, provided that steps are taken to keep them from the contamination of hardened offenders. The new prison regulations, which are to come into force in England on April 1st, appear to have been framed with this object. Their effect may be briefly stated. There is to be a separate classification of selected convicts sentenced to penal servitude who on conviction are under 21 years of age. This classification is to be made by the directors of the prison. The judge who tries the case has nothing to do with it. The classification is as follows:—(*a*) selected convicts under 18 years of age who should be sent to a juvenile adult prison; (*b*) first offenders or persons not habitually criminal and who are considered eligible for the star class; and (*c*) ordinary convicts—i.e., habitual criminals, and so on. Provision is to be made for keeping these classes separate. It is to be the duty of the chaplain and the governor to endeavour to exercise personal influence over the convicts who are to receive education in the ordinary subjects of the elementary education code. They are also to be instructed in useful trades and industries which may fit them to earn a livelihood on release. It will be noticed that the principal effect of the rules above considered is to keep convicts under 21 years of age entirely separate from the hardened offenders. Convicts generally are dealt with in a second batch of rules by which it is provided that there shall be two divisions of penal servitude: "A" the ordinary division and "B" the long sentence division (for selected convicts who are sentenced to terms of more than ten years and who have served more than seven and a half years). All convicts in the ordinary division shall be classified by the directors immediately after conviction as follows—viz., (*a*) the star class; (*b*) the intermediate class; and (*c*) the recidivist (i.e., backslider) class. The classes will be kept apart as far as practicable. The star class is to consist of first offenders and persons who are not habitual criminals or of corrupt habits. Solitary confinement for not more than three months may be imposed upon members of this class. The intermediate class is to comprise first offenders whose general character and antecedents render them ineligible for the star class but who are not bad enough for the recidivist class The latter class is for hardened criminals and persons who have forfeited a ticket-of-leave. They may be confined alone for a period not exceeding nine months. Convicts in the intermediate class may be promoted or degraded. Convicts in the long sentence division shall, when practicable, be kept in a prison, or part of a prison, set apart for them. They are to wear a distinctive dress, will have their meals together, and may earn a good conduct gratuity, part of which may be spent by them on little luxuries while in prison, the remainder to be devoted to their benefit in such manner as the directors may prescribe. A convict in this division may be degraded to the ordinary division if he misbehaves. In our opinion the new rules are well calculated to give the first offender every chance, while they do not unduly ameliorate the conditions of the hardened criminal.

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[1] Prager Medicinische Wochenschrift, 1904, No 52.

OBESITY AS A STIGMA OF DEGENERACY.

THE condition of general obesity is, according to the opinion of Professor E. Heinrich Kisch of Prague, not infrequently a noteworthy sign of hereditary degeneracy. He has carefully observed 488 cases of marked adiposity and records his results in the *Berliner Klinische Wochenschrift*, No 21, 1904. He states that in cases of hereditary obesity in females it is not uncommon to find a considerable development of hair on the upper lip, chin, and cheeks, even in quite young subjects, while young men of similar hereditary predisposition often approximate to the feminine type with scanty development of hair on the face. Further, he states that there is a tendency in such cases towards a condition of gigantism or early overgrowth and that in females there is frequently comparatively early commencement of menstruation, all of which conditions he regards as signs of degeneracy. He divides the cases observed by himself into four groups. The first group comprises 14 cases of very fat individuals, varying in age from nine to 16 years, eight being males and six females; in all of them the overgrowth of fat was marked from birth onwards. Some signs of degeneracy were present in every instance: in eight of the cases there was a general overgrowth in all directions, in nine cases deformities of the nasal septum, and abnormal development of the teeth in all of them. Three of the boys were distinctly feminine in type. The second group consists of 32 cases of the same character but of ages varying from 16 to 30 years, in all of whom the condition commenced in early childhood. There were 20 females and 12 males, all showing other evidence of developmental defects. All of the 12 men were somewhat of the feminine type—beardless or with very little hirsute growth on the face, very slight pubic development of hair, and breasts more like those of the female. Only four of the 20 women were of the male type. In eight of them there was early commencement of menstruation. 29 cases of this group showed small teeth badly developed. In nine there were abnormalities of the external ear. The third group comprised 213 cases, 106 males and 107 females, all with a hereditary predisposition to obesity but in whom the deposit of fat occurred later in life as the result of physiological or pathological conditions. In only 28 of these was any evidence of degeneracy forthcoming. In the fourth group there were 229 cases of acquired obesity, the result of errors of diet or nutrition, or of deficient exercise and other abnormal conditions, but in these cases there was no family predisposition and in only three of them were there any signs of hereditary degeneracy. We see, therefore, that in the first two groups in which the condition of excessive deposit of fat occurred in early life stigmata of degeneracy were present in every case, while in the third group the percentage of cases with such stigmata was only 13·2, and in the fourth group or the acquired cases the percentage was as low as 1·3. These observations of Professor Kisch are of considerable interest, since the causes of the development of obesity are somewhat obscure and any fresh facts tending to throw light upon them are of value. It is generally stated that the condition of obesity is hereditary in about half the cases and Professor Kisch's figures agree very closely with this statement. It is known, moreover, that in many situations of the body a condition of atrophy or degeneration is apt to be associated with a local deposition of fat in the organ, as, for example, around the muscle fibres in pseudo-hypertrophic paralysis and in the hilum of the kidney in chronic interstitial nephritis. Again, it is on record that an excessive deposit of fat is not uncommon in idiots and in some cases of chronic mental disorder and that it occurs sometimes in hysteria.

TORSION OF THE PEDICLE OF AN OVARIAN CYST IN A CHILD.

IN the *New York Medical Journal* of Dec. 17th, 1904, Dr. J. F. Erdmann has reported an interesting case of torsion of the pedicle of an ovarian cyst in a child. A girl, aged 13 years, was sent to him on Feb. 11th, 1904, by her medical adviser. She had had a number of attacks of abdominal pain which were supposed to be of appendicular origin. On Feb. 6th an attack began with vomiting and pain in the left side. The vomiting had continued almost daily but the pain at no time was referred to the region of the appendix. On palpation some pain was felt in the region of the appendix but considerably more in the vesical region and extending up to the umbilicus. The whole of the lower abdomen was rigid but the rigidity was especially marked in the region of the appendix. On rectal examination a mass could be felt. The temperature had ranged from 99° to 100° F. and the pulse from 98 to 130. On the day of examination the temperature was 100° and the pulse was 120. The abdomen was not markedly distended. A tentative diagnosis of disease of the appendix was made. On examination under ether a central mass which extended to the right was felt in the pelvis. The abdomen was opened and a gush of bloody serum took place. A dark blue tumour which fluctuated and resembled a dislocated and strangulated spleen, for which it was mistaken, was found. On breaking down some adhesions it was found to arise from the right ovary. Its pedicle was twisted, producing a gangrenous condition. The tumour was easily removed. The appendix was congested and was also removed. The abdomen was closed without drainage and recovery was uninterrupted.

THE OVERLYING OF CHILDREN.

Mr. Gibson, the Manchester city coroner, recently held four inquests on children who had died from suffocation and remarked that these tragedies were "the usual thing during the week-end." One of the cases occurred at the Manchester Maternity Hospital. The child had slept with his mother and Dr. E. Vipont Brown, who had made a careful examination of the body, said "the mother told him that she found the child lying on her arm with his face towards her body." As a result of this occurrence he stated that separate cots had been ordered. In answer to the coroner he said that it was a dangerous practice for children to sleep with their parents. Accidental suffocation was the verdict in all four cases. This was followed by a letter to the papers, dated Feb. 22nd, in which Sir W. J. Sinclair stated that he and his colleagues had come to the conclusion "that the use of cots would be more dangerous to the infants than lying alongside the mothers," as "the chief danger to the newborn with their low vitality arises from the difficulty in keeping them warm." If the mother is too ill to attend to the infant "a special cot is used padded with special materials ...... and supplied in addition with artificial heat." This at any rate shows that the child *can* be kept warm in a cot. But as indicating how unlike the wards of a hospital are to the homes in the "mean streets," where most of these deaths occur from the mothers being more or less drunk and too stupid or too tired to notice that the child they have with them in bed is being suffocated, the statement follows that "the wards are constantly patrolled by nurses and as a result we have no overlaying and no infant deaths from chilling and, of course, there is no abuse of alcohol." No one can doubt the admirable care and attention that have insured the safety of the children at the hospital even when in bed with the mothers but the conditions are wide as the poles asunder from those obtaining among the dwellers in the slums. This is recognised by Sir W. J. Sinclair who, however, considers that the lowering of vitality from cold, with probably also an unsatisfactory food-supply that would, he thinks, result from the use of cots, would bring about greater evils than those ensuing from the infants being in bed with their mothers. Sir W. J. Sinclair's letter drew one from Dr. Vipont Brown and another from Dr. Ernest E. Reynolds, both advocating the use of cots. The former considers that, apart from escaping the danger of being overlain, the cot insures purer air for the child and the important matter of more regularity as to feeding than when in bed with the mother. As to the difficulty of obtaining cots for the very poor a drawer placed on two chairs, an orange box, or a clothes' basket will make a fairly efficient substitute. Dr. Reynolds, in answer to Sir W. J. Sinclair's inquiry as to how the coroner "got to know" that it is "a dangerous practice for children to sleep with the mother," says that in Manchester alone it causes from 80 to 100 preventable deaths every year. He cites the following illustration. About 15 years ago, at his request, the Manchester board of guardians provided proper cots for all the infants in the workhouse hospital, as deaths from overlying had occasionally occurred. Since that time only one death from that cause has taken place. A woman, against the rule, took her child from the cot into her bed. 20 minutes later the nurse missed the child from the cot. The mother was asleep and the child was partially under her, quite warm but dead. Dr. Reynolds says that he has made for the late city coroner, Mr. Smelt, some dozens of post-mortem examinations of these cases. Fatigue, without the aid of alcohol, may cause sleep heavy enough to make the mother quite unconscious that she has rolled over on to the child or has drawn the clothes over its head, or death may arise from "suckling the child and falling to sleep, suffocating it by the heavy breast." He has known cases where the mother, going to get the husband's breakfast, has covered the child with the heavy bedclothes "to keep it warm" and has returned in half an hour only to find the infant dead. He quotes Dr. H. Ashby's weighty authority in favour of the cot and absolutely against an infant being allowed to share the mother's or the nurse's bed. Dr. Reynolds does not believe that there is any difficulty for even the poorest to have a cot "artificially warmed" if necessary. There are unfortunately dangers for the infant on either hand and the controversy turns on whether the danger from foul air, an insufficient supply of air, or from the prevention of breathing by the pressure of the woman's body—the squeezing out of his life—is greater or less than that from the depression of vitality caused by the infant being placed in a cot and so exposed to cold. The cold can be guarded against but the other danger cannot unless the wards are "constantly patrolled by nurses" which is possible in a hospital but not in a slum. A rejoinder from Sir W. Sinclair is chiefly notable as illustrating the misquotation from Butler, "He that's convinced against his will is of the same opinion still."

WORK IN THE TREATMENT OF NEURASTHENIA.

IN the *Boston Medical and Surgical Journal* of Jan. 12th Dr. H. J. Hall describes an interesting experiment in the treatment of neurasthenia by work and protests against the almost universal prescription of rest in this condition. He points out that these patients display mental peculiarities before the characteristic symptoms of the disease appear. They worry too much and over-estimate the importance of small things. To prolonged worry he attributes the disease. Treatment by rest is often successful but sometimes it is not because the absence of occupation is not conducive to mental quietude. Dr. Hall's idea was to provide a wholesome and pleasant occupation differing as much as possible from that which the patient previously followed which would conduce to "self-forgetfulness." As such patients are clever people with artistic tastes he started a shop for the manufacture of pottery and the hand-weaving of fabrics. The equipment consisted of some half-dozen looms, spinning wheels, vats and dyes for colour work, a kiln for baking and glazing pottery, and a potter's wheel. A competent teacher was secured and when the shop was working and turning out articles a few patients suffering from a mild form of neurasthenia were introduced for a short time each day. The shop at once became popular and had a very encouraging effect on the patients. Subsequently basket-making was introduced and proved very useful. The work done was very good and to the resulting satisfaction of the patients Dr. Hall partly attributes its beneficial effect. The next step was to introduce patients affected with a more pronounced degree of neurasthenia. The difficulty was to eliminate the fatigue and the irritation which even the anticipation of change of task induces in these patients. The treatment was begun by rest in bed for a few days or a week. Then without any warning whatever the patient was ordered to do something simple, perhaps only to sit up in bed for a short time. The order given was changed from day to day. Then the patient was sent to the shop where he worked for gradually lengthening periods daily. Many discouragements occurred and constant tact and vigilance were required but the results were good. After a few weeks of work the inertia of months and years was thrown off and the change in facial expression, in skill of movement, and in the whole morale of the patient was *remarkable. Although the work appealed* especially to people who had never done physical work and to whom the pleasure of manual work was a revelation it was particularly appreciated by those of limited means who felt that they were acquiring a useful trade by which they might support themselves if they could not return to their old life. To encourage a feeling of independence, when the patient turned *out a work of* value it was sold and he received the proceeds. It was surprising how the patients' lives readjusted themselves and how the petty annoyances and troubles again took their proper subordinate position. Dr. Hall also suggests *this plan of treatment* as a prophylactic measure. After he began to write his paper he ascertained that a similar method of treatment has been carried out *successfully at Zürich* by a layman named Grohmann who works under the direction of physicians.

THE ROYAL COMMISSION ON THE CARE AND CONTROL OF THE FEEBLE-MINDED.

Dr. *James Craufurd* Dunlop has been appointed an *additional member of this Commission*. This makes the second additional medical member who has been appointed *since we pointed out in* THE LANCET *of Sept. 17th, 1904*, that only one medical man, Dr. Frederick Needham, had been nominated to a seat on a Commission which *has to deal* with a subject so full of intricacy and responsibility. It will be remembered that the other medical member appointed was Dr. H. B. Donkin. Dr. Dunlop is assistant to the medical adviser to the Commissioners under the Prisons (Scotland) Act, 1877, at the Department of Prisons and Judicial Statistics, Edinburgh, and he is also superintendent of statistics in the Registrar-General's Office, Scotland, having succeeded to that post on the death of Dr. R. J. Blair Cunynghame which occurred in December, 1903. The *Times* states that no period can yet be specified for continuing the sittings of the Commission, the first of which was held in October last.

CHELSEA CLINICAL SOCIETY.

As briefly mentioned in our issue of March 4th the annual clinical debate, the subject being Chronic Constipation and its Medical and Surgical Treatment, will be held at the Chelsea Dispensary, Manor-street, King's-road, London, S.W., on March 14th and 21st at 8.30 P.M. On March 14th the speakers will include Mr. W. Arbuthnot Lane, Dr. T. Vincent Dickinson (the president), Dr. J. Foster Palmer, and Dr. W. H. Goddard. On March 21st the speakers will include Dr. William Collier, Dr. F. J. Smith, Dr. H. Campbell Thomson, and Dr. Leonard L. B. Williams. These meetings are open to all members of the medical profession.

A SPECIAL meeting of the Laryngological Society of London will be held at 20, Hanover-square, W., at 3 P.M., on Friday, March 17th. There will be an exhibition of pathological specimens on view from 2 P.M. in connexion with the attendance of many eminent foreign laryngologists who are coming to London for the Garcia centenary. Cases will be shown by Mr. H. Barwell, Dr. H. J. Davis, Dr. Dundas Grant, Dr. H. L. Lack, Dr. E. Law, Dr. W. Milligan, Mr. C. A. Parker, Mr. H. B. Robinson, Mr. P. R. W. de Santi, Sir Felix Semon, Mr. Charters J. Symonds, Dr. H. Tilley, Dr. StClair Thomson, Dr. Atwood Thorne, and Dr. P. Watson Williams. Professor Glück of Berlin will give a special demonstration on Saturday, March 18th, at 20, Hanover square, at 2 P.M., of his method of removal of the entire larynx, to which *surgeons specially* interested in the subject are cordially invited.

THE medical officer of health of the Cape Colony states that for the week ending Feb. 11th the condition of the *colony as to plague* was as follows. No case of plague in man was *reported throughout* the colony but plague-infected rodents *were discovered at* Port Elizabeth and at East London. Other districts of the colony were *free from plague* of any kind. As regards Hong-Kong *a telegram received at* the Colonial Office on Feb. 27th states that for the week ending Feb. 25th there were 2 cases of plague and 2 deaths from the disease. As regards the *Mauritius there were* 2 cases of plague for the week ending March 2nd and 2 deaths from the disease.

THE Executive Committee of the General Medical Council, which met on Monday, Feb. 27th, at the offices of the Council, received some interesting tables showing the results of the latest competitions held for commissions in the Medical Departments of the Navy, the Army, and the Indian service. The tables show well the successful position enjoyed by the diplomates of the London Conjoint Board. The committee appointed Professor Howard Marsh, professor of surgery in the University of Cambridge, to act as inspector of the surgical examinations of the University of Edinburgh

Sir Patrick Manson will take the chair at the dinner to be given on Wednesday, April 5th, to Mr. W. Johnson Smith by the medical staff of the Seamen's Hospital Society. Mr. Johnson Smith is retiring after 36 years' service and it is hoped that most of his old friends and colleagues will be able to be present on this occasion. Dinner tickets and all information respecting the dinner can be obtained from the honorary secretary to the dinner committee at the offices of the Seamen's Hospital Society, 13A, Cockspur-street, London, S.W.

AT the twenty-eighth annual meeting of the Irish Medical Schools' and Graduates' Association, to be held on March 18th, Surgeon-General C. Sibthorpe, C.B., will resign the presidential chair to Sir William Whitla who will preside at the festival dinner to take place the same evening at the Hotel Cecil, at 7.30 P.M. All communications should be addressed to Mr. E. Canny Ryall, 30, Harley-street, London, W.

AT the Royal Sanitary Institute, on Saturday, March 25th, at 11 30 A.M., a *discussion* will be opened on Municipal Milk Depôts and Milk Sterilisation by Dr. G. F. McCleary, medical officer of health of Battersea. The chair will be taken by Sir Shirley F. Murphy. In the afternoon visits will be made to the Battersea municipal milk depôt, disinfecting station, public mortuary, coroner's court, and shelter.

His Majesty the King gave a dinner party at Buckingham Palace on Saturday, March 4th. Amongst those who had the honour of receiving invitations were Sir William S. Church, Bart., President of the Royal College of Physicians of London, and Mr. John Tweedy, President of the Royal College of Surgeons of England.

BY the courtesy of the general secretary of the British Medical Association we have been favoured with an advance proof of the report of the Conference on Hospital Administration between representatives of the Association and of hospital boards which was held in the Board Room of the

Metropolitan Asylums Board on March 2nd. Next week we hope to deal at length with the matter.

Sir Frederick Treves, Bart., K.C.V.O., C.B., has been promoted to Knight Grand Cross of the Royal Victorian Order.

THE CONTROL OF HOSPITAL EXPENDITURE WITH EFFICIENCY.

AT a meeting of the Hospitals Association held at Charing Cross Hospital on March 3rd Dr. DONALD J. MACKINTOSH, M.V.O., medical superintendent of the Glasgow Western Infirmary, read an interesting and instructive paper upon the above subject. Mr. THOMAS BRYANT presided.

Dr. MACKINTOSH said that for the past 20 years he had devoted his attention to the study of hospital construction and administration. Taking the comparison per occupied bed as the only fair and possible unit of comparison he found from reference to "Burdett's Hospitals and Charities Annual" that the difference in 1903 between the London hospitals and those of the provinces was very striking. It ranged in hospitals with medical schools from £50 5*s.* in Dundee to £142 15*s.* in St. George's Hospital, London. In order that this difference might be accounted for a minute account of details should be made. He laid down as one of the first conditions of effective hospital management that the accounts should be kept in such a way that even a layman might be able at any time to see what was spent on *each* item in each *separate* department. This condition could be fulfilled only if another condition was also satisfied—viz., that the whole work of superintending the various departments should be focussed in the hands of a single administrator directly responsible for the institution to the board of managers. Accounts should be kept showing the exact expenditure day by day in each department of a hospital in order that there might be no difficulty in finding out whether there was waste or extravagance in a particular department or whether that waste, if it existed, was in the wards or in the nurses' or servants' departments. At the Glasgow Western Infirmary they did not manufacture certain drugs which he understood was the practice in some of the large London hospitals. He believed that such drugs could be purchased more cheaply from large manufacturers. Enonomy in the use of dressings was obtained by a system of entering into a book one day the materials required by a particular surgeon for use the following day. This book was examined in the superintendent's office. The system was worked by a staff consisting of a clerk and a typist. He doubted whether the detection of unusual expenditure under this heading would be possible to a lay superintendent. A similar system was adopted with regard to crockery and breakages from carelessness were easily detected. In considering the question of lighting and heating it was necessary to study the comparative cost of coal in different parts of the country and the quality of the fuel and the amount used. In the Glasgow Western Infirmary large boilers were used for generating steam and this steam was utilised for heating, cooking, working lifts, working a laundry which turned out every week over 20,000 articles, and by means of the same boiler power they generated electricity for use in the infirmary, not only for lighting the building but the grounds and, in addition, kept going a number of electric ventilating fans and electric lamps for the treatment of lupus. A record was kept of the work done by each engine in every hour of the day and night and also of the boiler pressure, the steam pressure, the temperature of the engine room, the amount of fuel consumed, and the amount of ashes removed. The electric current was generated at a lower cost than would be possible if taken from the public mains. As a matter of fact, it cost 1*d.* per unit for everything, while if taken from the corporation mains it would cost 3½*d.* for lighting and 1*d.* for motive power. It was possible that certain advantages might follow from the combination of the smaller hospitals in the purchase of goods but as regarded the larger hospitals the most economical and effective method was to make use of the information and guidance of experts who were members of hospital boards. Every large hospital should at all times be free to purchase its goods in the open market. But, after all, economy in purchase was only one aspect of the problem. Economy in use was probably of even greater importance. And this could be secured only by means of constant supervision.

A discussion followed in which Mr. THIES (secretary of the Royal Free Hospital) pointed out the differences between hospitals in Scotland and in London as regards the payment of rates and the cost of lighting and fuel.—Mr. SYDNEY HOLLAND, while agreeing in the main with the remarks of Dr. Mackintosh, said that the question as to whether the administrative head of a hospital should be the secretary or not depended upon the size of the hospital. If large it was absolutely necessary to subordinate the management to the heads of the various departments.—Sir HENRY BURDETT spoke in favour of the appointment of a superintendent for administrative purposes and a secretary for financial work.—Mr. WILLIAM MORTON pointed out the relation between economy of administration and the size and shape of the hospital buildings.—Dr. MACKINTOSH briefly replied and the meeting terminated with a vote of thanks to the chairman.

MEDICINE AND THE LAW

Frost v. *the Aylesbury Dairy Company.*

IN a leading article published in THE LANCET of Nov. 12th, 1904, p. 1361 [illegible] tion we commented upon the attitude [illegible] judge who tried the case with regard to the use by the defendants of the well-known title of their firm. This his lordship appeared to regard as a kind of false pretence on their part because their milk-supply is not now drawn from the Aylesbury district, as formerly it was, and we observed that it would be interesting to hear what the Court of Appeal would say upon this point. We were not wrong in our suggestion that the Court of Appeal would not agree with Mr. Justice Grantham, for in delivering recently their judgments upon the defendants' appeal both the Master of the Rolls and Lord Justice Mathew expressed in plain terms their dissent from his view, the former saying that in his opinion it was unfortunate that such observations had been made. In his opinion "there was not the shadow of a foundation for any aspersion on the defendants in connexion with their bearing the name of 'The Aylesbury Dairy Company.'" Lord Justice Mathew, in dealing with this topic in the course of his judgment, said that there was no reason whatever for any reflection upon the defendants. They had imposed stringent conditions upon the farmer from whom they obtained the milk in question but it was obviously impossible, where their supply was drawn from different parts of the country, to see that each farmer complied in every respect with their conditions and requirements. His lordship, in the words of the *Times* report, "regretted that the use of the word 'Aylesbury' in the name of the defendant company was reflected upon by the learned judge (Mr. Justice Grantham). He desired to say that he did not concur in those reflections and in his opinion the defendant company came well out of the inquiry." With these observations we entirely concur; we have no doubt that the stringency of the regulations imposed by the Aylesbury Dairy Company upon the farmers who supply them enables them to provide as pure milk for their customers as any to be found in the country and to set an example of what the ordering of dairy farms should be. In this particular instance they have been held liable because all purveyors of food, and in any case a firm who advertise it as of exceptional purity, are responsible if from any cause it should not be fit for the purpose for which it is purchased. This issue was not affected by the unusual and surprising strictures of Mr. Justice Grantham upon the trade name under which the milk was sold and the Court of Appeal apparently held that as the words used did not constitute a misdirec [illegible] oint of law as to which the jury had to be [illegible] ot of such a nature as to entitle the defendants to a new trial. We would, however, point out that they were irrelevant and undeserved remarks, extremely likely to prejudice the jury in its decision upon the difficult and closely contested question of fact upon which the whole issue of the trial hung. The important issue in the trial was not whether the dairy company warranted its milk to be pure but whether the typhoid fever from which the plaintiff's wife died was due to the company's milk or to some other cause. As to this there were expert opinions on both sides and a considerable conflict of evidence and it is difficult to say with confidence that the [illegible] Juries are easily misled by [illegible] regretted that the learned judg[illegible] have weighed his words before giving free utterance to a hastily conceived and ill-founded opinion. It is also a hardship upon the defendants that they should have to pay damages which may be wholly or partly due to the judicial aspersion in question.

The Unlawful Detention of Medical Men.

As recently as Feb. 18th attention was called in THE LANCET[1] to an extraordinary case of the imprisonment of an obstetric assistant, sent out from the London Hospital, by the relatives of a parturient woman, whose friends forcibly kept the medical man in the house to await her labour and until it was completed. An experience of a similar description, also among aliens of the lower class, was recently the lot of another member of the staff of the same hospital. In this instance Mr. R. V. Dolbey, the resident accoucheur at the hospital, visited the patient and finding everything normal was about to leave one of his juniors to deal with it, when the women present proceeded to resist his departure and called in three men to help them. These commenced to use physical force in order to detain him and if this circumstance placed him in a [illegible] had the fortunate [illegible] l with the case by [illegible] Samuel Woolfson, [illegible] ith hard labour for assault. An offence committed against a medical man or a nurse administering aid as an act of charity among the suffering poor will strike even those whose experience is of [illegible] feature in hospital work of [illegible] l that two such acts should [illegible] weeks of one another in the [illegible] r worse. It was, however, stated on bel[illegible] ndon Hospital that difficult[illegible] ing with our countrymen [illegible] with aliens. Presumably they are largely due to ignorance of the intentions of the medical man, of the nature of the charity on behalf of which he acts, and of the power of the law to punish an attack upon him, and the suggestion may be repeated which was made in THE LANCET of Feb 18th that a full account of the penalty which has now been inflicted, with perhaps an explanatory note as to the position filled by the hospital in the life of the poor, if printed in Yiddish and freely distributed or handed to applicants for hospital assistance, might do much to prevent such occurrences in future. However downtrodden the humbler class of Jew may find himself in the Czar's dominions the position of his [illegible] if the treat- [illegible] companions [illegible] ermissible in Russia.

HINTS ON INCOME-TAX ASSESSMENT.

THE time is approaching when each member of the medical profession will receive a document from the Inland Revenue authorities inviting him to make a return of his income for purposes of taxation. To the man who is familiar with accounts or whose income is so large that he can afford to employ an accountant to make out his return this event is not of much concern. Members of the medical profession, however, are not always versed in the mysteries of bookkeeping. It is proposed to give an outline of the [illegible] er should adopt in arriving at [illegible] liable to pay 1s. in the £. It should be stated at the outset that there is no necessity to send in the calculations upon which the return is based. Where, however, the Commissioners challenge the return it may be convenient for the practitioner to be able to produce his figures.

Basis of the Tax.

Income tax is charged upon the profits of a practice, estimated upon a fair average of three years. This period ends either (*a*) on that day of the year immediately preceding the year of assessment on which the accounts are usually made up; or (*b*) on April 5th preceding the year of assessment. It follows that in order to estimate the income tax payable on Jan. 1st, 1905—i.e., the tax for the income of 1904—regard should be had to the average profits of the years 1901, 1902, and 1903. As accounts for the year are often made up to April 5th the period may run from April 5th, 1901, to April 5th, 1904. Where the practice was commenced within the period of three years the average income for the purposes of income tax is arrived at by taking the average yearly profit from the date of commencing practice. Suppose, for instance, the practice was commenced on April 5th, 1902, and £1000 were made in 1902 and 1903, the profit for the purposes of income tax would be £500 (subject, of course, to the deductions hereinafter referred to). If the practice was commenced within the year of assessment—i.e., 1904—the profits are to be estimated according to the best of the practitioner's knowledge and belief. The grounds upon which the estimate is based must, if required, be stated for the information of the Commissioners.

Income which must Not be taken into Account.

When he receives his "yellow form" the practitioner will do well to make no entry upon it which does not relate to his professional receipts. Income which is received *aliunde* is not to be entered. Thus income which comes under any of the following heads must not be entered: (*a*) income from any office or employment in the public service or under any public body, or any annuity, &c., *payable out of public revenue*; (*b*) the salary of a medical officer of health and the fees of a public vaccinator (these are taxed under Schedule E and should not be entered on the yellow form); (*c*) any income derived from ownership or occupation of land or unfurnished houses or bu[illegible] in[illegible] [N[illegible] in[illegible] en[illegible] if[illegible] (See sub title, "Exemptions," *infra*.) The income of a person resident in the United Kingdom which is earned abroad and which is not brought, remitted to, or received in, the United Kingdom need not be entered.

Exemptions.

If the income does not exceed certain specified amounts exemption or abatement is allowed. Thus: (*a*) total exemption may be claimed when the income from all sources does not exceed £160 per annum; (*b*) abatement of duty on £160 may be claimed when the income exceeds £160 but does not exceed £400; (*c*) abatement of duty on £150 may be claimed when the income exceeds £400 but does not exceed £500; and (*d*) abatement of duty on £120 may be claimed when the income exceeds £500 but does not exceed £700. For the purpose of estimating "income" in order to obtain an abatement the claimant must set forth every source whence the income is derived with the amount derived from each source. Where income is derived from a profession, office, or employment he must state the nature and particulars thereof and where carried on. In this connexion it is to be noted that for the purpose of claiming abatement or exemption income *from every source* is to be entered—i.e., income from investments, public offices, &c. The practitioner who, on looking through his books, finds that his "average income" is something over £700—say £800—must not rashly assume that he is not entitled to any abatement. He may find that when he has made the deductions from gross income which are allowed by law his true income (for the purposes of taxation) will be less than £700. Similarly, a man earning £200 may find that, after deductions have been made, the true income is below £160 and that he is therefore entitled to complete exemption.

How the Profit is Ascertained.

Income tax being, as has been stated, a tax upon the profits of a profession, certain deductions must be made from income in order to arrive at the profit. The practitioner will naturally look into his books to see what his income has been for the last three years. Such books will disclose the gross receipts. Leaving debts (whether good or bad) out of account for the moment the following deductions may be made from gross receipts: 1. Money expended upon the repair of any premises occupied by the practitioner in connexion with his practice. 2. Money expended upon the supply of drugs and the supply and repair of implements and utensils not exceeding the sum usually expended for such purposes according to the average of the three years preceding. Under the heading "repairs of premises" may be included any repairs at a dispensary or the consulting room. The cost of improvements, however, could not be deducted under this head. For instance, the enlargement of a dispensary would hardly come within the word "repair." The amount to be deducted for repairs and implements is to be calculated on the average of three years. So, if £100 worth of drugs and implements were purchased in 1903 and no other drugs or implements in the two previous years the deduction should be £33 6*s.* 8*d.* 3. The rent of premises used solely for the purposes of business and not as a place of residence (e.g., a dispensary). 4. If the practitioner resides in the house where he carries on his practice he is entitled to deduct a proportion, not exceeding two-thirds, of the rent which he pays for the house. 5. Any other disbursements or expenses wholly and exclusively laid out for the purposes of the practice Under this head it is conceived that the practitioner may deduct: (1) the entire cost of keeping horse and carriage or motor, including the cost of repairs, provided such horse and carriage or motor is used exclusively in the practice. (Where, however, it is used to a large extent by the practitioner's wife, or for private purposes, the entire cost of upkeep could not be deducted. Opinions differ as to the amount which may be deducted in such a case. Probably the best course for the practitioner to adopt is to deduct the whole cost and let the Inland Revenue authorities raise the question if they think proper.) Inasmuch as the purchase of a horse and carriage or motor involves an outlay on capital account it is submitted that an annual charge for depreciation might also be made; (2) the salary of any assistant, nurse, or secretary whom he may employ exclusively for the purposes of his practice; (3) the wages of any servant employed exclusively for the practice, such, for instance, as a coachman or chauffeur, and the board of any such servant (if paid by his master); (4) travelling expenses incurred in the course of visits to patients; (5) cost of heating and lighting surgery or consulting room; (6) cost of telephone. telegrams, stationery, and stamps (including receipt stamps); (7) cost of cleansing professional premises and such part of a private residence as is used for professional purposes; (8) rates on such proportion of a private residence as is used for the purposes of the practice and all the rates paid in respect of premises exclusively used for professional purposes; (9) annual subscriptions to medical societies, medical protection societies, &c; (10) law costs incurred in recovering debts; (11) cost of bottles, &c., used in the dispensary; and (12) losses accruing from any accident happening in the conduct of the practice—e.g., a carriage accident or injury while operating, unless such loss is covered by insurance.

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[1] THE LANCET, Feb. 18th, 1905, p. 434.

Deductions not Allowed.

The following is a list of expenses which *may not* be deducted:—(*a*) interest on capital, or any annual interest, or any annuity, or other annual payment payable out of the profits or gains. For instance, suppose a man purchased a practice for £1000 to be paid off out of the profits of the practice by five instalments of £200. These instalments cannot be deducted. Similarly, if a man purchases a practice for £1000, which he borrows at 4 per cent., he cannot deduct £40 a year for interest; (*b*) any sums invested or employed as capital or on account of capital withdrawn from the practice. For instance, money spent in buying out a retiring partner, or in purchasing a motor-car could not be deducted; (*c*) any sums expended in improvement of premises, or written off for depreciation of land, buildings, or leases; (*d*) any loss not connected with, or arising out of, the practice; (*e*) any expenses of maintenance of the practitioner, his family, or establishment; (*f*) any loss recoverable under an insurance or contract of indemnity: (*g*) any sum paid as income tax on profit or gains, or on the annual value of trade premises; (*h*) any premium for life insurance (but an allowance upon this head may be made as set out below); and (*i*) educational expenses, such, for instance, as lecture fees, or fees for attending classes in order to take out a diploma of public health.

How Debts are to be Treated.

Good debts appearing in the books to be due to the practitioner may be entered amongst gross receipts, care being taken that they are not brought into account as cash receipts when actually paid. Bad debts, if proved to be bad to the satisfaction of the Commissioners, may be deducted. With regard to doubtful debts, a deduction may be made according to their estimated loss or deficit.

Insurance Premiums.

Insurance premiums are not treated as business expenses for purposes of deduction but are dealt with separately. After all the foregoing deductions have been made the resulting figure is entered upon the yellow form. From this amount a deduction may be claimed for life insurance premiums actually paid. The amount so paid must be entered up in the proper place on the form and the claimant must be prepared to produce the insurance company's receipt if required. The allowance claimed must not exceed one-sixth of the claimant's net personal income from all sources. It is important to notice in this connexion that it is only premiums paid to an English insurance company or to an approved Colonial company which may be deducted. Thus a premium paid to an American or other foreign company would not be allowed for.

The Profits of a Partnership.

Hitherto we have only dealt with questions which arise in relation to the income tax of a single practitioner. The principles above enumerated also apply where the profits of a practice are divided among two or more partners. Certain questions arise, however, in relation to the assessment of a partner or partners which must not be overlooked. In the first place, the computation of duty for the partnership should be kept distinct from any other duty chargeable on the members separately. A return made by the senior partner resident in Great Britain is sufficient to satisfy the authorities. A separate return must not be made in respect of the return of any partner unless he desires to claim an abatement. Thus, suppose the share of a partner in the proceeds of the practice did not exceed £500, it would be worth his while to claim an abatement. He may do so by filling in the form of declaration which is to be found in the yellow form. Suppose there is a change in the partnership either by reason of the death or retirement of a partner, or owing to the admission of a new partner, within the period of three years. In such a case annual profit must be estimated upon the average of three years, unless it be shown to the satisfaction of the Commissioners that the profits have fallen short, or will fall short, from some specific cause to be alleged to them and proved since such change or succession took place or by reason thereof. For example, suppose the senior partner had some special knowledge which enabled him to earn the largest proportion of the partnership income. His demise might reduce the annual profits to a very small figure. It is anticipated that upon a fact of this kind being proved to the Commissioners a reduction would be made.

Looking Back.

FROM

THE LANCET, *SATURDAY*, March 10, 1827.

ARTIFICIAL PUPIL.

Case of a Lady born Blind, who received Sight at an advanced age by the formation of an Artificial Pupil. By James Wardrop, Esq., F.R.S. Edinburgh, Surgeon Extraordinary to the King, &c.

[*From the Philosophical Transactions.*]

READ BEFORE THE ROYAL SOCIETY, JUNE 15, 1826.

As imperfections in the original structure of our organs of sense, which are remediable by art, are extremely rare, and as cases of successful operations on these organs essentially contribute to illustrate their functions, as well as to throw light on the operations and development of the human mind; the following instance of vision being imparted to a lady born blind, by an operation at an advanced period of life, will, it is hoped, not be considered unworthy of being submitted to the consideration of the Royal Society.

The case, besides establishing the curious physiological fact, that the nerve of the eye can remain fit to receive the impressions of external objects, though totally excluded for a long series of years from the performance of that function, claims a much higher interest in a philosophical point of view; some of the facts here detailed confirming in a remarkable manner what **BERKLEY** had predicted of "a man born blind being made to see," in the 79th Section of his "New Theory of Vision," published in the year 1709. He says, "a man born blind being made to see, would, at the first opening of his eyes, make very different judgments of the magnitude of objects intromitted by them from what others do. He would not consider the ideas of sight with reference to, or as having any connexion with, the *idea* of touch." It may also be observed, that in the present case the blindness was more complete, and the period at which vision was acquired was much later in life, than in any instance which has hitherto been recorded.

The lady, whose case forms the subject of this paper, was observed, during the first months of her infancy, to have something peculiar in the appearance of her eyes, and an unusual groping manner, which made her parents suspect that she had defective vision. When about six months old, she was placed under the care of a Parisian oculist, who performed an operation on both her eyes, with a view to afford her sight. The operation on the right eye was, however, followed by violent inflammation, and a collapse of the eyeball, thus causing a complete destruction of the organ of vision. The operation on the left eye, though equally unsuccessful in attaining its object, was not followed by any alteration in the form or size of the globe. From the account stated by her friends, it was impossible to form any correct notion of the state of her eyes previous to the operations which were performed. It seems, however, extremely probable that the blindness, which was attempted to be remedied, had been produced by congenital cataracts, and that these operations had for their object the removal of the opaque lenses.

From the above early period she had continued totally blind, being able merely to distinguish a very light from a very dark room, but without having the power to perceive even the situation of the window through which the light entered; though in sunshine or in bright moonlight she knew the direction from whence the light emanated. With regard therefore to the degree of sight, this lady was more completely blind than the boy in the celebrated case related by Mr. Cheselden, in the 35th vol. of the Transactions of the Royal Society; for in that instance the boy knew black, white, and scarlet apart from one another; and when in a good light he had that degree of sight, which generally continues in an eye affected with cataract; whereas in this lady, the pupil being completely shut up, no light could reach the retina, except such rays as could pass through the substance of the iris.

When she was placed under my care, she had reached her 46th year. The right eye-ball was collapsed, but the left retained its natural globular form. The cornea of this eye was transparent, except at one point near its circumference, where there was a linear opacity, which had probably been the cicatrix of the wound made during the operation in her infancy. The anterior chamber of the eye was of its natural capacity, but I could not distinguish any vestige of a pupil, some streaks of yellow lymph being deposited in irregular manner over the central part of the iris. There was every reason to believe the retina was sound; for though she could not perceive objects, nor had any notion of colours, yet the circumstance already mentioned of her being able to distinguish between a very light and a very dark chamber and between a gloomy day and sunshine, rendered it probable that the nerve was in a sound and natural state. Under this impression, I thought that the restoration of her sight, by making an artificial pupil, was practicable, and certainly well worthy of a trial. Accordingly, on the 26th of January, I introduced a very small needle through the cornea, passing also through the centre of the iris; but I could not destroy any of the adhesions which had shut up the pupillar opening. After this operation she said she could distinguish more light, but she could perceive neither forms nor colours. The result of this first attempt justified the favourable views entertained of the state of the retina, and Mr. **LAWRENCE**, who at this time was consulted, coincided with me in this opinion.

On the 8th of February, a second operation was performed, which consisted in passing a sharp-edged needle through the sclerotica, bringing its point through the iris into the anterior chamber, repassing it into the posterior chamber at a small distance, and then dividing the portion of iris thus included between the two perforations of the needle. Only a very slight inflamation followed,—the light became offensive to her,—she complained of its brightness, and was frequently observed trying to see her hands; but it was evident her vision was very imperfect; for although there was an incision made in the iris, some opaque matter lay behind this opening, which must have greatly obstructed the entrance of light.

On the 17th of February, a third operation was performed, which consisted in still further enlarging the opening in the iris, and in removing the opaque matter, by a needle introduced through the sclerotica. This was followed by a very slight degree of redness.[1]

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8746 births and 5123 deaths were registered during the week ending March 4th. The annual rate of mortality in these towns, which had been 17·4, 17·3, and 15·7 per 1000 in the three preceding weeks, rose again to 17·1 per 1000 last week. In London the death-rate was 17·1 per 1000 and it also averaged 17·1 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 8·4 in Grimsby, 9·6 in Aston Manor, 10·0 in Smethwick, 10·3 in Walthamstow, 10·5 in Hornsey and in Rotherham, and 10·7 in Northampton; the highest death-rates were 21·9 in Stockton-on-Tees, 22·0 in Liverpool, 22·2 in Reading, 22·9 in Sunderland, 23·4 in Nottingham, 24·3 in Tynemouth, and 29·7 in Merthyr Tydfil. The 5123 deaths in these towns last week included 486 which were referred to the principal infectious diseases, against 401, 410, and 365 in the three preceding weeks; of these 486 deaths, 190 resulted from measles, 105 from whooping-cough, 86 from diphtheria, 46 from diarrhœa, 34 from scarlet fever, 24 from "fever" (principally enteric), and one from small-pox. No death from any of these diseases was registered last week in Willesden, Bournemouth, Great Yarmouth, Norwich, Walsall, Handsworth (Staffs.), Grimsby, Wallasey, or Bury; while they caused the highest death-rates in Portsmouth, Southampton, Reading, Hanley, West Bromwich, Nottingham, and Newport (Mon.). The greatest proportional mortality from measles occurred in Portsmouth, Southampton, Reading, West Bromwich, Nottingham, Stockton-on-Tees, Newport (Mon.), and Merthyr Tydfil; from scarlet fever in Rochdale and Blackburn; from diphtheria in West Ham, Ipswich, West Hartlepool, and Newport (Mon.); from whooping-cough in Hanley, Bradford, and Rotherham; and from diarrhœa in West Bromwich and Newport (Mon.). The mortality from "fever" showed no marked excess in any of the large towns. One fatal case of small-pox was registered in Leeds but none in any other of the 76 towns. The number of small-pox cases under treatment in the Metropolitan Asylums Hospitals, which had been nine, eight, and 15 at the end of the three preceding weeks, were again 15 at the end of last week; four new cases were admitted during the week, against one, three, and seven in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2002, against 2077, 2017, and 1987 at the end of the three preceding weeks; 290 new cases were admitted during the week, against 260, 241, and 224 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 400, 378, and 335 in the three preceding weeks, rose again to 353 last week, but were 18 below the number in the corresponding period of last year. The causes of 74, or 1·4 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Portsmouth, Bristol, Leeds, Hull, and in 43 other smaller towns; the largest

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[1] Here follow five columns detailing the interesting experiences of
the patient. The first few
period, till the time of I
being forty-two days after
gain more information of
learn."

41 deaths from scarlet fever were slightly below the corrected average number; among the various metropolitan boroughs the greatest proportional fatality from this disease was recorded in Fulham, St. Marylebone, Shoreditch, Bethnal Green, Southwark, and Greenwich. The fatal cases of diphtheria were 53 last month, against an average of 144 in the corresponding quarters of the ten preceding years; this disease was proportionally most fatal in Hammersmith, Fulham, Shoreditch, Stepney, Poplar, and Southwark. The 136 deaths from whooping-cough were 72 below the corrected average number; among the various metropolitan boroughs the highest death-rates from this disease were recorded in Kensington, Hammersmith, Fulham, Shoreditch, and Southwark. The 15 fatal cases of "fever" showed a decline of 30 from the average number in the corresponding quarters of the ten preceding years; the greatest proportional mortality from enteric fever occurred in Chelsea, Hackney, Battersea, Wandsworth, Deptford, and Woolwich. The 55 deaths from diarrhœa were equal to the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Fulham, Stepney, Southwark, Bermondsey, and Greenwich. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was nearly 43 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 113 per 1000. The lowest rates of infant mortality were recorded in Paddington, Fulham, Shoreditch, Lambeth, and Wandsworth; and the highest rates in St. Pancras, the City of London, Bethnal Green, Poplar, and Southwark.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon J. Menary to the *Good Hope*, on recommissioning, to date Feb. 28th. Staff Surgeons: R. S Bernard to the *Terrible*, to date Feb. 28th; and A. G. W. Bowen to the *Amethyst*, undated. Surgeons: A. Woollcombe to the *Pandora*, undated; J. H. McDowall to the *Good Hope*, to date Feb. 28th; and F. R. Mann to the *Firequeen*, to date March 6th.

ROYAL ARMY MEDICAL CORPS.

Lieutenant G. F. Rugg is seconded for service with the Egyptian Army (dated Feb. 10th, 1905).

The undermentioned Majors to be Lieutenant-Colonels (dated Jan. 31st, 1905):—J. R. Forrest, Brevet Lieutenant-Colonel M. W. Russell, G. E. Moffet, H. A. Haines, G. E. Hale, D.S.O., C. W. Johnson, A. T. I. Lilly, C. C. Reilly, A. De C. Scanlan, W. Turner, W. E. Berryman, S. E. Duncan, and R. Caldwell.

The undermentioned Majors are placed on retired pay (dated Jan. 31st, 1905): B. F. Zimmermann, A. Stables, J. D. Moir, R. Crofts, D.S.O., H. D. James, and G. M. Dobson.

Lieutenant S. M. Adye-Curran to be Captain (dated Nov. 28th, 1904).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Shropshire and Staffordshire: Surgeon-Lieutenant-Colonel E. Cureton is granted the honorary rank of Surgeon-Colonel (dated March 8th, 1905). 1st Worcestershire: Surgeon-Lieutenant G. H. Rutter to be Surgeon-Captain (dated March 8th, 1905). 1st Monmouthshire: John O'Keefe to be Surgeon-Lieutenant (dated Feb. 25th, 1905).

Rifle: 3rd Volunteer Battalion the Royal Fusiliers (City of London Regiment): James Searson to be Surgeon-Lieutenant (dated March 8th, 1905). 2nd Volunteer Battalion the King's (Liverpool Regiment): Supernumerary Surgeon-Lieutenant J. G. Martin to be Surgeon-Captain and to remain Supernumerary (dated March 8th, 1905). 18th Middlesex: Surgeon-Lieutenant-Colonel C. Godson is granted the honorary rank of Surgeon-Colonel (dated Feb. 25th, 1905). 7th Middlesex (London Scottish): Surgeon-Lieutenant A. H. Pirie to be Surgeon-Captain (dated Feb. 21st, 1905).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Aberdeen Company: Lieutenant D. Rorie, from the Black Watch Bearer Company, to be Lieutenant (dated March 8th).

THE WAR IN THE FAR EAST.

The stupendous struggle between the vast armies under General Kuropatkin and Marshal Oyama remains at an acute stage as we go to press. Enough is known to make it clear that a terrible drama of death and of anguish worse than death is being enacted, but for the time being no more can be said with certainty.

A report has been published by General Trepoff, chief medical officer of the Manchurian Army, giving particulars of the officers and men sent from the front, sick and wounded, to Kharbin, Stretensk, Khavarosvsk, and other places in the rear of the seat of war, from the beginning of operations up to Jan. 14th (Jan. 1st, O.S.). The report relates to those officers and men who came under the attention of his staff in the hospitals over which he had direct control and does not include the losses at Port Arthur. Accurate particulars of the numbers killed in action are not available. The wounded officers were 1710 and the sick 2308, the wounded men 53,890, and the sick 72,531, making a grand total of 130,439. Of these, 107 officers and 3900 men died in the hospitals; a total of 17,722 were permanently invalided and 9429 were sent to European Russia to recuperate. At the date of the return there remained 21,554 in the hospitals.

Correspondence.

"Audi alteram partem."

THE CAUSATION OF LEPROSY.

To the Editors of THE LANCET.

SIRS,—The last number of the *Scottish Medical and Surgical Journal* contains a paper from the pen of Dr. Armauer Hansen of the utmost interest in reference to the causation of leprosy. Excepting by the few who love controversy for its own sake it will be read with much satisfaction by all, for it brings the rival camps of contagionists and non-contagionists as nearly as possible into union. It was Dr. Hansen's discovery of the lepra bacillus which gave new life to contagionist doctrines and it has been under his supposed leadership that measures for "the stamping out of leprosy" by compulsory segregation have been carried out in various countries. Prior to his renowned discovery Norwegian authorities (Danielssen and Boeck) were strenuous in their denial of contagion. That discovery, however, brought a change and made an epoch. Another step is, however, now to be taken. With that noble candour which is so marked a feature in his character the discoverer himself now admits that for practical purposes he has fallen back on the older creed. Speaking of the circumstance that in Norway lepers are allowed to travel, without precautions, in public vehicles Dr. Hansen states: "We have no particular rules for the transport of patients, *I see no reason for them.*" He goes on to add: "Leprosy is a disease which it is not necessary to have any particular dread of"—*that is*, not as regards its contagiousness—and he finally makes full admission that there must be some other and more important agency at work. "In order to stimulate it [the bacillus] into activity there are evidently required special circumstances—circumstances which we unfortunately know nothing of."

These pregnant expressions appear to admit quite fully that in the spread of leprosy contagion (in the sense of communication by touch, breath, clothes, &c.) plays only so small a part that it may be safely neglected and to assert that there is some other more efficient factor. Now those who advocate the food (or, more definitely, fish) hypothesis by no means ignore the bacillus. On the contrary, they assert that if only the living bacillus be received into the stomach it is efficient *per se* to the production of leprosy. The facts as to the disease in young children make this very probable. In this matter we are on the same platform with Dr. Hansen, if not, indeed, even more advanced in his direction than himself, since we are prepared to ignore all other "circumstances" if only the bacillus be received in the way mentioned. We have joined his camp in this belief, whilst he has now joined ours in denying the importance of precautions against other modes of contagion.

The question which remains open for debate between us is as to the nature of the "special circumstances" which are as a rule required in order "to stimulate the bacillus into action." He thinks that we know nothing of them. Some of us, on the other hand, hold that facts collected all over the world, and nowhere with more obvious pointing than in Norway, clearly indicate their nature. It is not, however, my intention on the present occasion to discuss that question. My object in asking you to publish this letter is simply to draw attention to the fact that our foremost authority on leprosy now definitely refuses to recognise the importance of precautions against contagion. Surely those who are responsible for the miseries of Molokai and Robben Island may suitably lay to heart Dr. Hansen's declaration that "leprosy is a disease which it is not necessary to have any particular dread of." I am, Sirs, yours faithfully,

March 2nd, 1905. JONATHAN HUTCHINSON.

THE INCIPIENT STAGE OF INSANITY.

To the Editors of THE LANCET.

SIRS,—Your annotation under the above heading in THE LANCET of Feb. 25th, dealing with a pamphlet by Mr. Charles Williams of Liverpool, quotes the latter as saying that his view, that from hallucinations alone a person should never be pronounced insane, is opposed to that generally held by the profession. According, therefore, to Mr. Williams the profession in general holds that from hallucinations alone a person should or could sometimes be pronounced insane. I entirely decline to believe that medical men, even excluding those specially engaged in the department of mental disorders (whom, however, he does not exclude), are so ignorant of the elements of psychology as such a view would imply, or so inferior to Mr. Williams in this elementary knowledge. Your annotation clearly conveyed to me that there was no reason to suppose that the general view in this matter differed at all from Mr. Williams's and that there was no likelihood of a diagnosis of insanity being made on hallucinations alone.

I understand him to say in the last paragraph of his letter that all the books on insanity he has read and all the superintendents of asylums he has spoken to teach and hold that persons suffering from hallucinations alone (for, of course, it is a question of these *alone*) are usually not insane. That is, they are sometimes insane. Will Mr. Williams mention the books which teach that hallucinations alone can constitute insanity and name the asylums where superintendents are prepared to receive and to detain persons suffering from hallucinations alone?—I am, Sirs, yours faithfully,

EDWIN GOODALL.

Joint Counties Asylum, Carmarthen, March 6th, 1905.

*** Mr. Williams did not represent our annotation correctly. We made no "complaint that persons suffering from hallucinations are not usually considered insane."—ED. L.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

To the Editors of THE LANCET.

SIRS,—As president of the Medico-Psychological Association and in that capacity chairman of the meeting held on Feb. 23rd at the North Riding Asylum I write to correct the report of proceedings published in your issue of March 4th on page 585 as it is inaccurate in a very important particular.

The Medico-Psychological Association at its last annual meeting decided that the period of training for nurses and attendants, before examination for the purpose of obtaining the certificate of competency in mental nursing, should be extended from two to three years, so as to bring the period of training in asylums into line with that in general hospitals. The resolution, which was moved by Dr. J. Carlyle Johnstone and seconded by Dr. E. B. Whitcombe, was not framed for the purpose of disturbing this principle but with the object of insuring that the entire period of training must be served in one institution. The amendment, which Dr. T. Outterson Wood proposed, contained no reference whatever to limiting the period of training to two years as is represented in your report and it may be said that there is no more ardent supporter in the association of the recent lengthening of the period of training than Dr. Outterson Wood. His amendment was framed with the purpose of allowing that the period of training already fixed at three years should be spent in not more than two institutions. This was adopted by the association. The error in your report which I have referred to so entirely misrepresents the action of the association that I venture to ask you to publish this comment.

I am, Sirs, yours faithfully,

Queen Anne-street, W., March 7th, 1905. R. PERCY SMITH.

*** The reporter who supplied us with the account of the quarterly meeting of the Medico-Psychological Association of Great Britain and Ireland, referred to above by Dr. Percy Smith, endorsed his copy with a note to the effect that he sent the report "authorised by the secretary of the Medico-Psychological Association and at his request."—ED. L.

PROPOSED AMALGAMATION OF THE MEDICAL SOCIETIES IN LONDON.

To the Editors of THE LANCET.

SIRS,—I feel sure the majority of the members of the medical profession in London hail with satisfaction the proposed amalgamation of the medical societies. For some years I have thought what is required is the establishment of an Academy of Medicine in London, for which I trust the [illegible] In this academy the various [illegible] sections dealing with the [illegible] surgery, and obstetrics. The members of the societies would become *ipso facto* members of the Academy of Medicine, but the Fellowship of the academy should be conferred as a mark of distinction on those members who were in the opinion of the executive worthy of that honour. Further, by amalgamating the funds of the different societies it might be possible to acquire additional property in Hanover- [illegible] other accommodation. [illegible] this proposal would be [illegible] who might with dignity acquiesce in such a change whilst objecting to be incorporated in another "society" as has been suggested. I hope, however, an opportunity may arise for discussing this proposal at the meeting of the representatives of the different societies.—I am, Sirs, yours faithfully,

FREDERICK J. MCCANN, M.D. Edin., F.R.C.S. Eng.,
M.R.C.P. Lond.

Curzon street, Mayfair, W., March 6th, 1905.

TREATMENT OF PERFORATED GASTRIC AND DUODENAL ULCERS.

To the Editors of THE LANCET.

SIRS,—May I say a few words in answer to Mr. W. Bruce Clarke's letter in THE LANCET of March 4th, p. 600? The eight successful cases of perforated gastric ulcers published in THE LANCET last July were operated on 4, 5½, 10, 12, 17, 24, 24, and 48 hours after perforation. The only unsuccessful case had come about 100 miles by rail and was not seen until the third day after perforation when she was practically moribund. All the cases were treated by irrigation and suprapubic incision except one case of leaking subphrenic abscess. The fluid in the pelvis is noted as "foul" in three of the cases, "turbid" in two, and "gastric" in three. I still believe that irrigation combined with suprapubic drainage is the best way of cleansing the pelvic peritoneum and seeing that nine out of 11 cases of gastric or duodenal perforation treated in this way at St. George's Hospital have recovered I cannot allow that it is either "unnecessary" or "harmful."

I am, Sirs, yours faithfully,

G. R. TURNER.

Half Moon street, Piccadilly, March 6th, 1905.

SCHOOL GREEK IN SOME OF ITS NATIONAL ASPECTS AND THE *VIA MEDIA*.

To the Editors of THE LANCET.

SIRS,—Dr. William Ewart in his letter which appeared in [illegible] no less than her elder sister has decided upon the retention of Greek, so that for the present, at any rate, the matter is settled. It is probable that if Greek were given up it would not be long before the advocates of modernity would turn their attention to Latin on the plea that this is also a dead language. Latin, no less than Greek, is wont to be forgotten as years go by and it may be of interest to your readers if I quote a conversation which I overheard at a concert at Queen's Hall on Sunday afternoon. Sitting behind me were a man and a woman, the latter frankly ignorant and anxious to learn, the former no less ignorant but unaware of his ignorance. The woman remarked, "I wonder no corresponding word for 'going in' has been invented on the lines of 'exit.' I should think 'insit' might do." Whereupon the man replied, "My dear, if you knew Latin you would not say such silly things. 'Exit' means, he goes out. Exsum, exes, exit." Probably this man had had the usual school education, but because he made such an egregious blunder is it any reason that a student of science who has daily to use words derived from Latin or Greek should be deprived of the training which with a little application would enable him to use them aright? I am, Sirs, yours faithfully,

March 6th, 1905. M.A., M.D. OXON.

THE EPIDEMIC OF TYPHOID FEVER AT LINCOLN.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(Continued from p. 604.)

Lincoln, March 6th.

THERE can be no doubt as to the prevalence of a wholesome feeling of discontent throughout Lincoln. This may be productive of great good if its strength is not divided and diverted into different directions by party politics. The feeling that the town has been misgoverned is widespread and this again would be very fruitful if the electors could bring themselves to realise that this is as much their own fault as the fault of those whom they elected. For instance, the most general complaint is that no timely warning was given and the people were only called upon to boil their water when it was much too late and several hundred persons had entered upon the period of incubation. This is true as a matter of fact but as a matter of policy there is another point of view. So late as the year 1903 as many as 32 cases of typhoid fever were notified and yet no epidemic ensued. On the contrary, during the following year up to the month of October only six cases were notified. Then there occurred the one solitary case on Dec. 2nd. It happened, however, that from Dec. 22nd. to 31st there were ten more cases; still, and even then, there were only 17 cases in all for the entire year and this is but a small figure. The suspicious feature about it is the fact that the last ten cases came close one upon the other. With the month of January matters became still more threatening; nevertheless, up to Jan. 23rd there were only 18 more cases. The town council was not absolutely asleep or indifferent. On Jan. 2nd it had sent samples of the water to the Clinical Research Association in London for examination. The reply was not received till Jan. 18th and it is now said that the corporation should not have waited but should have warned the people at once. Of course, all sanitarians would agree with such a principle and urge that the moment there is suspicion of danger and without waiting for analyses and lengthy bacteriological examinations, clear, emphatic warnings should be issued and full precautions should be taken. Therefore when the authorities felt sufficiently alarmed to send samples of water to be analysed—that is to say, on Jan. 2nd last—they should have issued warnings. As it is, they waited till they knew the result of the analyses—that is, till Jan. 18th, and then on the next day issued 13,000 handbills warning the population.

Supposing, however, that warnings were published from the very first, what would have been the position of the corporation if no epidemic had ensued? Undoubtedly the outcry and the dissatisfaction resulting would have been loud and keen. The corporation would have been denounced as mischievous alarmists who had driven the visitors and the trade from the city. But the most peculiar part about the matter is that the more successful the efforts of the corporation the more certain and the more virulent would be the abuse that they would call down upon themselves. Thus, if it is possible—and this is very doubtful—to issue warnings in such good time as completely to prevent any cases of typhoid fever occurring, then assuredly the corporation would be violently blamed for raising a false alarm. It is only in the event of the warnings coming too late to prevent the mischief that the corporation could hope to escape blame for creating unnecessary alarm. This obvious but disconcerting fact clearly shows that the authorities are placed in a false position and exposed to a cross-fire of criticism from which there is no escape. The cause is the conflict of interests. If the protection of public health was the only duty and object of the corporation the matter would be simple. But, as a rule, and when there is no startling epidemic to alarm the population, the elector thinks a great deal more about saving the rates and promoting trade than he does about the problems of water-supply, drainage, disposal of refuse, prevention of jerry-building, and kindred sanitary questions. It is for the purpose of saving the rates and avoiding any sort of action that may alarm and drive away trade that corporations blunder into epidemics. The people only perceive when it is too late that in the long run they have lost more than the cost of taking proper measures in good time. Will this lesson be effective at Lincoln? Will the inhabitants insist that before the interests of local trade and the reduction of taxation stands the question of public health; that the preservation of public health, however expensive at first, is in reality the truest of all economies.

In thus seeking to preserve the public health what will have to be done besides securing a pure water-supply? Looking at the distribution of the cases over the town and noting which are the streets and districts principally affected, there is some reason to believe that it will be necessary to take in hand the question of sewer-ventilation. Lincoln for the most part drains into small pipe sewers. These were laid down on the understanding that the separate system would be adopted. As a matter of fact, however, the sewers not only receive the sewage proper from the soil-pipes of the houses and the slops from the kitchen sinks but a very large amount of rain water from the backyards, the back portion of the roofs of the houses, and also used water from tan-yards and other industries. Thus there is more sewage in bulk than was intended in the first instance and, in consequence of the various industries, it is a more concentrated sewage than would have been the case had it been limited to domestic drainage. It is only the rain water that falls on the fronts of the houses and in the streets that does not penetrate into the sewers but flows along gutters and surface drains to the nearest water course. As already mentioned, there is no natural outfall for the sewers. By gravitation, and in some places the fall of the sewers is very slight, the sewage reaches a pumping station situated close to the city. Here there is a receiving tank and as the main sewer approaches the pumping station it is enlarged so as to form a sort of reservoir, where the sewage can accumulate till the pump is able to lift it and to send it on to the sewage farm which is further away from the city. But it is not a very large amount of sewage that can accumulate at the pumping station and its immediate vicinity. There is not space, for instance, for 100,000 gallons and when that amount or more is waiting to be lifted on to the sewage farm then it must flow backwards towards the town. In a word, the sewers become waterlogged. Consequently, the question arises whether any extra pressure of this description, affecting the internal condition of the sewers and driving an extra amount of sewer air out into the town, occurred before the outbreak of the present epidemic. As every gallon of sewage has to be lifted by a steam pump and every stroke of the pump raises the same volume of water the actual amount lifted is known most accurately. For the year ending March 2nd, 1902, the average amount of sewage lifted per week was 8,983,942 gallons. For the year ending March 31st, 1903, the weekly average was 8,799,693 gallons; but for the year ending March 31st, 1904, the weekly average was 10,706,731 gallons. This is a daily increase of nearly 300,000 gallons. Much more air, therefore, must have been forced back into the city and yet we are told in the city surveyor's report for that year that in various parts of Lincoln there were 218 ventilating pipes in connexion with the main sewers attached to private property, and that of this number one had been erected during the course of the year. While, as compared with the previous year about 90,000 000 more gallons of sewage filled the sewers and forced the sewer air out there was only one single addition made to that form of ventilating which consists of pipes running up the sides of private houses Judging from such figures it does not seem as if increased facility for ventilation had been provided to meet the increased necessity for such ventilation

When an epidemic is in progress the local officials are so overwhelmed with work that it is difficult to obtain minute information In spite of this however everyone was most anxious to help my investigations and I have to express my gratitude to the medical officer of health the assistant medical officer of health the city surveyor and the clerks in the corporation offices for their courtesy and patience though I persisted for hours together in studying their maps and figures Still, I felt that while the officials were busy in providing for the urgent needs of patients actually suffering I could not be too sparing in the questions put to them considering the amount of time that would be absorbed by answering these questions Thus for instance I have not obtained complete statistics as to the amount of sewage in the sewers during the whole time of the epidemic Still, I did ascertain that during the week ending Nov 13th last the *engine at the pumping station* had to lift out of the sewers and to send on to the sewage farm 8 200 000 gallons of sewage The next week ending Nov 20th there were 9 600 000 gallons I do not give the odd figures On Nov 27th there was a further increase to 10 500 000 gallons On Dec 4th the amount was above the average—namely 10 770 000 gallons while for the two following weeks those ending on Dec 11th and 18th there was a much greater increase—namely 11 430 000 gallons and 12 900 000 gallons Indeed, it is admitted that there was an increase over the normal quantity of sewage equal to about 25 per cent for a few weeks preceding the epidemic If therefore by forcing out of the sewers a larger amount of air than usual a greater predisposition to typhoid fever is created the statistics derived from the pumping station at Lincoln are quite in keeping with such a theory There was extra pressure for some weeks before the commencement of the epidemic During that time the sewers were water logged to a larger extent than usual Of course it must be borne in mind that the difficulty rests not so much in regard to the volume of sewage but in the fact that the greater part of it comes in the morning and the amount of work done in pumping is not evenly distributed over the whole day If this were so taking the last and highest annual figures given they amount to a daily average of 1 529 533 gallons and this is only 64 000 for each of the 24 hours The pump can easily lift 100 000 gallons in an hour But that is not the way sewage comes Even when it is not influenced by rain the greater part flows at special times and not all the time, and this it is that causes the accumulations in the sewers

There is not only the general question of forcing air out of the sewers by the accumulation of water in the sewers but it is necessary to study with even greater care the places where that air escapes and the connexion such escape may have with the actual cases of disease If it can be shown that those localities where the greatest quantity of air escapes from the sewers have suffered more than those localities not so affected the case will be much stronger It is possible however, to go even further than this and to compare not only locality with locality street with street but house with house

Such an investigation would take much time and require a very intimate knowledge of minute details Nevertheles and though as yet much still remains to be seen and examined the results already attained are certainly interesting and suggestive Perhaps the most characteristic district is that already mentioned which though inhabited by the lowest and poorest class has been remarkably free from typhoid fever This district is bounded on the south by the river Witham, on the east by the railway to Grimsby and Hull and I would take Montague street for its western limit Within these limitations is comprised about a third of the river embankment known as Waterside North Here the main collector passes and there have been ten cases of fever but it is not easy to ascertain how many of these occurred in the smaller portion of the embankment that forms the southern boundary of the district now described Then Croft street and its continuation known as Winn street, may be taken for its northern boundary and these streets run of course, from east to west Towards the eastern end of this district there is a syphon which passes under the river Witham and conveys the sewage of the northern half of the town to the pumping station which is but a short distance on the other side of the river The district in question is the

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The ordnance map gives the level of the lowest part of the water side embankment at 15 feet , this is at its eastern extremity It then rises to 16 feet and attains 18 feet at Montague street which is the western extremity Going to the northern line where Croft street traverses Montague

stree the level falls to

20 9 then this street

ascer ther eastwards

In a n is from five to

seven or eight feet so that it is comparatively flat Here is the district which has not suffered much from typhoid fever Being nearest to the river it was inhabited early and the older property has degenerated and is now tenanted by the poorest classes Immediately north another district of

about the same size is

better class of inhabi

former district would c

second district the east and west would be likewise bounded by the railway and by Montague street and the northern demarcation line would be Monks road Here at the top of Montague street the level is 58 feet—a rise from Croft street of 31 feet At the top of Baggolme road the level is 49 feet and just below where Croft street merges into Winn street the level is 20 7 feet Further eastwards the rise is from 22 to 45 feet Therefore the rise in this district varies from 23 to 31 feet Indeed this is the beginning of the hill that leads up to the cathedral

The record of the cases of typhoid fever is not as yet absolutely accurate in regard to their topographical disposition Though some omissions may have been made and *some corrections* will be necessary the general bearing of the facts will remain about the same For the lower district described above there are recorded 30 cases, but of these ten cases occurred in Cannon street and seven in Winn street others in Lord street and Eastfield street, in fact a good two thirds of the cases are located in the upper half of the lower district Then going over to the higher and better class district I found 39 cases Thus where the houses are not more than five feet above the river level there seem to have been only about ten cases in which I include four out of the ten cases occurring on the lengthy embankment called Waterside North On the other hand in the houses standing on ground that is from six feet to 40 feet above the waterside level there were some 50 cases and the higher above and the further from the river the better *the class of property* These better class houses are inhabited by the more prosperous section of the artisan class and by members of the small trading class Whereas the property near the water is inhabited by hawkers beggars, and tramps yet it is these who have suffered least though they all drink the same water

To explain this difference this unexpected susceptibility of those who enjoy what at first sight appears to be better sanitary conditions it would be necessary to trace the course followed by the sewer gases as they are forced out of the water logged sewers The pressure being from below and the air being warmed in winter because the sewer is warmer than the street the tendency of the sewer air would be to travel upwards The ventilating pipes and the manholes in the streets on the lowest levels cannot act as ventilators when the sewer is water logged There is no open space for them to ventilate since the sewer below them is full Ventilation is then only possible at the higher levels and the question to be solved is whether the houses where the greater number of cases have occurred received more than what might be described as their fair share of deleterious atmosphere pumped out upon them from the sewers What I have seen certainly helps to bear out this suggestion In Winn street I visited three houses standing side by side There had been no case in the middle house and here at the back a pipe sewer ventilator went up to the roof The north and

before the epidemic

of this ventilator

ouse where there

had been a case of typhoid fever While this may be noted at the back of the house it should be observed that there is also a manhole over the sewer just in front of the house. In the third house there had been two cases of typhoid fever and two cases of scarlet fever. At the back there was another sewer ventilating pipe, but what was particularly significant is the fact that this pipe had been broken off at the top. Instead of being carried upon and above the roof of the house the pipe abutted immediately under the ledge of the roof. The air coming out of this pipe would therefore strike the ledge of the roof and would be deflected downwards. Following the wall the sewer air would reach the upper portion of the two windows of the two bedrooms situated on each side of the pipe. The mouth of the pipe was not more than two feet or so from these windows and it was precisely those persons who slept in the two rooms thus exposed to the invasion of sewer air who fell ill with typhoid fever and with scarlet fever.

In the Monks-road I found another equally significant combination of circumstances. Here in a very pleasant looking villa close to the park and well situated on the wide road there have been two cases. The first was that of a young lady whose bedroom window overlooked the road manhole. Such bad odours escaped from this manhole that the inhabitants of the house often poured down bucketfuls of disinfectants in the hope of reducing the nuisance. The lady's brother was the second to fall ill from typhoid fever. His bedroom window was round the corner of the villa overlooking the side street. Immediately by his window a sewer ventilating pipe goes up to the roof of the house. No odour, I was told, had been noticed coming down from the roof but there is a joint in the pipe about five feet above the ground. There was no lead or cement in this joint and the two pieces of the cast-iron ventilating pipe fitted so badly that the sewer air came out freely. The odour could easily be detected. It blew into the side door which was close by and thence into the pantry where the food is kept, or else it ascended up to the window of the room immediately above. It was in this room that the brother who contracted the fever was in the habit of sleeping. Several other houses where there had been cases of typhoid fever were also especially subject to receive air escaping from the sewer but of course there has not been time yet to go into this matter thoroughly. Still, and though these incidental cases must not be taken as conclusive, they do suggest a possible connexion between the escape of sewer air and the greater prevalence of fever in certain districts, streets, and houses. If that can be more conclusively demonstrated than is possible in this preliminary examination of local conditions then we have yet another proof that the ventilation of sewers is, generally speaking, a question that has not been satisfactorily solved. At Lincoln as much attention has been devoted to this matter as in most other towns and yet the present state of affairs seems fraught with no inconsiderable danger.

TUBERCULOSIS IN FRANCE.

(FROM A SPECIAL CORRESPONDENT.)

L'Œuvre des Enfants Tuberculeux.

IN view of the International Congress against Tuberculosis to be held in Paris next October English readers may be interested to become acquainted in advance with L'Œuvre des Enfants Tuberculeux. This popular society, having for its object the free treatment under ideal conditions of tuberculous children, was founded under its modest title in 1888, when a country residence at Ormesson, 26 kilometres outside Paris, was given for the purpose and was opened to receive 12 patients. In 1894 it received the well-recognised distinction of being officially declared to be of public utility. The moving spirit of the movement has been Dr. Léon-Petit, its secretary-general; but its list of supporters, members of committee, and past presidents include Dr. Brouardel, senior French representative at the London Congress; Dr. Hérard, President-elect of the coming Congress in Paris; Dr. Hutinel, professor of pathology; Dr. Blache, its late president, and Dr. Grancher from the medical profession; M. Jules Simon, M. Georges Picot, M. Casimir Périer, and M. Emile Loubet from the world of literature and politics, and a considerable number of well-known names belonging to the old French aristocracy. At the annual meeting held on Feb. 9th the Agricultural Hall of Paris was packed full of the society's supporters, most by appearance of the *bourgeoisie*, who stood for hours in the doorways and stairways listening to the speeches, which lasted two hours, before they could be rewarded with a first-rate programme of music and recitation provided by popular actresses and platform musicians. To English minds, accustomed to Mansion House meetings and charitable funds on a vast scale, a national work spending under £8000 in the year on 400 tuberculous children would hardly seem likely to present any very thrilling interest. But organised philanthropy is still in its infancy in France and in philanthropy, as in everything else, the Frenchman makes the most of what he is spending and the meeting was an enthusiastic success. The visit to the hospitals here described was kindly arranged in special honour of the visitor who was received a couple of days later at the station of Villiers-sur-Marne by Dr. Vaquier, the physician in charge, who is also allowed to engage in private practice. Villiers is 21 kilometres out of Paris from the Gare de l'Est, and standing high it commands a fine distant view of the city, embedded away to the west towards late afternoon in the golden haze of a wintry sunset. The three hospitals of this society all lie within a few miles of each other to the E.S.E. of Paris. The most recent, that at Noisy-le-Grand, which is passed in the train, was opened only two years ago for girls of from three to 10 years of age. The first at Ormesson has about 100 beds for small boys from three to ten, while that at Villiers has nearer 200 for boys from 10 to 16 years of age. All alike are managed by religious sisters of Sainte-Anne, women devoted to the work although devoid of any previous systematic professional training, but the older boys at Villiers are managed as regards discipline and education by men of similar standing to board school masters.

The small boys' hospital, or sanatorium as we should call it, at Ormesson is centred round a country house given for the purpose in 1888. This is now used by the seven or eight sisters who control the whole management and do most of the menial work themselves. On one side there has been added a fine, lofty, and spacious dining hall, with kitchens at the end and long windows down either side. A hundred little boys were standing in blue smocks beside two long tables and as the sister gave the command by a wooden clapper they recited a grace, crossed themselves, and sat down to their afternoon milk. Children of any creed or race are received without distinction; but as there is a bright little Roman Catholic chapel and the discipline is in the hands of *réligieuses* it is probable that all have to conform for the time to Roman Catholic practice. The dining hall looked bright, clean, and airy but there is a great objection to the French windows, which open down their whole length or not at all, insomuch that during most of the year the children sit with closed windows. Hot air is certainly admitted freely but its freshness is always open to suspicion, even if it does drive out the stale air through the outlets designed for the purpose in the roof. This appears to be a radical defect in house construction throughout France and above all in houses intended for the treatment of pulmonary tuberculosis. From the central building are also built out at either side two long, spacious dormitories, floored in wooden parquet and equipped with nothing but simply furnished beds and a few chairs; while at the end are the lavatories, baths, and water-closets without wooden seats; small sleeping rooms for the sisters in charge; a room at each end for isolation of infectious cases, for instance, of measles or scarlet fever, which have hitherto been here successfully isolated; and along the southern face of each dormitory runs an open, flagged verandah. Finally, this southern face is completed by a fine, lofty hall, built up against the original house; floored in linoleum, with tiled and painted walls and rounded corners, equipped with low benches and a few long chairs for invalids, and used as a playroom in all weathers. The grounds to an English eye are dull and uninteresting, with long stretches of rough gravel and no signs of swings or games. At the entrance is a pavilion in which relatives and friends are received and where they can see the children.

The big boys' hospital at Villiers is now a considerably larger affair. Based on a house belonging to M. Bonjean who took in ten waifs in 1891, it was enlarged by a couple of wings to take in 40 tuberculous children in 1892. In 1893 £5000 from the Pari-Mutuel enabled the society to build a hospital ward and gallery and by an extensive popular subscription, entitled "Les Enfants de France," a new pavilion of large dimensions was inaugurated by M. Faure in 1896

and dedicated to the memory of Villemin the military surgeon who described
who is celebrated by
as also by a good statue
the chief donors amongst the 12 000 subscribers are set out in detail on the wall of the staircase Finally, there have just been completed the workshops for making clothes and boots and the long covered playroom on one flank of the building and on the other the workrooms, laundry, and machine house in which a gas engine runs a dynamo and pumps water for the establishment Owing to the workshops the staff of sisters here numbers 25

The Pavillon des Enfants de France is certainly of a remarkably original and interesting design It is built in two floors—ground floor and gallery—round a large, open central space The gallery is of light iron and wood construction and the whole impression is like that of a museum, the place of the cases being taken by very frigid looking beds or in the central slightly sunken well by a few stiff chairs and tables The building measures some 120 feet by 70 feet and is nearly 60 feet high, with a half glazed roof and English sash windows all the way round on both floors The beds were ranged mathematically round the gallery and round the outer region under the gallery on the ground floor At the corners were windowed cubicles for the *surveillants* On both floors were doors opening into lavatories bathrooms (three baths to each floor), and dressing rooms This pavilion is used as a sleeping room only at night Patients confined to bed are retained in the olde
ke an ordinary hospital ward,
side where they can be quiete
ne of the sisters Round the house is a good garden on which some care has been expended to asphalt the paths and to keep down the dust in summer It is difficult to say, at least without spending some time as an inmate if any advantage is gained by a large, open pavilion such as this at Villiers Given English windows and the recognised English demand for fresh air, it is probable that tuberculosis may be as well treated in a bedroom or ordinary ward as in any of special size or design The French public however even more than the English, have a rooted aversion to cold air, preferring hot and stale at all costs If the windows then are of French design or if being on the sash principle they are kept closed throughout the night there is some real excuse for the eccentric design of the Pavillon des Infants de France As to artistic merits, the worker in English hospitals is completely spoiled for any appreciation of French wards The religious sister, the *surveillant* the *infirmier*, all alike seem to work by hard and unbending rule of thumb The discipline appeared rigid, there were no signs of spontaneous gaiety amongst the children who appeared to be essentially at school, in no ward apparently was there a piano or picture or note of decoration and there were no cushions or ribbons, no flowers and no toys If the womanly touches familiar to our English wards despite the alleged professionalism of our nurses be thus absent surely there must be a corresponding lack of that sympathy which at all ages is a strong power for good and in childhood is one of the most important factors in any treatment

The general stay of a child in hospital is from two to six months Many stay for longer some for years, but it is best to send them back if possible within half a year for after that length of absence the parents become unwilling to take them home at all The numbers treated were in 1903 for instance, at Ormesson 167, Villiers 149 and Noisy le Grand 79 total 395 Their average stay in hospital was 71 days, and the general result of several years past has been a mortality of 10 per cent and an apparent recovery rate of from 25 to 27 per cent Cases are admitted by recommendation of the family medical adviser declaring the existence of pulmonary tuberculosis, corroborated by examination at the hands of a medical admission committee and by a domiciliary visit paid by female inspectors The year's expenses include £800 invested, £2000 for central stores drugs and shops, £1300 for dispensary and offices in Paris, £900 for Ormesson, £2000 for Villiers, £1100 for Noisy, and £250 for a now extinct sanitary colony at Trénilly, total, £8600 The upkeep of a bed is quoted at £20 a year Any subscriptions from 8s a year upwards qualify for membership of the society of varying grade

Le Dispensaire Antituberculeux Emile Roux de Lille

An English visitor to Paris may well stop on his way through Lille and see M Calmette's antituberculous dispensary as a type of work which has a future before it of the very first importance There is a Fédération des Œuvres Antituberculeuses Françaises the monthly organ of which, entitled *La Lutte Antituberculeuse*, gives from time to time most excellent accounts of the theory and practice of these dispensaries but a few brief notes may not be out of place in the pages of THE LANCET to follow the account given of sanatoriums on the ordinary plan at Bligny, Ormesson and de Villiers The principle may be briefly stated Tubercle kills 150 000 Frenchmen every year, a population equal to that of Rouen or Nantes, the friendly societies spend £160 000 a year on 75 000 cases of tubercle £8 000 000 would be required to build and £3 000 000 yearly to maintain the sanatoriums required for their treatment And the treatment is long, doubtful, and unacceptable to most working people Without in any way underestimating the value of sanatorium treatment as the ideal, especially for curable cases, the present movement has as its object to initiate dispensaries in the towns as the indispensable adjunct of the sanatoriums Its essential aim is not that of charity, to supply medical advice and to distribute drugs or doles
to save to the State as m
as possible The dispe
school for adults It seeks therefore, to find out all cases of poor consumptives, to attract them and to keep control of them to understand their local conditions to advise them either to apply for sanatorium or other hospital treatment for themselves or at least to take steps to prevent the spread of infection, and for these ends to give them material assistance in the unequal struggle with disease in which they find themselves placed through no fault of their own Lille is chosen as a sample of a great industrial city in which, out of a population of 220 000 persons there are 6000 poor consumptives of whom from 1000 to 1200 die every year

The precise method employed at the dispensary is as follows A new case is received from 4 to 6 on any week day evening and from 9 to 11 any Sunday morning, and is given a card for consultation on a particular day at a particular time so as to avoid his being kept waiting, together with a pocket spittoon in which he is to bring a specimen of his sputum At the appointed time he is seen by the medical director or one of his three assistants, who makes a thorough physical examination and verbal investigation of the case and registers the details on his clinical history sheet
his family history, habits,
suspicion of tubercle the
r, tubercle is diagnosed or suspected he is given a carefully worded pamphlet (which is fully explained to him) of instructions as to the precautions to be taken and his own interest in the matter, he is supplied with pocket and table spittoons and a litre of lysol and is told when to come for a second visit The next step taken by the dispensary is the personal inquiry by a working man It is recognised that none but a working man can fully be received as his equal by a working man or can be expected to find out the exact conditions of his life or to enter fully into his difficulties in suggesting plans for its amendment A working man M Haenjens has therefore been engaged by the dispensary, himself formerly a woolcomber and secretary of a benefit society who speaks both Flemish and French and has been thoroughly trained in the principles of domestic sanitation and the fight against tubercle He now pays a visit to the home of the patient and is usually able, with a hearty
report already
surroundings
double report
director of the

time, if necessary he is provided with a weekly payment for a fresh lodging Through the dispensary he may be fur
bed and clothing and some 120
relief in the shape of orders
instances at random from the
order book—30 litres of milk for the month a month's lodging or supplies of eggs meat, or coal Some are given warm douches every day, some are relieved of the care of their children who are billeted out on other families or sent to the sea sanatorium at Luydcoote near Dunkerque This

year it is hoped to send a few select and curable cases with their families to small, healthy houses, especially built for the purpose, out in the woodland and the country air.

The Emile Roux dispensary at Lille was founded in 1901 as the result of a public subscription, doubled by a vote of the municipality, which also provided an admirable site in the Boulevard Louis XIV., where it is now almost hidden between the imposing Pasteur Institute on the one side and the city walls on the other. It is essentially, as desired, in the poor and industrial quarter of the town. It is simply built—a one-floored building measuring 42 by 35 feet besides annexe—with ample accommodation for a large out-patient attendance, every attention being paid to the requirements of light, air, and cleanliness. Out of a good-sized waiting hall there opens on one side the office of the workman-inspector; on another side are a couple of medical consulting rooms with a dark room and a clinical laboratory for examination of sputa; on the third side are an office where all registers are kept and a passage leading to a glass-roofed hall where patients are accustomed to the use of a long chair and are taught breathing exercises. Beyond this is an annexe, including the douches, laundry, and drying rooms, and a room for the receipt, sterilisation, and distribution of milk. The total cost of building and equipment was £1440.

The information thus being collected is of considerable importance and interest. Of 592 patients examined in a year 261 were suspected of tubercle, 144 male and 117 female, 81 and 86 respectively being between the ages of 20 and 40 years. In the first three years during which the dispensary was open, 1901–03, 780 cases were diagnosed as tuberculous; most occurred in the months from February to July and least (5 per cent.) in the month of January. The first six decades of life contributed respectively 9, 129, 271, 238, 105, and 26 cases, five only being diagnosed in persons over 60 years of age. The majority belong to the textile or clothing industries; and come from the most crowded and least airy quarters of the city. Physical overwork, according to a recognised criterion, was found in 98·22 per cent., insufficient feeding in 71·26 per cent., alcoholism in 15·32 per cent., defective sanitation of workshops in 16·09 per cent., tuberculous parentage in 20·68 per cent., other tuberculous relationship in 19·54 per cent., and contagion only in 9·19 per cent., being two cases in public life and 22 in marriage. Most live in small rooms, in overcrowded rooms, or in rooms with only one window or skylight. Of the 152 invalids receiving material assistance on an average for six months in 1903, 51 increased in weight an average of eight pounds, 38 remained stationary, and 63 diminished an average of five and half pounds. For medical results, 17·76 per cent. are returned as improved, 25·65 as stationary, 19·73 as aggravated, and 36·84 as dead.

The cost of the establishment is comparatively slight. The medical service, including the director, costs £126; inquiries and sanitation of rooms, £84; cleaning and administration, £90; laundry, £64; spittoons, £13; with other general expenses amounting to a total of £550. The material assistance to 347 families in 1903 amounted to £966, including £360 for milk, £284 for eggs, £160 for meat, £80 each for coal and lodging, and £18 for sending children to the sanatorium. The total cost of the dispensary, therefore, for the year was 37,850 francs, or £1514, or roughly £10 for each invalid and his surroundings. It may be objected at first that the material assistance is in danger of pauperising the invalids, and this will undoubtedly be the case if proper care is not taken. But the essential object of this material help is to attract and to keep in touch with the adult pupils of this antituberculous school, and, consistent with the attainment of this object, it rests with the director and, above all, with the workman-inspector to see that the funds are used to good advantage. The essence of the system, in fact, is the workman-inspector, and considering how easy it is in England to find men of this class coming forward to pass the examinations of the Royal Sanitary Institute and to compete for the position of sanitary inspector there should be every hope of the system being adopted with good effect in some of our large English cities. Dr. A. Newsholme and others have decided that the great work of a sanatorium for tuberculosis is to train its inmates for their future life at home. This training needs to be confirmed, continued, supervised, extended, or supplemented by some such institution as the antituberculous dispensaries of France and Belgium, of which a most notable example is afforded by that under the guidance of Dr. Calmette at Lille.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

University Intelligence.

Mr. Jordan Lloyd, professor of operative surgery, has been elected to represent the Faculty of Medicine upon the Council of the University, *vice* Professor H. G. Barling who as Dean of the Faculty is *ex officio* a member of the Council.—The Huxley lecture this year will be delivered on Thursday, March 23rd, by Professor E. B. Poulton, M.A., F.R.S., of the University of Oxford.

Mentally and Physically Defective Children.

The school accommodation for mentally and physically defective children was considered at the last meeting of the Birmingham education committee. Mrs. Hume Pinsent presented the report of the special schools subcommittee, from which I gather that there are about 1000 mentally defective children in the city, less than half of whom are receiving instruction in special classes. Excluding feeble-minded cripples, who are not eligible for any school in Birmingham, it is estimated that school accommodation should be provided for 600 feeble-minded children, whereas at present there is only accommodation for a little over 300. The scheme submitted by the subcommittee further included the provision of a boarding school in order to organise and to complete the work done for defectives. It was pointed out that the industrial homes for the feeble-minded which are about to be erected by the Poor-law guardians will be incomplete without some such boarding school. It was stated that the effect of adopting the scheme would be that an adequate education would be given to 1000 feeble-minded children at an annual cost of £10,000 instead of, at present, an inadequate education to 500 at an annual cost of £3400. In the discussion which followed most of the speakers were in favour of the scheme and the report was finally approved, with the exception, however, of that part relating to the boarding school.

Increase of Lunacy.

Councillor Davis, the chairman of the lunatic asylums committee of the city council, in a recent address gave some statistics which although they were selected arbitrarily may be taken as showing that there has been a 100 per cent. increase of patients suffering from lunacy during the last 40 years in Birmingham. He expressed the opinion that drink was accountable for a greater proportion of the cases of insanity in Birmingham than in England as a whole and that drink and hereditary influence were respectively accountable in Birmingham during the quinquennial period of 1898–1902 for 17·9 per cent. and 26·8 per cent. of the admissions. He considered that in view of the large proportion of cases due to the latter cause something should be done to prevent insane patients having children.

The Unemployed.

The conference to which I referred in my last letter as shortly to be held between representatives of the city council and the three local boards of guardians was well attended. The feeling of the meeting was favourable to the acceptance of Mr. Fels's offer to lend land for the formation of a labour colony and a subcommittee was appointed to consider the details of the scheme. One of the difficulties in the way, according to one of the speakers, was that if land could not be obtained in the neighbourhood of Birmingham the authorities would either have to send out the men by railway or to provide barracks for them. Professor Muirhead of the University contributed some notes upon the conference to the press. He thought that the continental labour colonies had been a failure and that before embarking on such expensive schemes we should give a more prolonged trial to labour registries, that children should be more frequently brought up with a knowledge of some trade, and that membership of the various workmen's societies should be more universal. He expressed himself as not altogether in favour of work relief in preference to relief in food or money, since those engaged in such work were often unsuited and during the time they were at work they were prevented from seeking employment in their own trades.

Housing in Birmingham.

Some years ago certain land at Bordesley Green was acquired under the Housing of the Working Classes Act for the purpose of erecting artisans' dwellings thereon. The scheme failed to receive the sanction of the council and it is now proposed to let out the land to private builders with the same object in view. It is said that several offers have been received and that shortly a recommendation will be made to the city council.—By the opening of Rowton House, Highgate Park, Birmingham is now possessed of a "workmen's hotel," which it is hoped will prove a boon to poor respectable single men. It is built after the style of the Rowton houses in London and sleeping accommodation is provided for 819 men. The company has a nominal capital of £50,000, all but £3000 of which has already been subscribed. The entire cost of accommodation for a day and a night is 6*d.*, and including the cost of his food it is estimated that a man may live comfortably for from 9*s.* to 11*s.* per week.

Medical Charities.

The Blackwell Sanatorium, which has been undergoing alterations and additions, will soon be completed. As a result of the change there will be 20 additional beds provided. It is all the more unfortunate that this improvement should be coincident with a falling off in the subscriptions. The Birmingham General Dispensary and the Children's Hospital also report a debit balance upon the work of the last year. So great has the out-patient work become at the latter institution that the medical staff has found it necessary to limit the number of new patients to be seen to 65 per day.

A Return of Small-pox; Health of the City.

A case of small-pox was reported on Feb. 24th and on the day following it was ascertained that two other cases existed. The outbreak has been confined to one common lodging house. The usual precautions to prevent the spread of the disease were promptly taken and the patients were removed to the hospital. Apart from small-pox the general death-rate for the two last weeks of February has been very satisfactory—viz., 15·5 and 14·3 per 1000. There has been during this period a slight increase in the number of cases of scarlet fever and diphtheria. The health committee has reported upon the general statistics for 1904. The birth-rate was a low one—viz., 31·5 per 1000, against an average of 32·6 in the previous ten years. The death-rate was 19·3 per 1000, as compared with 17·2 in 1903 and 18·0 in 1902. The higher mortality rate was due to a severe epidemic of whooping-cough of a virulent type and to epidemic diarrhœa resulting from the long, warm, dry summer.

March 7th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Town's Memorial to the late Sir William Mitchell Banks.

THREE months ago a public meeting[1] was held at the town hall, under the presidency of the Lord Mayor, to initiate a permanent memorial of the late Sir William Mitchell Banks. In response to the appeal made for funds to attain that object it is gratifying to record that the sum of £5523 has already been subscribed. It was agreed by the subcommittee appointed to consider the subject to found two memorials. A lectureship is to be attached to the University of Liverpool and to be called the "Mitchell Banks lectureship," to which a sum of £1500 is to be devoted. The University authorities will be enabled to invite yearly a distinguished surgeon, pathologist, or anatomist to treat of the latest investigations and discoveries in medical science. As Sir William Banks had a long and honourable association with the Royal Infirmary the committee decided to perpetuate his memory in connexion with that institution by raising a further sum of £5000 to be applied to the cost of the contemplated new out-patient department at the Royal Infirmary and associating his name with the gift. A sum of £967 has still to be raised to accomplish the committee's desire and there can be no doubt that the required amount will be forthcoming shortly, as the idea of the memorial is popular with all classes.

Low Death-rate in the City.

At the meeting of the health committee of the city council held on March 2nd Dr. E. W. Hope (the medical officer of health) alluded to the death-rate of the city for the past week, which stood at 16·4 per 1000, as the lowest on record. The decline of the death-rate appeared to be general in the city. The saving of life was most marked in respiratory diseases, tuberculosis, and zymotic diseases. It was gratifying, too, that the decline was so marked in every age-period, notwithstanding that the weather had been more severe than 12 months ago.

The King and the University of Liverpool: Gift to the Anatomical Museum.

His Majesty the King has very graciously acceded to a suggestion that the skeleton of Ambush II., the famous steeplechaser from the Royal Stables which died some weeks ago, should find a place in the Museum of Veterinary Anatomy at the University of Liverpool. His Majesty was approached on the subject by Mr. J. T. Share-Jones, veterinary anatomist to the University, who pointed out in his communication that steps were now being taken to establish an anatomical museum at the University and that it was the ambition of those at the head of the department to secure, as far as possible, objects of historical as well as anatomical interest. The skeleton will be mounted and placed in a prominent position at the University museum and a plate will be affixed giving a short history of the well-known horse. This is the first presentation that has been made to the museum but other specimens of historical interest will no doubt be received from time to time. The veterinary school was formed towards the end of last year as a necessary adjunct to the University in such a centre as Liverpool.

David Lewis Northern Hospital.

It was stated at the annual meeting of the subscribers to this charity that the debit balance now amounted to £7034. The ordinary expenditure was £10,432, while the total income was only £8457, including £1897 18*s.* from the Hospital Saturday and Sunday Fund. Efforts were made to increase the number of annual subscribers but with a very poor result. The financial condition of all the Liverpool hospitals is not at all promising.

The New Director of Cancer Research; Admission of Women Students at the Royal Infirmary.

Professor John E. Shorrock Moore, F.L.S., has been appointed director of cancer research in succession to Professor A. S. F. Grünbaum. As professor of natural history at the Royal College of Science, London, Professor Moore is well known as an investigator in cancer. He has also distinguished himself by his explorations in Central Africa. The committee of the Royal Infirmary has appointed him a member of the infirmary staff in accordance with the terms of the donation that the research work in cancer should be carried on at the Royal Infirmary. The committee of the Royal Infirmary has agreed to the principle of admitting female medical students to the practice of the hospital on the same conditions as apply to male students. By the terms of the charter of the University of Liverpool all degrees are open to women.

Infirmary Extension at Chester.

An interesting ceremony took place at Chester General Infirmary on Feb. 21st to mark the completion of extensive [illegible] the out-patient department. [illegible] the old dispensary and small [illegible] to a roomy, well-lighted waiting hall; the consulting rooms have been improved, a new dispensary has been built, and a casualty ward provided. A copper plate is to be affixed to the new building explaining [illegible] been effected at a cost of £500 [illegible] the late Mr. John Alexander [illegible] authorised by the terms of the [illegible] the benefit of such charitable institutions as they should select.

March 7th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal Edinburgh Asylum for the Insane.

THE statutory annual meeting of the Royal Edinburgh Asylum for the Insane was held on Feb. 27th in the City Chambers, Edinburgh. The report of the ordinary managers stated that the daily average number of patients under treatment in new Craig House with the adjoining villas and at Myreside Cottage was 205 as against 207 during the preceding year. The average daily number of patients in the intermediate wards of the West House was 113 against 118 during the preceding year. On Dec. 31st, 1904, the total number of patients in Craig House and Myreside Cottage was 293 as compared with 295 in the previous year, while the intermediate patients numbered 104 as against 92. The private patients at the lowest rate of board numbered 53 as against 55, while the rate-paid patients numbered 464 as compared with 572 in the previous year. The total on Dec. 31st was 824 compared with 924 in the previous year. There had been a gross diminution in the average number of patients of 44, this being mainly due to the fact that the average number of rate-paid patients had declined by 41. In the course of the year 185 rate-paid patients had been transferred from Morningside Asylum to the District Asylum at Bangour. The ordinary income from all sources (exclusive of the sum of £676 8*s.* 7*d.* debited to Craig House and credited to the West House for labour performed by pauper patients) amounted to £56,807 16*s.* 4*d.* The ordinary expenditure amounted to £52,873 17*s.* 8*d.*, leaving a surplus of £3933 18*s.* 8*d.* After deducting the annual instalment towards liquidation of the debt on the West House the free surplus was £1880 6*s.* 8*d.* The free surplus was applied to the reduction of debt. The report of the charity committee was also read and showed that at the close of the year the fund of the committee amounted to £9787 13*s.* 5*d.* and that the ordinary income had been £350 9*s.* 8*d.*, while the ordinary expenditure had amounted to £425 17*s.* 9*d.* The number of patients relieved during the year had been 38 and the number on the roll at the close of the year was 34. The Bevan Trust Fund at the close of the year amounted to £12,830 14*s.* 4*d.* The ordinary income had been £463 10*s.* 6*d.* and the ordinary expenditure £369 5*s.* 5*d.* The number of patients relieved during the year had been 33 and the number on the roll at the close of the year was 25. The report of Dr. T. S. Clouston, the physician-superintendent, stated that in the beginning of the year the number of patients was 929 and on Dec. 31st there were 829 patients in the asylum. There were 457 admissions, 195 being men and 262 being women. The total number of patients under treatment was 1386. There were discharged 434—208 men and 226 women. There were 123 deaths—55 men and 68 women. The average number of patients resident was 872—429 men and 443 women. The report stated that the past year had been a record one in the number of admissions to the asylum. Only once before, in 1896, had there been more patients admitted within the year. The rate-paid admissions amounted to 347, or 13 less than the average of the past five years. There had been 36 more admissions of the private class than the average of the past five years. It had been many years since it was possible to admit this class so freely and it was now possible owing to the removal of 185 rate-paid patients to the new Bangour Asylum in summer which had been an enormous relief to the wards. As the accommodation provided at Bangour consisted so far of only two large wards with no single rooms and no special hospital, none but suitable cases could be sent there, leaving at Morningside a disproportionate number of the weak, the noisy, the suicidal, the epileptic, and the paralysed. On that account it had not been possible to make any reduction in the staff and the average expense of treatment went up. 12 voluntary patients had come for treatment. The proportion of recoveries in this class was much higher than among the certified. It was necessary and important that early and threatened cases of mental disease should be treated properly. There was in the Scottish Acts a vague provision for the treatment of any patient for six months with a view to cure if a medical man wrote a certificate to that effect. By means of this little known and seldom acted on provision public hospitals and parish or county councils might set up psychiatric wards or hospitals and so render what the Glasgow parish council had done strictly legal. This country was distinctly behind Germany, Denmark, and the United States in this matter. Mental disease ought now to be looked on as one of the results of breaking natural law. Men and women did not yet realise their health risks or their health duty. To see an Education Bill that made no direct provision for teaching health and an educational system which neglected the formation of self-control and character as its highest duty was the most vivid proof of the present fatuous state of mind in regard to this tremendous problem. Of the direct and exciting causes of insanity excessive drinking stood easily first. In 19 per cent. of the whole cases the excessive use of alcohol was the causal factor. This was 10 per cent. less than it had been in 1903. The past year of dull trade had diminished the alcoholic lunacy rate. The proportion of female alcoholics had been steadily increasing until last year it reached 18½ per cent. of the total female admissions. The total number of female alcoholics last year actually exceeded that of the men. The number of cases of general paralysis had been less than in the preceding years. A large number of the cases had been in women and it was a proved fact in all European classes that general paralysis was increasing among both sexes but especially among the women of the uneducated class. The recoveries had been 9 per cent. under the average, this being due to the large number of old, paralysed, and exhausted people among the admissions. The event of outstanding importance in the past year had been the commencement of the process of parting with the rate-paid patients.

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[1] THE LANCET, Dec. 31st, 1904, p. 1891.

The Carnegie Trust for the Universities of Scotland.

The fourth annual meeting of the Carnegie Trust for the Universities of Scotland was held on Feb. 27th in Edinburgh. The fourth annual report of the executive committee stated that under the scheme of allocation sums amounting to £38,114 12*s.* 4*d.* had been claimed and handed over during the year, making an expenditure for the two years of £58,479 12*s.* 4*d.* The grants for library purposes and for provisional assistance in teaching amounting to £6400 had been fully paid. The grants for buildings and permanent equipment available for 1904, including a balance of £12,635 unexpended in 1903, amount to £33,035. Of these the sum of £20,146 8*s.* 6*d.* has been claimed. At St. Andrews the new buildings for the departments of chemistry and of physics were approaching completion. At Dundee plans were being prepared of a further extension for the accommodation of the department of physics upon the site to which the trust contributed the grant available in 1903. The grant for 1904 had been used for the enlargement of the chemical laboratory and the grants of the three remaining years of the quinquennium were to go towards the erection of a central heating system for the various buildings of the College. The two new buildings at Glasgow for the departments of physics and of physiology, materia medica, and forensic medicine were making satisfactory progress. In Edinburgh a site had been found for the new accommodation for the departments of physics and engineering by the purchase from the town council of the land and buildings of the old city hospital. Claims for grants towards teaching endowments amounted for the year to £11,568 3*s.* 10*d.* In the case of the University of Edinburgh the committee expressed its willingness to further Sir Donald Currie's wishes, expressed in connexion with his recent gift of £25,000 to that University, that £20,000 of that amount should be applied to the establishment of a lectureship endowment fund. The committee has offered to place the income of the capital sum of £10,000 allocated to the University for teaching endowment at the disposal of the University court, to be used in conjunction with Sir Donald Currie's gift. Grants amounting to £9000 had been allocated to various extra-mural schools to be drawn on up to Dec. 31st, 1907, and under the heading of provisional assistance in teaching grants have been offered for the academic year 1904–05 amounting to £635. The scheme of endowment of post-graduate research continues to be carried on. The total expenditure under this heading amounted for the year 1903–04 to £3386 8*s.* The estimated sum for the present year amounted to £5177 10*s.* In the research laboratory of the Royal College of Physicians of Edinburgh, the purchase of which had been announced in the last annual report, steady and satisfactory work had been done in all departments. 35 workers had held places in the laboratory and had been engaged in 47 investigations. Of these 29 were graduates of the University of Edinburgh and nine held grants from the Carnegie Trust. The number of beneficiaries under the scheme for the payment of class fees had been 3075 for the winter session of 1904–05, an increase of 43 over the previous winter session. The total number of beneficiaries since the institution of the trust was 5419. The trust had paid in fees for the summer session 1904 the sum of £14,935 on behalf of 1835 students and for the winter session 1904-05 the sum of £30,871 13*s.* on behalf of 3075 students. The committee recorded with pleasure that during the year 1904 six graduates had refunded fees paid to them amounting to £84 2*s.* The report and the accounts were approved of.

Sick Children's Hospital, Aberdeen.

The twenty-eighth annual report shows that during the past year 2376 cases have been treated—724 as in-patients and 1652 as out-patients. Of the 724 in-patients, which comprise 620 from the city and 104 from the country, 399 recovered, 116 were improved, 57 died, 79 were in the wards at the close of the year, and the balance were removed as unfit, &c. The average stay of each in-patient in 1904 was 32·8 days; in 1903 it was 31·4 days. The average number of beds occupied daily in 1904 was 74·3, compared with 74 in 1903. The average stay during the past ten years of each of the 7321 patients was 37·675 days and the average number of beds occupied was 76·12. The ordinary expenditure for the 12 months was £2850 18*s*. 8½*d*., being an average annual expenditure per bed occupied of £38 7*s*. 5*d*., or an average daily expenditure per patient of 2*s*. 1½*d*. The annual income amounted to £1888 13*s*. 3*d*., or £962 5*s*. 5½*d*. short of the cost of maintenance for the year. The extraordinary income from legacies makes the actual deficit £852 5*s*. 5½*d*. The legacies received during the past two years—£1052 11*s*. 11*d*. in 1903 and £110 in 1904—afford a striking illustration of the untrustworthiness of this source of income and impel the directors yet another year to renew their appeal to the well-wishers and friends of the institution for increased giving to the ordinary channels of income, so that these might be more commensurate with its annual needs.

March 7th

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Yellow Fever.

AT two consecutive meetings of the Academy of Medicine M. Chantemesse has recently discussed this important subject. On Feb. 21st he showed by the recital of some remarkable facts how the theory of the propagation of the disease by mosquitoes agrees, so far as prophylactic measures are concerned, with the conclusions arrived at by medical men of the last century after a series of patient observations. The Academy of Medicine had previously noted the forty-third parallel of N. latitude as the limit of yellow fever[1] and this is the frontier line of the habitat of the stegomyia. The prophylactic measures against yellow fever are the following: the stegomyia must be suppressed in every possible way; both sick and healthy must be protected from mosquito bites by means of masks, gloves, mosquito nets, and gauze window blinds; and all receptacles for water must be kept under surveillance and no stagnant collections allowed in which eggs may be laid or larvæ hatched. A strict watch over cargo is unnecessary except in the case of wet goods, such as moist wood, bananas, or fresh fruit. Ships coming from an infected port should be inspected especially as regards ventilation, the cook's galley, and the stokehold (*chaufferie*), or any other place where pools of water are likely to occur. If no case of yellow fever has occurred on board during the voyage free *pratique* may be granted and without any disinfecting measures being carried out. If one or two cases obviously contracted in the infected port should have developed on board and not have given rise to any others free *pratique* may again be given and no restrictions need be placed on the crew, their effects, or the cargo. If, however, infection has occurred on board precautions must be adopted. The cargo must be removed and the ship thoroughly fumigated with sulphurous acid. If the cargo in whole or in part is of such a nature as to afford [illegible] fumigated in the same way. [illegible] more careful attention than [illegible] yellow fever on arriving in [illegible] ut in ports where there is no lazaretto they may be sent to the ordinary hospital. Finally, M. Chantemesse is of opinion that in France at any rate yellow fever need not be considered as an infectious disease.

Wound of the Right Ventricle; Suture; Recovery.

On Feb. 15th at the Surgical Society M. Delorme read for M. Riche the notes of a case of wound of the cardiac ventricle. The patient was a woman four months pregnant who received a knife stab in the fourth left intercostal space. Two hours later M. Riche operated. He turned up a flap of the whole thickness of the chest wall, including the third, fourth, and fifth ribs, divided at the junction of bone and cartilage. He opened the pericardium, which was full of blood, and exposed the wound which was in the centre of the right ventricle. Catgut points of suture not going through the whole thickness of the cardiac wall were used, the pericardial and thoracic wounds were closed without drainage, and the patient recovered. Some weeks later she aborted.

Foreign Bodies in the Œsophagus.

At the meeting of the Society of Surgery held on Feb. 22nd M. Kirmisson read for M. d'Oelnitz an account of the case of a child, aged 14 months, who had swallowed a 50 centime piece. Radiography showed the coin lying in the œsophagus, just behind the manubrium sterni. Several attempts were made to extract the coin with Graefe's coin-catcher but in vain. Eight days later the child was brought to M. d'Oelnitz who, being acquainted with M. Kirmisson's hook,[2] made use of this instrument and easily extracted the coin. M. Kirmisson took occasion in reporting this case to express his disagreement with those who recommended œsophagotomy and who considered that the hook should only be used in recent cases. He thought that œsophagotomy was a dangerous operation in young children.

Paraplegia following Cocainisation of the Spinal Cord.

At the meeting of the same society held on Feb. 29th M. Walther showed a patient, a young man, who had been operated on some eight months previously, not by M. Walther, for degenerating synovitis of the foot. To anæsthetise him the spinal cord had been cocainised by a lumbar puncture. Three days after the operation the man complained of his legs feeling cold and heavy and on the eighth day he lost all power of movement in them. By the end of the third week he had incontinence of fæces and urine and he continued in this state for four or five months, by which time he regained control over his bladder and rectum. But still he can only move his legs slightly. These symptoms, said M. Walther in conclusion, are evidently due to a typical meningo-myelitis.

The Action of Radium upon Venoms.

[illegible] nces which was held [illegible] of some researches [illegible] ry of M. Chauveau. The subject of research was the action of radium upon venoms, notably those of serpents and of certain batrachians. Serpent venom, which is an albuminoid, is completely destroyed in a very few hours by the action of radium. Moreover, a solution of the venom is freed from all germs, being both microbicidal and antivenomous. The venom of the land salamander, which is alkaloidal in nature, is not affected by radium, neither is that of the toad.

Lupus of the Hand.

At the meeting of the Anatomical Society held on Feb. 27th M. Morestin showed a patient whom he had treated for lupus of the hand. The operation consisted in the removal of the skin from the index, the ring, and the little fingers. The middle finger was removed on account of its being affected with tuberculous dactylitis. The wound was covered with a graft after the Italian method. Now, at the expiration of a year after the operation, the result was very satisfactory M. Morestin laid stress upon the benefits to be derived from a widespread clearance of affected structures in surgical operations done with a view to repair.

March 7th

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Free Supply of Milk for Out-patients of the Children's Hospital.

THE largest children's hospital in Vienna has, in connexion with the Society for the Protection of Infants (Säuglingsschutz), made arrangements for supplying a number of needy families with pure milk for the use of their infants and not long ago acquired premises for the purpose. In the midst of a densely populated district, inhabited chiefly by labourers, factory workers, and small tradesmen, a two-storey house has been built, containing proper rooms for the storage of milk and for the examination of the infants who are taken there. 250 litres of milk are daily at the disposal of the chief medical officer of the institution, sent as a gift from the dairy of the Archduchess Isabella who takes a very great interest in that intervention and the continued improvements of the pavement of streets had reduced the mortality and morbidity to about 50 per cent. of the former rate, besides beautifying the city and making it infinitely more attractive for residents who were interested in health and general culture. Dr. Carlos Finlay in his address as president stated that in the district of Havana, notwithstanding the admission of imported cases of yellow fever from foreign ports, not a single case originating on the island had been recorded. With the experimental proofs that they now possessed that fomites *per se* were incapable of transmitting the disease the inevitable conclusion must be that in the cases which he mentioned infected mosquitoes had been conveyed upon floating bodies by the tide. The Report of the Committee on the Bacillus Tuberculosis in Man and Animals was read by Dr. V. C. Moore. The conclusions reached were that the committee did not feel able to say with what frequency bovine infection of man took place but it was evidently not a rare occurrence. The committee considered that the evidence going to show that such infection did take place was absolutely conclusive and that it not only justified but made imperative the passage of stringent laws by municipal and State authorities for the suppression of tuberculosis in cattle and the prohibition of the sale of meat and milk from tuberculous animals. The meeting was a great success. The association is to meet in the city of Boston, Massachusetts, in 1905.

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[1] This is in Europe; in North America yellow fever has been observed as far north as 46·50' N.—ED. L.

[2] See THE LANCET, Jan. 14th, p 125.

Instruction in Public Health in Medical Colleges.

The department of medicine of the University of Pennsylvania has organised a series of lectures on the subject of hygiene and medicine of general interest to practitioners. It was originally designed that this course should be for the benefit of fourth year students but invitations to the medical profession of the city are now given. The same university will introduce into its curriculum, beginning Oct. 1st, 1905, a course in public health. This course will include instruction in sanitary engineering; inspection of meat, milk, and other animal products; the sanitary engineering of buildings; social and vital statistics in the United States; and practical methods used in sanitary work, general hygiene, personal hygiene, and sanitary legislation. This is the first attempt in this country to introduce a course of instruction in hygiene into the curriculum of a university.

Tuberculosis among the Jews.

Amongst the numerous paradoxical characteristics of the Jews their relative immunity to tuberculosis has been considered most peculiar. Evidence wherever obtainable shows that they are less liable to the "white plague" than their non-Jewish neighbours, notwithstanding the large numbers among them who have flat chests, ill-developed muscles, and who are anæmic and generally below the standard of physical vigour when compared with the Gentiles among whom they live. According to the "Jewish Encyclopædia"—containing statistics gathered in Russia, Germany, Hungary, Italy, England, and the United States—this view is confirmed. A recent thorough study of the Jewish district of Chicago by Dr. Theodore Sachs leads him to the conclusion that the immunity of the Jew from tuberculosis has been greatly over-estimated. In his opinion the difference is due to the fact, which he discovered, that only a small percentage die in the district in which they have contracted the disease, the rest leaving the city in search of a cure in some climate reputed to be efficacious. In proof of this contention the author shows that of 51 deaths from the disease 26 occurred in persons younger than 15 years of age, while in the period of life between 20 and 40 years, the usual period of greatest mortality, only ten deaths took place. The results of Dr. Sachs's inquiries differ from investigations made in New York by its health department in regard to both the morbidity and the mortality of tuberculosis in Jewish districts. The conclusion reached was that the Jews of this city are proportionately less affected with tuberculosis than the non-Jewish inhabitants, even when we compare them in the same district or the same block. The statistics of New York are much larger than those taken at Chicago and comprise also morbidity and are, therefore, regarded as more trustworthy.

Protective Inoculation against Cholera.

The United States Government laboratories have been engaged in experimental studies on protective measures against Asiatic cholera and have recently published the results. The author of the report, Dr. Richard P. Strong, states that the work was based upon experimental work performed in the Berlin Institut fur Infectionskrankheiten in 1903. The Philippine Islands have furnished the most recent opportunity for a thorough study of cholera and advantage was taken of the severe epidemic there to perfect our knowledge of protective measures. According to Dr. Strong the history of cholera in a tropical country has demonstrated the fact that it is impossible to eradicate, or even to control satisfactorily, the disease by ordinary hygienic methods, such as the purification of the food-supply and the water-supply of infected districts. It was shown by studies made in the Manila laboratory during the period of the widespread infection that the disease was not usually transmitted directly by water but probably more often by food infection. Preliminary trials with Haffkine's method of protective inoculation showed the impracticability of using it among the natives. Consequently, the experimental study now described was undertaken in the biological laboratory in Manila with a view of obtaining some practicable and efficacious form of protective inoculation against the disease. The conclusions reached are as follows: (1) by the autolytic digestion of carefully killed cholera spirilla in an aqueous fluid the receptors become separated from the bacterial cells and may be filtered off in solution; (2) the injection of these free receptors into both man and animals furnishes a means of producing high bactericidal and agglutinative blood sera but the value of these sera is moderate; and (3) the subcutaneous injection into man of such free receptors is a process which is not only free from any danger but one which produces practically no local disturbance and only a slight general reaction and hence the method is a practicable one for producing a cholera serum in man. Owing to the absence of cholera on a wide scale in the Philippines it has been impossible to give the serum a proper test but Dr. Strong, basing his opinions on the statistics of Haffkine in India and the work of Murata in Japan, which show that by the injection of a small amount of the killed organisms a certain degree of immunity against the natural mode of infection is acquired, thinks it probable that by the use of his prophylactic human beings may acquire a good active immunity against the disease.

Feb. 26th.

NOTES FROM INDIA.

(From our Special Correspondent.)

Report of the Pasteur Institute at Kasauli.

The fourth annual report of the Pasteur Institute at Kasauli records a steady advance in popularity. During last year 612 patients were treated, of whom 248 were Europeans and 364 were natives. All these were for bites from presumably rabid animals. In the report the cases are divided according to those bitten by animals proved by experiment to have been rabid, those bitten by animals certified as rabid by a veterinary surgeon or a medical officer, and those bitten by animals suspected to be rabid but for which there was only presumptive evidence. In order to estimate the danger of bites in different parts of the body the cases are further analysed into those bitten on the head or the face, those bitten on other exposed parts, and those bitten through clothing. The last class are the least dangerous and the cases of bites on the head and the face are the most dangerous. As the clothing of the natives is so thin it does not appear to offer them much protection and the natives when bitten do not show the same alacrity as Europeans for immediate treatment. Of the 612 persons treated five cases failed, all natives. They had all been severely bitten and with one exception arrived late for treatment. There were five cases also in which the disease had set in before it was possible to protect them. Other and very important work is carried out at Kasauli. A large quantity of sera for therapeutic purposes was prepared and the bacteriological laboratory was utilised by officers of the Indian Medical Service and the Royal Army Medical Corps for instruction purposes. In addition a considerable amount of research work was done, more especially in connexion with curative sera, the action of snake venoms, cerebro-spinal meningitis, and the improvement of the antirabic treatment.

The Sanitary Improvement Scheme for Simla.

The report of Colonel Bamber, sanitary commissioner of the Punjab, upon the Simla sanitary improvement scheme has been considered urgent by the municipal committee which has recommended the following works for immediate attention: provision of incinerators, connecting all the sullage water of the compounds by an extended sewerage system, provision for dhobie ghâts, sanitary buildings for artisans and coolies, sewerage installation for houses east of Jakko, an enlarged bakery, additional markets, and conversion of native public latrines into automatic troughs. This is a good list and will necessarily involve a large outlay.

Further Large Rise in the Plague Mortality and Spread of the Epidemic.

The plague mortality throughout India has risen enormously during the past few weeks. For the week ending Feb. 4th no less than 36,167 deaths from plague were recorded as compared with 28,104 three weeks previously. The United Provinces, the Punjab, and Bengal are now bearing the chief brunt. The following figures show how the disease has spread: United Provinces, 15,337 deaths as compared with 11,777 three weeks ago; the Punjab, 9472 deaths as compared with 5569; Bengal, 5150 as against 3318; Bombay district, 3111 as against 2886; Hyderabad State, 526 as against 399; Bombay city, 395 as against 192; and Calcutta, 84 as against 33. Later returns show a still further rise in Bombay city (540 deaths for the week ending Feb. 11th) and Calcutta (106 deaths). During the past fortnight also Rangoon has become infected and 25 cases were reported up to Feb. 13th. Madras also has been attacked and several indigenous cases have been reported. Singapore also has been declared an infected port. From the Punjab administration report I find that no less than 327,357 inoculations against plague were performed last year and by an analysis of the cases it was found that the liability to death was two and a half times as great among the uninoculated as amongst those who had had the courage and foresight to be inoculated.

The Bombay Sanitary Association.

The first annual meeting of the Bombay Sanitary Association has been recently held and the report of the year's work shows remarkable energy and enthusiasm amongst those who manage it. The recent exhibition in Bombay gave the opportunity for a health section which was admirably organised and must prove to have been of great educational value. It is hardly to be expected that the association could show immediate results but it has certainly appeared to have awakened a hygienic conscience and a great deal has been done in instructing the masses with regard to a more healthy manner of living. Lectures in the vernacular as well as in English have been given, pamphlets and leaflets have been freely issued, and house-to-house visitation has been energetically made. Not the least remarkable part of the work of this new association has been the admirable and [illegible] ing [illegible] nts [illegible] ion and pecuniary assistance of the corporation and the active support of the Government. Subscriptions have come in freely and the general support which the association has received augurs well for a continuance of the useful work and a furtherance of the objects which its promoters have in view.

The Wadia Home for Nurses in Bombay.

The foundation-stone of the Wadia Home for Nurses in Bombay has just been laid by His Excellency the Governor. The home is for the nurses of the large "J. J." Hospital. 25 years ago there were only two sisters working. In 1890 three English nurses were obtained in addition and some native nurses also assisted. Later more young native women were employed and the Bhownaggree Home for them was established. Subscriptions and a contribution from the Government enabled the nursing staff to be increased further but it has never been sufficient. *Accommodation* for the nurses naturally came to be required and the mother of Mr. N. N. Wadia has generously given a large sum for this purpose. The total cost will [illegible] subscriptions for the support of the various nursing establishments connected with the hospitals in the principal cities in India have never been very generous or extended and if it were not for Government support they would perhaps be in a bad way. It is possible, however, that if the Government gave less freely more support might be obtained from the public and as these hospitals confer such inestimable benefits on the native communities it is not expecting too much to ask them to contribute more freely.

Compulsory Revaccination.

The Madras corporation has adopted the suggestion of the Government in favour of compulsory revaccination for all municipal employés who enter its permanent service.

Feb. 18th.

Obituary.

ROBSON ROOSE, M.D. BRUX., F.R.C.P. EDIN., M.R.C.S. ENG.

Dr. Robson Roose, who died on Feb. 12th, had for a long series of years been well known in London as the medical adviser of very many notabilities in West-end society and in the higher political circles. He was born in London in 1848 and studied medicine at Guy's Hospital and in Paris. In 1870 he took the diploma of L.S.A. and very soon commenced practice in Brighton. In 1872 he took the diploma of M.R.C.S. Eng. and in 1875 that of M.R.C.P. Edin.; in 1877 he obtained the degree of M.D. at Brussels and was elected a Fellow of the Royal College of Physicians of Edinburgh. It is said that while at Brighton he was "discovered" by the late Mr. Edmund Yates, the well-known "society journalist" and man of letters, who introduced him to various influential personages. Removing from Brighton to London, Dr. Robson Roose settled at 49, Hill-street, Berkeley-square, where fortune favoured him so greatly that his services were everywhere in request and he was a familiar figure at social gatherings of the world of fashion. Of late years, however, he had some unfortunate experiences in connexion with the directorship of a commercial undertaking and declining health made it necessary for him to withdraw to some extent from active work.

RALPH HODGSON, M.R.C.S. ENG., L.R.C.P. LOND., L.D.S. R.C.S. IREL.

Mr. Ralph Hodgson of Liverpool-street, Sydney, New South Wales, died very suddenly on Jan. 18th while supervising some repairs which were being made in his motor launch. He was the fourth son of Captain Charles Hodgson, late of the Grenadier Guards, assistant commissioner of the City of London police. He studied medicine at St. Bartholomew's Hospital and took the diplomas of M.R.C.S. Eng. and L.R.C.P. Lond. in 1885, having been already in possession of the dental diploma of the Royal College of Surgeons in Ireland since 1881. In 1887 he went to Sydney and entered upon the practice of his profession at Croydon. Mr. Hodgson was one of the founders of the King Edward Hospital for Seamen and claimed that he [illegible] use of head measurements and [illegible] the identification of criminals in [illegible] n of fine physique, a representative chess player at inter-State [illegible] race with [illegible] engine [illegible] at the [illegible] who is a barrister-at-law.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. J. Felix, director-general of the Roumanian Sanitary Department.—Dr. G. Piotrowski, *privat docent* of physiology in Lemberg.—Surgeon-General Pful of Hanover.—Dr. Gunther, formerly president of the Saxon Medical Association, at the age of 76 years.

LEGACY TO A RUSSIAN MEDICAL BODY.—The Conference of the Military Medical Academy has decided to accept the legacy made in its favour by K. R. Nedatsk, consisting of two sums—one of 16,000 roubles (£1600) to found a bursary in the name of the testator and the other of 50,000 roubles (£5000) for treatment by means of sero-therapy. The will of the testator is that the capital should be kept intact, the academy simply disposing of the interest.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The result of the voting on the proposals for the reform of the Previous Examination was that the *non-placets* numbered over 1500 and the *placets* over 1000. The proposals of the syndicate were thus rejected by a majority of about 500. It is understood that a majority of the resident members of the Senate voted *placet.*—At a Congregation on March 2nd the following degrees were conferred:—

Doctor of Medicine.—R. H. Urwick, Trinity; and G. M. MacDonald, Christ's.

Bachelor of Medicine.—J. S. Pearson, Trinity; and R. A. Worthington, Clare.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following candidate having passed the necessary examination has been admitted to the Fellowship of the College:—

Miss A. F. M. Cornall, L.R.C.S. Edin.

The following candidates have passed the primary part of the Fellowship examination:—

J. Campbell, H. H. B. Cunningham, D. Adams, R. M. Bronte, J. D'Alton, P. G. T. Elvery, J. B. Hanafin, F. M. Hewson, J. Molyneaux, C. Sheahan, T. Sheehy, and G. F. Shepherd.

TRINITY COLLEGE, DUBLIN.—At examinations held in Hilary term the following candidates were successful:—

Final in Surgery.—Henry E. M'Cready, Robert Magill, Michael J. M'Auliffe, and Edward G. Scroope.

ROYAL DENTAL HOSPITAL.—Mr. J. Tweedy, President of the Royal College of Surgeons of England, will preside at the annual meeting of the Royal Dental Hospital on Tuesday next, March 14th, at 5.30 P.M.

OBSTETRICAL SOCIETY OF LEIPSIC.—Dr. H. Macnaughton-Jones, formerly University Professor of Midwifery in the Queen's University, has been elected an honorary member of the Obstetrical Society of Leipsic.

PRESENTATION TO A MEDICAL PRACTITIONER.—Mr. Charles Edward Liesching, L.R.C.P. Lond., M.R.C.S. Eng., was presented on Feb. 17th with an aneroid barometer by the members of the Tiverton (Devon) branch of the St. John Ambulance Association in appreciation of his services as honorary lecturer.

Messrs. C. J. Hewlett and Sons, export druggists, have been awarded a gold medal for their standardised tinctures, drugs, and pharmaceutical preparations at the Cape Town International Exhibition, 1904-05.

AMBIDEXTERITY FROM THE POINT OF VIEW OF THE PHYSICIAN.—On March 2nd, at the rooms of the Royal Statistical Society, Adam-street, Strand, W.C., Sir James Sawyer delivered a lecture on Ambidexterity, pointing out that not only were we not by necessity unidextral but that man in his early development was ambidextrous. This quality was lost partly by necessity and partly by custom and especially in the development of writing and fighting. Early man found that he could fight better with a one-handed than with a two-handed weapon. He then found that it was necessary to keep his heart as far as possible from his adversary. Thus the right side was given prominence. In the use of the pen the right hand was further developed. He went on to urge that although we could not help having a preferred hand perhaps we need not have a neglected one. Ambidexterity could be acquired in many ways, especially by using each hand in turn in all one-handed activities. As preliminary exercises he would recommend writing with the other hand, carrying a stick or umbrella in the right hand on going out and in the left hand when returning, and fencing with the foil at a mark on the wall with either hand alternately. Learning to drive in a nail with either hand was also useful. A fair amount of ambidexterity could be acquired in a few months with gain in physical health and better chances of living a healthy and long life. Incidentally the lecturer mentioned references to ambidexterity by De Quincey and Carlyle and quoted the following from Brown-Séquard: "We have a great many motor elements in our brain and our spinal cord which we absolutely neglect to educate. Such is the case with the elements which serve for the movement of the left hand. Perhaps fathers and mothers will be more ready to develop the natural powers of a left hand of a child, giving it thereby two powerful hands, if they believe, as I do, that the condition of the brain and spinal cord would improve if all their motor and sensory elements were fully exercised." With this Sir James Sawyer said that he was in full accord. The next lecture of the series will be delivered by Sir W. Blake Richmond, K.C.B., on March 16th, at 8 P.M., on Ambidexterity in Art.

ROYAL FREE HOSPITAL, LONDON.—The annual court of governors of this hospital will be held on March 15th. The chair will be taken at 3.30 P.M. by H.R.H. Princess Christian, President of the Hospital, when the annual reports and accounts for the year ending Dec. 31st, 1904, will be presented and the new electric lift and other improvements in the Victoria wing will be opened. The governors and their friends are invited to inspect the wards and the various departments of the hospital during the afternoon. Communications on the matter should be addressed to Mr. Conrad W. Thies, secretary, Gray's Inn-road, W.C.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Revaccination of School Children.

THE Duke of NORTHUMBERLAND is interesting himself in the vaccination question. He has given notice of his intention to ask the Government whether it proposes to introduce a Bill this session for the promotion of the revaccination of children of school age.

A New Vaccination Bill.

In the Commons Mr. PHILIP STANHOPE has introduced a Bill to amend the administration of the Vaccination Acts. The two operative clauses are these:—2. After the passing of this Act an officer of a board of guardians or other local authority, wholly or partly paid for his services out of the proceeds of any rate, shall not institute proceedings or be concerned in legal proceedings against any person for non-compliance with the provisions of any Vaccination Act, unless authorised to do so by a resolution passed by the board of guardians or other local authority employing him, nor until a copy of each resolution in writing, signed by the chairman presiding at the meeting of the board of guardians or other local authority at which such resolution was passed, has been handed to him; and such officer shall exhibit to the justices adjudicating upon a summons taken out by him such copy of resolution when demanded by them or by the defendant or other person appearing on his behalf. 3. An application for a certificate of exemption under the Vaccination Act, 1898, may be made by the father or the mother or either of the guardians of a child liable to vaccination under any Act, and the justices to whom the application is made shall not catechise the applicant, but may, if not satisfied that the applicant has a conscientious objection to vaccination, administer, or cause to be administered, the usual oath; and if the applicant declares on oath that he or she believes that vaccination would be prejudicial to the health of the child in question, a certificate of exemption shall be granted, at a cost not exceeding one shilling, without further question or remark.—Mr. STANHOPE has the support of Mr. BROADHURST, Mr. CHANNING, Mr. MAURICE LEVY, and Sir CHARLES MCLAREN.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 1ST.

The Inspection of Meat in London.

Mr. FIELD asked the President of the Local Government Board whether he was aware that a master butcher in Ealing recently [illegible] purchased a number of pigs in the Central [illegible] London, E.C., which he was informed were [illegible] Islington Market where they would undergo examination in the ordinary course, and having purchased these pigs at top market price they were delivered at Ealing where the inspector condemned two heads as being affected with tuberculosis, and that a summons was now pending with a view to secure a criminal conviction, and whether he would make inquiries in this case in order to insure uniformity of inspection and thereby safeguard a trader from criminal proceedings in respect of meat purchased *bonâ fide* passed by one inspector and subsequently confiscated by the inspector in another district.—Mr. LONG replied: I have made inquiry with respect to this matter. I understand that the pigs were not cut up at the Islington Market or at the Central Meat Market, and the medical officer of health of the City points out that it was quite possible that disease which would not show itself in the carcass would become apparent after cutting up. I am informed that proceedings in the case are now pending before the justices and hence I cannot take any further action with regard to it. But I may state that one of the medical inspectors of the department is engaged in inquiring into the methods of meat inspection in London with a view of reporting to me on the subject. I may add that the Ealing town council has issued a circular to the butchers in the borough in which it states that the sanitary inspector may, at the request of a butcher, visit his premises and inspect any meat which has been delivered to him, as to the condition of which he may be doubtful, and that in the event of any of it being found to be diseased the inspector will take steps to have it destroyed in the manner prescribed by the law. The town council points out that in such a case the risk of exposing for sale meat unfit for human consumption would be minimised.

Purity of Foods.

Sir CUTHBERT QUILTER asked the President of the Local Government Board whether he was now able to announce the course which it was proposed to adopt with a view to giving effect to the large and [illegible]

Colonel SADLIER asked the President of the Local Government Board whether, in view of the fact that the charge made for certificates of death for members of trades unions was 2s. 7d. each while the charge [illegible] he would consider the [illegible] 1s. in both cases.—Mr. [illegible] but legislation would [illegible]

THURSDAY, MARCH 2ND.

Irish Dispensary Districts.

Mr. JOSEPH NOLAN asked the Chief Secretary for Ireland whether, in [illegible] arrived at by the Local Government Board in regard to the matter.—[illegible] who replied, said: The inquiry [illegible] last year. In September the Local [illegible] under seal rearranging the dis- [illegible] then made to the King's Bench [illegible] quash the Board's Order and was [illegible]

FRIDAY, MARCH 3RD.

Irish Local Government Board and Maternity Nursing

Mr. JOHN O'DONNELL asked the Chief Secretary for Ireland whether there had been any exceptional circumstances to justify the granting of an inquiry into the necessity for an official maternity nurse in Ballyhaunis dispensary district; whether he would state on what portion of the evidence Sir Acheson M'Cullagh based his recommendation to have a sealed order issued in connexion with the matter, and [illegible] union regarding the necessity for [illegible] the Ballyhaunis dispensary district [illegible] being made, and that Ballyhaunis [illegible] two medical men and two maternity [illegible] of the fact that the appointment of such a nurse was in opposition to the public opinion of the district. [illegible] ever, available for the sick poor free of charge. My right honourable friend stated on Feb. 23rd that it is not proposed to withdraw the sealed order.

MONDAY, MARCH 6TH.

Medical Inspectors in Scotland.

Mr. WEIR asked the Lord Advocate whether he was aware that [illegible] of that of [illegible] the Local [illegible] even such [illegible] vote, and [illegible] inspector [illegible] sence, the [illegible] l be con [illegible] ed in the [illegible] retary for Scotland has no proposals to make at present in the direction suggested.

Recommendations of the Committee on Physical Deterioration

Mr. WEIR asked the Lord Advocate whether the Secretary for Scotland would consider the [illegible] medical officers, sanitary inspectors, a[illegible] the opinions of the Committ[illegible] ventilation and the bringing [illegible] dissemination of information on these subjects.—The LORD ADVOCATE answered: The Secretary for Scotland will consider whether any official communication relative to this report can be made to the local authorities in Scotland.

Mr. WEIR put a similar question to the President of the Local Government Board and Mr. LONG replied: I have given consideration to the honourable Member's suggestion and I have not at present seen my way to adopt it.

Restrictions on the Employment of Women.

Sir JOHN GORST asked the Under Secretary of State for Foreign Affairs whether he would lay upon the table of the House a return [illegible] before and after [illegible] known to [illegible] tion in the [illegible] ther Correspondence respecting the International Labour Conference at Berlin, Commercial (No 10, 1890)." The Secretary of State will be happy to bring the information up to date if the right honourable Member desires it.

Physical Condition of School Children.

Sir JOHN GORST asked the Secretary to the Board of Education [illegible] code making the pay- [illegible] paid.—Sir WILLIAM ANSON sa[illegible] has the legal power to requir[illegible] public elementary schools. [illegible] right honourable Member ha[illegible] effect of its putting it into operation would be. The organisation of any such system as is suggested in the question must take some time to complete and in the meanwhile the public elementary schools throughout the country would be deprived of Government grant. The Board does not propose to insert any such provision in the new code.

A Prison Case.

Mr. CLAUDE HAY asked the Home Secretary whether his attention had been called to the recent case of a female prisoner having had her hair cut while awaiting trial and whether he would state what steps he had taken in the matter.—Mr. AKERS-DOUGLAS replied: Careful inquiry was made into the case as soon as attention was called to it (which was done by the girl's father on Feb. 20th) and I find that sanitary considerations rendered the cutting of the hair necessary. The woman was examined on reception by the deputy medical officer of the prison who found her [illegible]

TUESDAY, MARCH 7TH.

Sore throat and Milk supply.

[illegible] regard to the fact [illegible] of Glasgow, stated [illegible] Hospital in that [illegible] stock at the farm from which the milk-supply was obtained, he would consider the [illegible] would secure the [illegible] of milk to public [illegible] of the Local Govern- [illegible] duties of sanitary [illegible] d, those officers are [illegible] least once in every [illegible] appears to be unnecessary.

BOOKS, ETC., RECEIVED.

BERGMANN, J. F., Wiesbaden. (F. BAUERMEISTER, 49, Gordon street, Glasgow.)

II [illegible]

Price M.1 30, or 1s. 6d.

Die Ohrenheilkunde der Gegenwart und ihre Grenzgebiete. [illegible] von Dr. Otto Körner, in Rostock. IV. Die [illegible]

CASSELL AND CO., Limited, London, Paris, New York, and Melbourne.

The Open-air Treatment of Pulmonary Tuberculosis. By F. W. Burton Fanning, M.D. Cantab., Physician to the Norfolk and Norwich Hospital, Honorary Visiting Physician to the Kelling Open-air Sanatorium. Price 5s.

CHURCHILL, J. AND A., 7, Great Marlborough-street, W.

A Text-book of Physiological Chemistry. For Students of Medicine and Physicians. By Charles E. Simon, M.D., late Assistant Resident Physician, Johns Hopkins Hospital, Baltimore. Second edition, revised and enlarged. Price 14*s.* net.

F. A. DAVIS COMPANY, 1914-16, Cherry-street, Philadelphia.

The Surgical Diseases of the Genito-urinary Tract, Venereal and Sexual Diseases. A Text-book for Students and Practitioners. By G. Frank Lydston, M.D., Professor of the Surgical Diseases of the Genito-Urinar [illegible] the Medical Department of the State [illegible] Chicago College of Physicians and S [illegible] Price, extra cloth, $5.00 net; sheep or half-russia, $6.00 net.

"GARDENERS' MAGAZINE" OFFICE, 148 and 149, Aldersgate-street, E.C.

The Gardening Year-book and Garden Oracle, 1905. By the Editor of the *Gardeners' Magazine.* Price 1*s.* net.

JOHN BALE, SONS, AND DANIELSSON, LIMITED, 83-91, Great Titchfield-street, Oxford-street, W.

The Radical Cure of Corns and Bunions. By E. Harding Freeland, F.R.C.S. Eng., Surgeon to St. George's and St. James's Dispensary. Second edition. Price 1*s.*

KIMPTON, HENRY, 13, Furnival-street, London, E.C.

Essentials of Nervous Diseases and Insanity, their Symptoms and Treatment. By John C. Shaw, M.D., late Clinical Professor of Diseases of the Mind and Nervous System, Long Island College Hospital Medical School. Fourth edition, thoroughly revised, by Smith Ely Jelliffe, M.D., Ph.D., Clinical Assistant, Columbia University, Department of Neurology. Price 4*s.* net.

LONGMANS, GREEN, AND CO., 91 and 93, Fifth-avenue, New York.

The Splendor of the Human Body: A Reparation and an Appeal. By the Right Rev. C. H. Brent, D.D., Bishop of the Philippine Islands. Price 2*s.* 6*d.* net.

MURRAY, JOHN, 50A, Albemarle-street, London, W.

The Teachings of Zoroaster and the Philosophy of the Parsi Religion. By S. A. Kapadia, M.D., L.R.C.P., Barrister-at-Law, Inner Temple. (The Wisdom of the East Series. Edited by L. Cranmer-Byng and Dr. S. A. Kapadia). Price 2*s.* net.

P. BLAKISTON'S SON AND CO., 1012, Walnut-street, Philadelphia, U.S.A. (LEWIS, H. K., 136, Gower-street, London, W.C.)

Manual of Operative Surgery. By John Fairbairn Binnie, A.M., C.M. Aberdeen, Professor of Surgery, Kansas City Medical College, Kansas City, Mo. Price 12*s.* 6*d.* net.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.

List of the Fellows, Members, Extra-Licentiates and Licentiates of the Royal College of Physicians of London, and of the Holders of the Diploma in Public Health granted conjointly by the Royal Colleges of Physicians and Surgeons. MCMV. Price not stated.

SAUNDERS, W. B., AND CO., 9, Henrietta-street, Covent-garden, W.C.

[illegible] Technic for Nurses. By Emily M. A. [illegible] of the Training School for Nurses, [illegible] Rock Island, Ill. Second edition, thoroughly revised and enlarged, by Frederic Richardson Griffith, M.D. (Univ. of Penn.), of New York. Price 6*s.* 6*d.* net.

Diet in Health and Disease. By Julius Friedenwald, M.D., Clinical Professor of Diseases af the Stomach in the College of Physicians and Surgeons, Baltimore, and John Ruhrah, M.D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Price 18*s.* net.

SMITH, ELDER, AND CO., 15, Waterloo-place, S.W.

Saint Bartholomew's Hospital Reports. Edited by A. E. Garrod, M.D., and W. McAdam Eccles, M.S., F.R.C.S. Vol. XL. Price, to subscribers, 6*s.*; to non-subscribers, 8*s.* 6*d.*

"THE MUNICIPAL JOURNAL," OFFICES OF, London. (EDWARD LLOYD, LIMITED, Salisbury-square.)

The Municipal Year Book of the United Kingdom for 1905. Edited by Robert Donald, Editor of the *Municipal Journal* and the *London Manual.* Price 3*s.* 6*d.* net.

THE PRACTITIONER, Limited, 149, Strand, W.C.

Congenital Dislocation of the Hip. By J. Jackson Clarke, M.B. Lond., F.R.C.S., Surgeon to the North-West London Hospital and to the City of London Orthopædic Hospital. Second edition. Reprinted, with additions, from the *Practitioner.* Price 1*s.* 6*d.* net.

WILLIAMS AND NORGATE, *14, Henrietta-street, Covent-garden, W.C.*

Transactions of the Epidemiological Society of London. New Series. Vol. XXIII. Session 1903-1904. Price 6*s.* net.

WILLIAMS AND NORGATE, 14, Henrietta-street, Covent-garden, W.C. (For The UNIVERSITY PRESS of Liverpool.)

The Practical Study of Malaria and other Blood Parasites. By J. W. W. Stephens, M.D. Cantab., D.P.H., Walter Myers Lecturer in Tropical Medicine, University of Liverpool, and S. R. Christophers, M.B. Vict., I.M.S., Members of the Royal Society's Commission on Malaria in Africa and India, 1898-1902. Second edition, revised and enlarged. Price 12*s.* 6*d.* net.

Liverpool School of Tropical Medicine. Memoir XIII. Reports of t[illegible] the Congo, 1903-1904, of the I[illegible] and Medical Parasitology. I[illegible] ohn L. Todd, M.D. McGill, and Cuthbert Christy, M.B. Edin. With a Comparison of the Trypanosomes of Uganda and the Congo Free State, by H. Wolferstan Thomas, M.D. McGill, and Stanley F. Linton, B.Sc., M.B. Liverpool; and a Note on Tsetse-flies by E. E. Austen, Zoological Department, British Museum. (Thompson Yates and Johnston Laboratories Report, Vol. VI., Part I., January, 1905.) Price 15*s.* net.

WRIGHT, JOHN, AND CO., Bristol. (SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.)

Lectures on Diseases of the Stomach and Intestines. For Practitioners and Students. With an Account of their Relations to other Diseases and of the most recent Methods in Diagnosis and Treatment; also "The Gastro-intestinal Clinic," in which all such diseases are separately considered. By Boardman Reed, M.D., Professor of Diseases of the Gastro-intestinal Tract, Hygiene, and Climatology in the Department of Medicine of Temple College, Philadelphia. Price 21*s.* net.

The Naked-eye Anatomy of the Human Teeth. By Thos. E. Constant, Licentiate of the Royal College of Physicians, London, Licentiate in Dental Surgery, and Member of the Royal College of Surgeons of England. Price 7*s.* 6*d.* net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

DALBY, AUGUSTUS WILLIAM, L.R.C.P. & S. Edin., has been re-appointed Medical Officer of Health of the Frome (Somerset) Rural District.

DAWSON, HENRY KING, M.D., B.S. Durh., has been appointed Public Vaccinator of the Epsom and Ashtead Parishes of the Epsom Union.

FARRANT, C., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Taunton District of the county of Somerset.

GOODING, MATTHEW RICHARD, M.R.C.S., L.R.C.P. Lond., has been re-appointed Medical Officer for the Bideford (Devon) Urban District Council.

NASH, J. T. C., M.D. Edin., has been appointed Medical Officer to the Southend-on-Sea Education Authority.

NELSON, PHILIP, M.D. Vict., M.D. Liverp., has been appointed Honorary Assistant Physician and Laryngologist to the Liverpool Chest Hospital.

PARTRIDGE, S., M.B. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Wednesbury District of the county of Stafford.

PEARSE, JAMES, M.D., C.M. Edin., has been re-appointed Medical *Officer of Health for Trowbridge (Wilts) Urban District Council.*

ROGERSON, O. H., L.S.A., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Osmotherley District of the county of York.

WORRALL, E. S., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Medical Officer in Charge of the New Electro-therapeutic Department, University College Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AYR DISTRICT ASYLUM.—Junior Medical Officer, unmarried. Salary £120, with board, apartments, attendance, and laundry.

BEDFORD COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with apartments, board, and laundry. Also House Physician. Salary £60 per annum, with apartments, board, and laundry.

BIRKENHEAD UNION, INFIRMARY, WORKHOUSE, AND SANATORIUM.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL, Edmund-street.—House Surgeon. Salary at rate of £70 per annum.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £100.

BRADFORD POOR-LAW HOSPITAL AND WORKHOUSE.—Resident Assistant Medical Officer, unmarried. Salary £125, with rations, apartments, and washing.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's road.—Non-Resident House Surgeon for six months, renewable. Salary at rate of £75 per annum.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—House Physician, also Assistant House Surgeon, both for six months. Salary of former at rate of £50 per annum, and of latter £30 per annum, with board, resi[illegible]

[illegible] Medical Officer, unmarried. [illegible] board, attendance, &c.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant for three months.

CHELTENHAM GENERAL HOSPITAL.—Junior House Surgeon, unmarried. Salary £50 per annum, with board and lodging. Also Surgeon-in-Charge (unmarried) of Branch Dispensary. Salary £90 per annum, with board and lodging.

CHICHESTER INFIRMARY.—Honorary Medical Officer.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

ESSEX AND COLCHESTER HOSPITAL.—Honorary Physician.

GARLANDS, CARLISLE, CUMBERLAND AND WESTMORLAND ASYLUM.—Junior Assistant Medical Officer. Salary £130 a year, rising to £150, with board, lodgin[illegible]

GLASGOW UNIVERSITY. [illegible]

GREAT NORTHERN C[illegible] Out-patient Depa[illegible] House Surgeon, T[illegible] Physician, in each case for six months. [illegible] at rate of £60 per annum and of Junior [illegible] with board, lodging, and washing. Also [illegible] Salary 50 guineas per annum.

HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £40 per annum, with board, lodging, and washing.

LENZIE, GLASGOW DISTRICT ASYLUM, Woodilee.—Junior Assistant Medical Officer. Salary £125, with board, lodging, washing, &c.

LINCOLN COUNTY HOSPITAL.—Senior House Surgeon, unmarried. Salary £100 ... washing. Also Junior Ho ... £25 for each period ... ing.

LONDON TEMP ... for six *months.*

MENSTON, NEA ... Assistant Medical Of ... nd apartments.

METROPOLITAN HOSPITAL, Kingsland road, N.E.—House Physician, House Surgeon, Assistant House Physician, and Assistant House Surgeon, all for six months. Salaries of Senior Officers at rate of £40 a year; of Assistants at rate of £20 a year.

NATIONAL HOSPITAL FOR THE RELIEF AND CURE OF THE PARALYSED AND EPILEPTIC, Queen square, Bloomsbury.—Assistant Physician

with board, lodging, and washing.

ST. ALBANS, HERTS COUNTY ASYLUM, Hill End.—Junior Assistant Medical Officer. Salary £150 a year, with board, lodging, and washing.

ST. MARY'S HOSPITAL MEDICA ... ator of Museum and Assistant Path

ST. PANCRAS INFIRMARY AND ... don.—Female Junior Assistant ... sistant Medical Officer. Salary ... board,

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WEST LONDON HOSPITAL, Hammersmith road, W.—One House Physician and Three House Surgeons, all *for six months.* Board,

—Resident Medical Officer. Salary

ooms, gas, coal, and attendance.

Surgeon. Salary £80 per annum,

—Assistant

of £75 per

Births, Marriages, and Deaths.

BIRTHS

BOUSFIELD.—On March 2nd, at Prince's-square, W., the wife of

s, the wife of

nnington-road,

a son.

MARRIAGES.

CHANING-PEARCE—CHAPMAN.—On March 1st, at All Saints, Kingston-

LEES ... at Palmerston-place

Leeds, M.B. Edin.,

of Forests, India, to

o late James Barker-

-Duncan, 10, Murray-

urch, Twickenham,

by the Rev. Canon

r Steen, M.D. Lond.,

n Asylum, Stone, to

Ealing.

DEATHS.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE TRUTH ABOUT VACCINATION.

UNDER the above heading the publishing committee of the Association of Public Vaccinators of England and Wales has issued a little pamphlet which is admirably adapted to catch the ears of those who may have been led away by the specious statements of antivaccinationists. It is written in a popular style and costs 1*d.* There are two illustrations, reproductions of photographs, the one being of a case of small-pox in an unvaccinated person and the other of a case of small-pox in a vaccinated person. The pamphlet is not controversial but states simple facts and, except in the case of the *fanatical antivaccinationist who is beyond any form of argument,* should convince any waverer. We hope that it will be widely distributed for it is an excellent publication.

A QUEER KIND OF DRAUGHT.

To the Editors of THE LANCET.

SIRS,—I attended a midwifery case yesterday and while waiting for

the "after-pain" *mixed with brandy. I expressed my horror and forbade* it to be given but when I was at the other end of the room I heard the patient say, "It was nasty," and found that the "nurse" had given her the draught of placental blood and brandy. I agree with the patient and say it is nasty. Needless to say, these were foreign people.

I am, Sirs, yours faithfully,

Widegate street, E.C., Feb. 27th, 1905. ISAAC GEORGE.

VICARIOUS MENSTRUATION.

To the Editors of THE LANCET.

SIRS,—I have lately been attending a case of "epistaxis" in a girl aged 20 years. The bleeding only occurs at the monthly periods, at which time she loses but little blood in the ordinary way. As she is extremely anæmic the case is interesting from the treatment point of view. She has been taking the usual tonics prescribed in cases of anæmia but I am not satisfied with the progress made. Could any of your readers advise me of any special treatment in a case of this kind?

I am, Sirs, yours faithfully,

Great Glenn, Leicester, March 1st, 1905. FRANCIS G. BENNETT.

THE IDENTIFICATION OF TYPHOID FEVER.

"X. Y. Z." sends us an interesting letter recalling some old hypotheses with regard to typhoid fever. He alludes in particular to the claims of the late Dr. Alexander P. Stewart first to have made it clear that typhus and typhoid fever were two essentially different diseases. There is a footnote in Sir Thomas Watson's classical work to the following effect. "It is a bare act of justice to record that so early as the spring of *1840* a paper was read *before the Parisian Medical* Society by Dr. Alexander P. Stewart in which the main distinctions between typhus and typhoid fever were clearly set forth." "X. Y. Z." tells us that he worked under Dr. Alexander Stewart at this time and well remembers the attention that he paid to the distinctive symptoms of *typhoid fever. He also points out that in the fourth* edition of Sir Thomas Watson's "Medicine" typhoid fever is stated not to exist in the tropics, although he and his coevals had excellent reasons for knowing that this was not the case.

MOSQUITOES AND YELLOW FEVER.

As already mentioned in THE LANCET of Jan. 21st, p. 200, the second annual convention of the American Mosquito Extermination Society was held in New York and Brooklyn on Dec. 15th and 16th, 1904, and the papers that were read included one by Dr. Quitman Kohnke, health officer of *the city of New Orleans, on the Transmission of* Yellow Fever by Mosquitoes. This paper, with numerous pictorial illustrations, is published in the *Scientific American Supplement* of Feb. 11th. *Dr. Kohnke says that the method of infection in yellow* fever is in many respects similar to the process by which malaria is communicated. Formerly it was believed that yellow fever was conveyed by contact either with patients or with articles infected by them, the so-called fomites, but the experiments conducted for the American Government in Cuba demonstrated the harmlessness of fomites by the placing of three young American men for 20 consecutive nights in a room to sleep upon and under bedclothes soiled by previous use in the yellow fever hospital. The room was kept moist and warm and garnished with articles taken from fatal cases of yellow fever, so that there was intimate contact with articles freely exposed to possible infection, but mosquitoes were excluded and no person caught the disease. Subsequently four out of seven of the persons experimented upon were infected by means of the mosquito. In a room prepared so as to exclude all possibility of infection by fomites inoculation by mosquitoes promptly produced an attack. Yellow fever, continued Dr. Kohnke, is conveyed by the stegomyia fasciata, but the germs of the disease can be taken up by the insect only during the first three or four days of the fever; after that time the blood of the patient cannot infect the mosquito. The germs require about 12 days to migrate from the stomach of the insect to the salivary glands, from which they may be injected through the mosquito's biting organ into the human blood stream. Mosquitoes after becoming infectious are capable of inoculating the disease into the human subject at intervals of three days (period of feeding) for practically an indefinite time. Screening the patient from mosquitoes during the first four days of fever (before the diagnosis) or killing all mosquitoes in the room before the twelfth day after their possible infection would certainly prevent a second case, but in practice this cannot be accomplished. The extermination of the stegomyia mosquitoes in localities infected or liable to become so would be much easier than the screening of all fever cases. Water cisterns are known to be breeding places for the stegomyia and ought to be screened. It is estimated, however, that about 75,000 of these cisterns exist in New Orleans and that very few are screened. In quarantine measures against yellow fever, concluded Dr. Kohnke, destruction of mosquitoes is exceedingly important, being second only to the detention for five days after exposure of those who are not immune; these two precautions are the only essentials in quarantine measures against the disease.

A NEW SURGICAL DRESSING.

WE have received from Mr. A. Strauss-Collin of Bush Lane House, Cannon-street, London, E.C., a sample of a new surgical dressing called "vulnoplâtre" which would appear to possess some advantages as a first-aid dressing and in minor surgery. The part of the dressing intended to be placed next the wound consists of a widely perforated waterproof fabric with an adhesive margin for affixing to the skin. Above this is a layer of cotton-wool and above this again the final covering of the dressing. This combination of plaster, cotton-wool, and bandage is certainly ingenious and deserves careful trial. The inventor claims for the dressing thorough absorption and non-retention of discharges.

THE CASE OF DR. A. D. GRIFFITHS.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me to acknowledge the receipt of the following additional contributions?

I am, Sirs, yours faithfully,
ALEXR. P. FIDDIAN, M.B. Lond.,
Treasurer.
23, The Walk, Cardiff, March 7th, 1905.

	£	s.	d.		£	s.	d.
Amount previously acknowledged	53	8	0	Dr. R. W. Jones	1	1	0
Dr. Lewis Wayne Morgan	5	0	0	Dr. Edward J. Parry ...	1	1	0
Mr. J. Lynn Thomas, C.B....	2	2	0	Mr. W. B. Wooding ...	1	1	0
Dr. Herbert G. G. Cook	1	1	0	Mr. Daniel T. Edwards	0	10	6
				Dr. Ll. Roberts	0	10	6
				Mr. D. E. Thomas... ...	0	5	0

A WARNING.

To the Editors of THE LANCET.

SIRS,—Please warn medical men against a man who looks about 50 years of age, is stoutly built, of medium height, round faced; when seen he had light-coloured hair, was clean shaven, except or a small light-coloured moustache, and had an ecchymosis of the left conjunctiva. He speaks with a moderate American accent, says he is a doctor, and skilfully explains his call as due to what he has heard from a well-known medical man in a distant—perhaps colonial—city, whom he will be sure his intended victim knows; and after conversation on general subjects he winds up with a plausible tale of requiring the temporary loan of a moderate sum (for an exigency of the morrow) which he loathes to seek from pawnbroker or money-lender, but will be so grateful to receive from his medical host; and if desired will leave a valuable article with the lender as a proof of his good faith and return the loan in a couple of days. Should the loan be made repayment would fail, and the "proof of good faith" would be found of dubious value as compared with the loan.

I am, Sirs, yours faithfully,
MEDICUS.
March 7th, 1905.

THE OLD EPSOMIAN REGISTER.

Dr. George Francis Longbotham, recently of Birtley, Dr. Cecil Owen Gray, recently of Sutton Coldfield, and Dr. Orme Stirling James Kellet, recently of Victoria-park, N.E., are requested kindly to communicate their changes of address, for use in an Old Epsomian Register to be issued shortly, to Mr. Edred M. Corner, F.R.C.S., 37, Harley-street, W.

◆

R. H.—1. The treatment of pain following extraction of the teeth depends upon the cause of the pain. If due to suppuration in the tooth socket it must be frequently syringed with an antiseptic lotion and, if necessary, packed with gauze. Pain often arises from undue laceration of the surrounding tissue during the operation; in these circumstances hot fomentations may be used and an anodyne mouth wash prescribed. After all operations of tooth extraction an antiseptic mouthwash should be used. 2. All handbooks of physiological chemistry supply the information which our correspondent seeks. "Food in Health and Disease," by Dr. I. Burney Yeo (Cassell and Co.); "The Principles of Dietetics," by Dr. Robert Hutchison (E. Arnold); and "Physiological Chemistry," by Dr. W. D. Halliburton (Longmans), might be consulted.

Practitioner (whose letter bears the Exeter post-mark).—If our correspondent will be good enough to supply us with his or her name and address the question as to the publication of his or her communication shall receive consideration.

Scot.—There is not the slightest difficulty in producing complete anæsthesia by "gas" but our correspondent is strongly advised not to seek the services of any but a properly qualified medical man.

Renlim.—We have not heard of the "cure" under that name. The general wording of the claims to utility suggests that it is a quack affair.

Dicus.—We have no special information but are none the less certain from the nature of the "Professor's" apparatus that he is the usual charlatan.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (15th).—[illegible] P.M.), University College (2 P.M.), Royal Free [illegible] .30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.).

THURSDAY (16th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (17[illegible] St. Bartholomew's (1.30 P.M.), St. Thomas's [illegible]), Charing Cross (3 [illegible] St. Mary's (2 P.M.), [illegible] P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2 30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Royal Ear (10 A.M.).

SATURDAY (18th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), [illegible] George's (1 P.M.), St. Mary's (10 P.M.), [illegible] M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (13th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Discussion on Carcinoma (opened by Dr. E. F. Bashford).

TUESDAY (14th).—PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17, Bloomsbury-square, W.C.).—8 P.M. Papers:—Mr. J. S. Hills: An Investigation on Linum Catharticum (a communication from the Research Laboratory of the Society).—Mr. E. H. Farr and Mr. R. Wright: Notes on Standardised Powdered Alcoholic Extracts—Extract of Belladonna Leaves.

CHELSEA CLINICAL SOCIETY (Chelsea Dispensary, Manor-street, King's-road, S.W.).—8.30 P.M. Annual Clinical Debate on Chronic Constipation and its Medical and Surgical Treatment. Mr. W. A. Lane, Dr. V. Dickinson (President), Dr. F. Palmer, and Dr. W. H. Goddard will take part in the debate.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Adjourned Discussion on the Subsequent Course and Later History of Cases of Appendicitis after Operation (opened by Mr. H. Cripps). Dr. S. West, Mr. J. D. Malcolm, Mr. W. G. Spencer, Mr. B. Clarke, Mr. F. O. Wallace, and others will take part in the discussion.

WEDNESDAY (15th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Lecture:—Mr. J. E. Stead: A Review of the Work do[illegible] by lantern slides).

THURSDAY [illegible] ND THE BRITISH CHILD-STUDY [illegible] Margaret-street, W.).—8 P.M. Lecture:—Miss M. McMillan: Fatigue in Children. (Arranged by the British Child-Study Association.)

FRIDAY (17th).—EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Paper:—Dr. A. E. Boycott: Ankylostomiasis (illustrated by lantern slides).

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos street, W)—5 30 P M Cases will be shown by Dr. O Grunbaum, Mr H. Evans, Mr. J J. Clarke, Mr S Stephenson, Dr. G

SOCIETY OF LONDON (20,
Demonstration:—Prof Gluck
Entire Larynx.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (13th)—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W C)—4 P M Dr T C. Fox: Clinique

. Hammersmith-

TUE LONDON (Pall
hrax. (Milroy
Lecture)

c (22, Chenies street,
(Medical) 5 15 P M

ital, Hammersmith

EPILEPTIC (Queen
oth Cranial Nerves

NORTH EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital, N)—4 30 P M Lecture —Dr R. M Leslie Prognosis in

UATES COLLEGE AND POLY-
M Mr P. Paton Clinique
Some Injuries to the Elbow-

POST GRADUATE COLLEGE (West
road, W)—5 P M Dr Beddard

CENTRAL LONDON THROAT AND
W C)—5 P M Demonstration

HOSPITAL FOR CONSUMPTION AND
ton)—4 P M Dr Perkins: Bronchiectasis

TI

Dr. M Bramwell: Hypnotic Suggestion and its Therapeutic Value

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W)—5 P M Mr. Edwards: Urinary Cases

Demonstration of

ISEASES OF THE
r F. W. Price:
y Tuberculosis

e road, N W)—

treet, W.C)—

ottenham Hos
ids: Intestinal

RADUATES' COLLEGE AND POLYCLINIC
—4 P M Dr E Waggett Clinique

POST GRADUATE COLLEGE (West London Hospital, Hammersmith road, W) 5 P.M Dr Abraham Cases of Skin Disease

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II of 1904, which was completed with the issue of Dec 31st, *and the Title-page to the Volume,* were given in THE LANCET of Jan 7th.

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METEOROLOGICAL READINGS.

(Taken daily at 8 30 a m. by Steward's Instruments.)

THE LANCET Office, Mar. 9th, 1905.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain fall	Solar Radia in Vacuo	Maximum Temp Shade.	Min Temp.	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M
Mar. 3	30 22	N E	0·03	70	45	35	36	37	Cloudy
" 4	30 28	S W		60	47	33	35	35	Cloudy
" 5	29 92	S W	0·01	51	49	35	44	46	Cloudy
" 6	29 99	N W	0 19	81	51	42	42	43	Cloudy
" 7	29 94	W	0·01	63	53	43	45	46	Overcast
" 8	30 08	S W	0 14	70	51	39	33	41	Overcast
" 9	29 55	S.W	0 15	66	53	41	49	50	Showery

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The Milroy Lectures
ON
INDUSTRIAL ANTHRAX.

Delivered before the Royal College of Physicians of London on March 7th, 9th, and 14th, 1905,

BY T. M. LEGGE, M.D. OXON., D.P.H. CANTAB.,
HIS MAJESTY'S MEDICAL INSPECTOR OF FACTORIES.

LECTURE I.

Delivered on March 7th.

MR. PRESIDENT AND GENTLEMEN,—Knowledge of the incidence of industrial anthrax in this country has been greatly increased as the result of Section 73 of the Factory and Workshops Act, 1901 (previously Section 29 of the Act of 1895), requiring every medical practitioner attending on, or called in to visit, a patient whom he believes to be suffering from anthrax contracted in a factory or workshop to notify the case forthwith to the chief inspector of factories at the Home Office. The notification of the practitioner usually states merely that the case is one of anthrax. Further data are obtained in every case by inquiry a few days later both by the certifying surgeon and by the inspector of factories. During the six years 1899 to 1904, both inclusive, there have been thus reported at least 261 cases of anthrax contracted in factories or workshops or so intimately connected with such conditions that I have not thought it wise to exclude them. I have commenced with the year 1899 because since then information has been obtained of the great majority of cases which have occurred. Between the years 1896, when the enactment first came into force, and 1898 cases were reported—13 in 1896, 23 in 1897, and 28 in 1898—but there is little doubt that owing to ignorance of the requirements of the section there was failure to notify some cases which occurred. Taking the figures as a whole they can be distributed in four main divisions.

TABLE I.

Industry.	Males	Females.	Total.	Fatal.	Per cent.
Worsted and wool	70	18	88	23	26·1
Horsehair and bristles ...	53	17	70	17	24·3
Hides and skins	86	—	86	21	24·4
Other industries	15	2	17	6	35·3
—	224	37	261	67	25·6

Going more into detail as to industry the bulk of the cases in wool have occurred in the processes of wool-sorting, wool-combing, and spinning carried on as independent industries or as preliminary stages in the manufacture of carpets, blankets, and rugs, and of felt; in horsehair they have occurred principally in hair-combing for stuffing purposes and in brush-making; in the hide and skin industry, while the incidence has been mainly at the docks, in warehouses, and tan-yards, isolated cases have been noted in the making of leather articles. The cases included under other industries are interesting. This heading includes isolated cases among workers of horn and persons employed in rag-sorting, in unloading corn, in carrying sacks of potatoes, in a fruit warehouse, in the railway station, and in the manufacture of chemical manure. The total number of persons employed in wool, worsted, and shoddy in the United Kingdom in the year 1901 is stated to have been 259,909 (106,598 males and 153,311 females).[1] Of this large number, however, only 1171 (1164 males and seven females) are classed as being engaged in sorting, and 3093 (1882 males and 1211 females) in combing, the dangerous kinds of wool under the special rules for wool-sorting and wool-combing (Van mohair, mohair, alpaca, pelitan, cashmere, Persian and camel hair), making a total of 4264 persons incurring special risk. At least 64 of the cases occurred among persons employed in the sorting and combing processes of the scheduled dangerous classes of wool. I have excluded from this number cases of outside infection conveyed to others by workers manipulating these wools and

vers, even when these occurred

wools were manipulated and

ection from insufficient separation of one process from another. On the number (4264), therefore, exposed to risk, taking these 64 cases, the figure of attack is 1·3 per cent. or 0·21 per cent. per annum. In horsehair factories, in all processes, the total number employed in the year 1901 was 2206 (724 males and 1482 females). The number of cases of anthrax in horsehair factories was at least 40. I have excluded from this figure altogether the cases which occurred from the use of horsehair and bristles in brush factories. Estimated in the same way as for wool, the figure of risk in the horsehair industry is 1·8 per cent., or 0·3 per cent. per annum. The risk in horsehair factories generally, therefore, stated in this way shows itself to be greater than in wool, when the figures dealt with are limited to those manipulating the scheduled dangerous classes. For particular factories, both of wool and horsehair, *a very much higher attack rate could be given.*

Knowledge of the population of the workers throughout the kingdom is necessary to see whether incidence of anthrax follows closely the lines of relative density of population in the particular industry. This is brought out in the following table, where for each of the counties in England the numbers employed in wool, in horsehair, and in leather are inserted. The figures for horsehair do not include persons employed in brush-making. The number of these is 5365. So far as I have been able to ascertain, however, only three or four of the cases included under horsehair can be attributed to bristles. The figures as to persons employed are least satisfactory for the hide and skin industry. They include all the tan-yards but it is probable that only a very small number of those employed in docks or in wharves and warehouses, among whom incidence of anthrax is greatest, are included. Table II. shows the number of persons employed in: (1) wool, worsted, and shoddy factories; (2) horsehair factories; and (3) leather in the several counties of England; and the number of cases of anthrax in the six years 1899–1904. (The figures for (1) and (2) are those of 1900 and for (3) of 1898.)

In the whole of Scotland among 29,256 persons employed in wool three cases of anthrax were reported in the corresponding six years (two in Ayr and one in Lanark); among 794 employed in horsehair nine cases (all in Glasgow) were reported. No cases were *reported among the 15,563 persons* employed in leather. One case from manipulation of hides occurred in Swansea.

Incidence of anthrax on persons employed in wool is centred almost entirely round the Bradford district of the West Riding and in Worcestershire. No case at all has occurred in the woollen factories of the Stroud Valley in Gloucestershire, Wiltshire, Somerset, and Devon, representing a population of 7000; and again in the whole of Scotland, where nearly 30,000 are employed, only three cases have been reported. This is explained by the fact that, except in the two counties named, the nature of the manufacture does not involve the use of dangerous classes of wool in the raw state from Asia Minor and Persia to be described presently. In the cloth factories of the Stroud Valley and in Scotland colonial wool chiefly is manipulated. Distribution of the cases from manipulation of horsehair follows much more closely the population so engaged which suggests that the dangerous classes of hair from China, Russia, and Siberia are more generally used. Discrepancies

number of persons employed in

similar to those noted in wool.

Surrey,

ire, and

number

in this

industry is mainly confined to the ports of London and Liverpool.

The fatality of the reported cases (25·6 per cent.) is probably higher than would be expected by medical men having knowledge only of cases treated in hospital and less than that expected by the general lay public which believes it hardly possible for recovery from anthrax to take place. It seems, however, to be that which is to be anticipated of anthrax when all cases are included and when the type is mainly external. In Italy,[2] where anthrax is notifiable, in the 11 years 1880–1890 there is record of 24,052, of which 5812 proved fatal—24·1 per cent. In St. Denis and the department of the Seine,[3] between 1886 and 1893, among 123 cases there were 35 deaths—28·4 per cent. Of 91 cases in the horsehair industry in Germany 29 proved fatal—31·6 per cent. Wilhelm Koch[4] collected particulars of 1473 published cases of malignant pustule in which the result was stated and of these 472 died—32 per cent. He adds, however, that these figures must relate to many cases where diagnosis was not made until late and treatment was therefore deferred. Of the 261 cases only six, all of which occurred in Bradford and were all fatal, appear to have been of the internal type. In 248 of the cases the situation of the pustule is stated and this may be grouped as follows:—

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[1] Supplement to the annual report of the Chief Inspector of Factories for the year 1902 (Cd 1979), dated 1904.

TABLE II.

—	Wool.		Horsehair.		Hides and skin.	
	No. employed.	No. of cases in six years.	No. employed.	No. of cases in six years.	No. employed.	No. of cases in six years.
ENGLAND.						
Bedford	—	—	—	—	107	—
Buckingham...	—	—	—	—	28	—
Cambridge	—	—	—	—	189	—
Chester	280	—	—	—	824	—
Cornwall...	57	—	—	—	92	—
Cumberland	896	—	—	—	390	—
Derby	754	—	—	—	437	—
Devon	1224	—	—	—	757	—
Dorset	—	—	—	—	35	—
Durham	809	—	—	—	100	—
Essex	35	—	—	—	123	—
Gloucester	3275	—	—	—	436	3
Hants	—	—	5	—	304	—
Hereford...	5	—	—	—	123	—
Hertford...	—	—	—	—	169	—
Huntingdon	—	—	—	—	—	—
Kent...	—	—	—	—	657	—
Lancaster	11832	6	117	5	3052	23
Leicester...	2869	—	—	—	214	3
Lincoln	—	—	—	—	425	—
London	227	1	214	30	3869	49
Middlesex	—	—	18	—	58	—
Monmouth	51	—	—	—	20	—
Norfolk	129	—	145	1	83	—
Northampton	—	—	—	—	1061	—
Northumberland...	34	—	1	—	308	1
Notts	220	—	—	—	775	—
Oxford	945	—	—	—	—	—
Rutland	—	—	—	—	—	—
Salop	585	—	—	—	155	—
Somerset	1961	—	121	8	896	—
Stafford	32	—	—	—	898	1
Suffolk	—	—	469	2	321	—
Surrey	45	—	—	—	698	—
Sussex	12	—	—	—	126	—
Warwick...	1101	—	—	—	346	—
Westmorland	498	—	—	—	46	—
Wilts	2140	—	—	1	252	3
Worcester	7263	12	122	4	689	—
York, East Riding	27	—	5	—	852	—
„ North Riding	4	—	—	—	101	—
„ West Riding	187204	66	195	10	4268	2
Total	224514	85	1412	61	25038	85

TABLE III.

Situation.	Number.	Per cent.
Head and face	108	43·5
Neck	103	41·5
Upper extremity	31	12·5
Lower extremity		1·2
Trunk	3	1·2

According to the occupation so in a measure does the situation of the pustule vary. The above list represents cases where infection arises mainly from dust. In the hide and skin industry, however, the pustule was situated on the neck in 49·4 per cent. of the cases as compared with 29·5 per cent. in wool—a difference to be accounted for perhaps by carrying of the hides on the shoulder. The arm, as might be expected, is much more frequently selected as the site of the lesion when the disease is contracted from work connected with the disposal of a carcass, although even then, apparently, it is less frequent than on the face. In 923 cases particulars of which were collected by W. Koch[5] this is brought out (Table IV).

TABLE IV.

Situation.	Number.	Per cent.
Head and face	447	48·4
Neck	45	4·8
Upper extremity	370	40·0
Lower extremity	26	2·8
Trunk	35	3·8

He further states that of the cases on the upper extremity the situation occurred most frequently on the fingers and the hand. In only one of the list I have prepared was the finger affected. In the anthrax districts of Thuringen, in 209 cases the pustules were situated 74 times on the face, 53 times on the arm, and 51 times on the hand and the fingers. The accident of situation is of considerable moment in determining the severity of the disease. Thus in the cases under review of 13 on the upper eyelid six were fatal—46 per cent.; of 103 on the neck, 31—30 per cent.; of 19 on the forehead, 2—10·5 per cent.; and of 31 on the upper extremity (including the shoulder), 4—12·9 per cent. Inability often to venture on an operation, absence frequently of the diagnostic sign of local necrosis, and the looseness of the cellular tissue account for the high fatality where the upper eyelid or the eyebrow is affected. And even in recovery from the local lesion in this situation extensive sloughing of the eyelid often results. Other figures,[6] based on 180 observations, give the mortality on the head and the face as 26·3 per cent., on the trunk as 22·7, on the neck as 18·5, on the upper extremity as 13·8, and on the lower extremity as 5·1.

The figures which I have given for this country exclude the cases which have occurred to the numerous class of persons who come into contact with animals infected with anthrax during life or have taken part in their slaughter and disposal of the carcass. Unfortunately, in no country can more than a guess be made of the number thus engaged who suffer. In Great Britain the annual returns of the causes of death published by the Registrar-General are of material help. Table V. shows the number of registered deaths from anthrax since 1882 and since 1899 the large share of them borne by those due to factory or workshop conditions.

In 1901 deaths not due to factory conditions were those of a butcher and a fireman in the merchant service; in 1902, of two farmers, a shepherd, and an auctioneer and valuer (the latter had assisted in dressing a dead carcass); and in 1903 of a grocer's assistant, a farm labourer (contracted from bone manure), a butcher, and a gamekeeper. The figures show a marked increase in the decade 1894–1903 (140 deaths) as compared with the previous one (90 cases). Comparison with other countries is not possible as I cannot find that deaths

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[2] Sullo Stato presente della Sieroterapia Anticarbonchiosa, by A. Sclavo, Turin, 1903, p. 28.

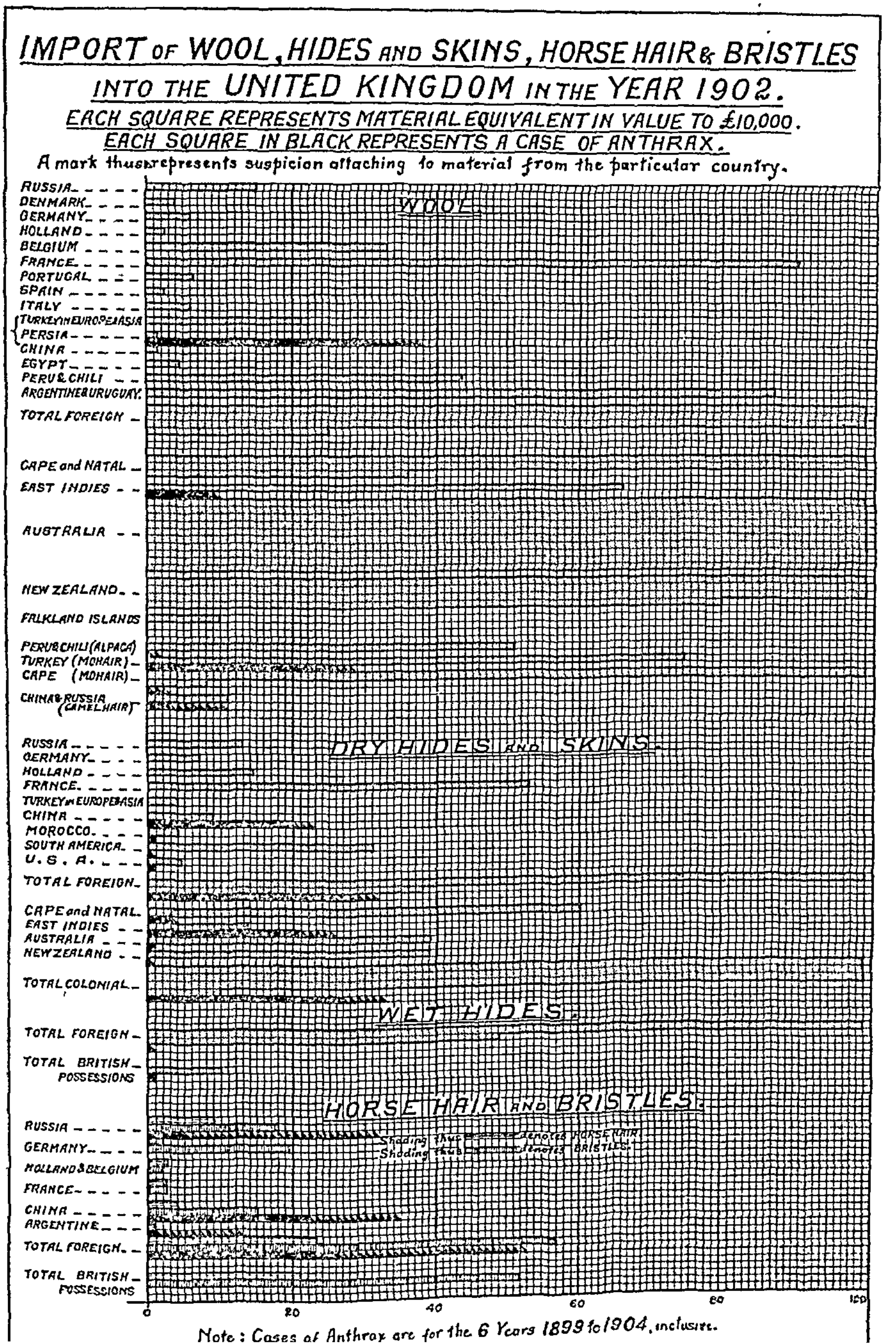
[3] Maladies Professionnelles, Paris, 1903, p. 83.

[4] Milzbrand und Rauschbrand, 1886, p. 112.

[5] Loc. cit.

[6] Nassarow, quoted by Sclavo, loc. cit., p. 29.

FIG. 1.


IMPORT OF WOOL, HIDES AND SKINS, HORSE HAIR & BRISTLES
INTO THE UNITED KINGDOM IN THE YEAR 1902.
EACH SQUARE REPRESENTS MATERIAL EQUIVALENT IN VALUE TO £10,000.
EACH SQUARE IN BLACK REPRESENTS A CASE OF ANTHRAX.
A mark thus represents suspicion attaching to material from the particular country.
WOOL.
RUSSIA
DENMARK
GERMANY
HOLLAND
BELGIUM
FRANCE
PORTUGAL
SPAIN
ITALY
TURKEY IN EUROPE & ASIA
PERSIA
CHINA
EGYPT
PERU & CHILI
ARGENTINE & URUGUAY
TOTAL FOREIGN
CAPE and NATAL
EAST INDIES
AUSTRALIA
NEW ZEALAND
FALKLAND ISLANDS
PERU & CHILI (ALPACA)
TURKEY (MOHAIR)
CAPE (MOHAIR)
CHINA & RUSSIA (CAMEL HAIR)
DRY HIDES AND SKINS.
RUSSIA
GERMANY
HOLLAND
FRANCE
TURKEY IN EUROPE & ASIA
CHINA
MOROCCO
SOUTH AMERICA
U. S. A.
TOTAL FOREIGN
CAPE and NATAL
EAST INDIES
AUSTRALIA
NEW ZEALAND
TOTAL COLONIAL
WET HIDES.
TOTAL FOREIGN
TOTAL BRITISH POSSESSIONS
HORSE HAIR AND BRISTLES.
RUSSIA
GERMANY
HOLLAND & BELGIUM
FRANCE
CHINA
ARGENTINE
TOTAL FOREIGN
TOTAL BRITISH POSSESSIONS
Shading thus denotes HORSE HAIR
Shading thus denotes BRISTLES
0
20
40
60
80
100
Note: Cases of Anthrax are for the 6 Years 1899 to 1904, inclusive.

from anthrax are tabulated separately in either France or Germany. Some information on the point, however, is given in the annual reports on diseases of animals in Germany[7] where it is stated (although the figures do not profess to be complete) that in the decade 1894-1903 901 cases of human anthrax occurred, of which 128 were fatal. In 442 of these only can the occupation of those attacked be made out, this number including 312 employed in disposing in one way or another of carcasses of animals which had died from the disease—51 farmers or farm labourers, 25 shepherds or cowherds, 26 horsehair workers, 9 tanners, 7 veterinary surgeons, 4 meat inspectors, 6 butchers, a gamekeeper, an estate agent, a shoemaker, and a person employed in a foreign lamb-skin store. In Austria of 250 cases treated by Graef[8] and two other surgeons nearly all were employed on the land.

TABLE V.

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.	Deaths due to factory or workshop conditions.
1882	10	5	15	1893	6	1	7	—
1883	5	3	8	1894	7	3	10	—
1884	13	5	18	1895	11	2	13	—
1885	7	4	11	1896	8	1	9	—
1886	8	3	11	1897	16	2	18	—
1887	10	1	11	1898	16	2	18	—
1888	11	1	12	1899	16	5	21	17
1889	6	1	7	1900	10	—	10	7
1890	3	1	4	1901	11	1	12	10
1891	1	2	3	1902	12	1	13	9
1892	5	1	6	1903	15	1	16	12

With the exception of this country, in all other countries of the world probably anthrax in the human subject is derived much more from contact with the carcass of a dead animal than from the spores contained in the wool, horsehair, hides, and skins of animals imported from distant countries. It is important therefore to ascertain as nearly as can be done the country of origin of the material which conveys anthrax to the factory workers in Great Britain. The source of the suspected material so far as it can be shown is brought out in Table VI.

A mere statement of the source and origin of the infected material which gave rise to the cases in the last six years conveys little information that is surprising unless this is interpreted in the light of the amounts imported from the various countries. The diagram I have prepared[9] shows the value of the amounts of wool, of horsehair, and of hides and skins imported in 1902 in pounds sterling from every country exporting more than an amount equivalent to £10,000. The diagram relates solely to imports and regard has not been had to the very considerable quantities which are re-exported. In the case of wool this is nearly one half, but it would have been impossible for me to have prepared a table showing the amount of material from each country which was consumed in this. The figures show the values of the material shipped from the various ports in the different countries. (See Fig. 1.) There can be no doubt that the considerable amounts from France, Belgium, Holland, and Germany include material which, so far as the country of origin is concerned, ought to be added to that from Persia, Turkey, &c. While I have taken the value of the imports for one year only the number of cases of anthrax attributed to the material from the countries are those of six years. Notwithstanding these limitations to be put upon the diagram it is at once apparent that in the case of wool a small fraction of the total quantity imported has conveyed all the infection. No single case has with certainty been traced in the six years to wool from Australia and New Zealand which in the year 1902 amounted to 417,442,529 pounds, valued at £13,537,457. On the other hand at least 30 cases with certainty, and possibly 40, have occurred from use of Persian wool valued in 1902 at £13,159. At least 21 cases again have occurred from use of mohair and Van mohair imported from European and Asiatic Turkey, the value of which in the same year was £746,818. In horsehair at least 22 cases are traceable to material from China, valued in the year in question at £40,758, or, if bristles be added, at £188,650, and several cases also to Russian or Siberian material valued at £266,497. In hides and skins imported in the wet condition (mainly from Italy and South America through the ports of Germany, France, Holland, and Belgium) only two cases could with any certainty be traced, although such material in 1902 was valued at £1,595,109. In dry hides, on the other hand, 19 cases were due to manipulation of material from China valued in 1902 at £87,989, and a similar number from Bombay and East Indian raw dry hides valued at £265,422.

TABLE VI.

Wool.		Horsehair.		Hides.	
Persian (Bagdad)	29	China	22	China	19
Persian or camel hair	7	Russia, Siberia, or China... ...	13	China or East Indian, &c.	5
Persian or alpaca...	1	Siberia or Russia	5	Madagascar, East India, or China ..	1
Mohair or Persian	1	South America or Siberia or Russia	13	Bombay, East Indian	20
Mohair	13	All kinds except Chinese	5	East Indian or Russian green hides	1
Van mohair	8	Indefinite	12	Cawnpore goat skins	1
Mohair or cashmere or camel hair	2			Cape or Singapore	1
Cape mohair or Turkey mohair...	3			Cape...	3
Mohair or alpaca ...	1			Australian	1
Pelitan or mohair	1			South American or New Zealand ...	1
East Indian... ...	8			Arabian	1
Native, Colonial, or East Indian... ...	2			Morocco	1
Camel hair	3			West African... ...	2
Finished tops ...	1			Buffalo hides... ...	1
Probably Persian or East Indian ...	2			Madras and Bombay tanned hides	1
Indefinite	6			Tanned sheep skins	2
				Tanned boot leather	1
				Native	1
				Columbia	1
				Persian goat skins	3
				Indefinite	19
Total	88	Total	70	Total	86

Having thus shown the part played by the introduction of raw foreign material in the production of anthrax in man I turn to the information available which will throw light on the occurrence of anthrax in animals in these countries, especially in Asia, and on the conditions which favour its spread. These will be found, I think, in conditions of soil, of climate, and equally also in the primitive nomadic life of many of the inhabitants which takes no thought of rational preventive measures. Anthrax in animals is common in all parts of the world. Official figures[10] showing the gross number attacked in such countries as make returns are set down in Table VII. for the years 1901 to 1903.

In France, Hungary, and Sweden the returns are made, not of the number of animals attacked, but of the number of infected farms, and of those in France there were in the three years 416, 395, and 491 respectively; in Hungary 1974, 2158, and 2754; and in Sweden 224, 218, and 179. From one other country in Asia statistics of the prevalence of cattle diseases are given—namely, in India. The numbers of animals that died from anthrax in the North-West Provinces and Oude, North and South Punjab, the Bombay

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[7] Jahresberichte uber die Verbreitung von Thierseuchen im Deutschen Reiche, Arbeiten aus dem Kaiserlichen Gesundheitsamte.

[8] [illegible] Band x, 1903.

[9] Based on t [illegible] e United Kingdom with Foreign [illegible] 902, vol. i.

[10] The figures, except those for Great Britain, are taken from Jahresberichte über die Verbreitung von Thierseuchen.

TABLE VII.

Country.	Cases of anthrax in animals.		
	1903	1902	1901.
Great Britain	1,143	1,032	971
England	792	706	674
Scotland	324	307	281
Wales	27	19	16
Germany	4,626	4,852	5,843
Netherlands	409	356	261
Belgium	512	512	541
Norway	595	537	467
Denmark	15	155	69
Switzerland	237	300	210
Italy	3,959	6,099	2,604
Roumania	452	104	192
Bosnia and Herzegovina	241	166	273
European Russia and the Caucasus	47,300	42,423	54,731
Asiatic Russia	4,200	6,802	6,886

Presidency, Bengal, Burma, Sind, Rajputana, Madras, and Berar are stated to be as follows:—[11]

TABLE VIII.

—	1899	1900	1901	1902	1903
All animal diseases	343,906	304,931	249,691	228,606	258,419
Anthrax	33,667	36,070	25,997	28,081	30,715

Although these figures may be, and probably are, inaccurate the statement remains in the report that rinderpest and anthrax are the "two most prevalent fatal diseases of Indian cattle." There is an inclination always to doubt the accuracy of statistics on anthrax inasmuch as all sudden deaths of animals which cannot be otherwise accounted for are often ascribed to it. Still, the figures which have been given are separated from the other recognised animal diseases such as rinderpest, cattle plague, foot-and-mouth disease, &c. In the recent Tibetan mission[12] it is stated that anthrax chiefly reduced the number of yaks which accompanied the force from 3000 to 1450. Too much stress must not be laid on the greater number attacked in one country over another in the absence of knowledge of the number of animals in each country. Table IX. shows the actual incidence of the disease per 10,000 of each class of animal. I can only give the figures for Germany and Great Britain.

FIG. 2.

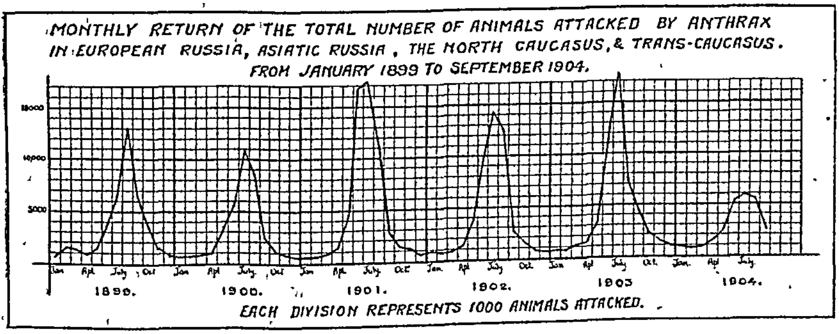

TABLE IX.

Country.	Year.	Horses.	Cattle	Sheep	Goats	Swine
Germany ...	1903	0 36	2 11	0 35	0·03	0 08
Great Britain	1903	Not stated	1 2	0 02	Not stated	0 8

Although this is the average for the whole of the countries named, incidence in particular districts is far greater. Thus among cattle in the district of Düsseldorf it was 11·15 per 10,000, in Zwickau in Saxony 8·8, in Chemnitz (also in Saxony) 8·5, and in Anhalt 6·6. In this country in 1903 in Haddington it was 15·4 per 10,000 and in Aberdeenshire 4·9. Interest to us centres round the large figures obtained from Russia. In the 59 districts in European Russia from which returns were received in the month of August, 1904, cases of anthrax were only absent from three of them and in the 13 districts of Asiatic Russia they were absent from four. The importance of the figures in establishing the law which I believe underlies the whole question of the incidence of anthrax among animals in Asia and in man in this country is brought out by distributing the cases month by month over a period of years as has been done in the following curve. (See Fig. 2.)

Until March of each year there is practically no change in the incidence; there is then an enormous development of the disease, reaching its maximum in July and August, followed by a rapid fall in September and October; in November and December the same figure as that for the early months of the year is reached. This same curve of seasonal influence is apparent, though less marked, in the figures showing incidence of anthrax in Germany since 1885. In contrast to this figures taken quarterly in Great Britain show least incidence of anthrax in the third quarter, July, August, and September. Thus, of a total of 4250 outbreaks in the six years 1899–1904 there occurred in the first quarter 1114, in the second 1166, in the third 850, and in the fourth 1120. As is to be expected in countries where incidence of anthrax is greatest in the hot summer months and where industrial conditions are not predominant incidence on man is subject to the same law and is dependent on direct transmission from animals to man. Thus in Italy of 11,102 cases of malignant pustule reported in Italy in the five years 1892–96 there occurred in the first quarter of the year 1482 cases, in the second 1398, in the third 5286, and in the fourth 2936.

It is interesting to see whether in this country there is any corresponding fluctuation of the disease in man such as occurs in animals in Asia (for what holds good of seasonal influence in European and Asiatic Russia may be assumed to be the same in all countries in Asia exposed to like high summer temperatures). Any close relation between the two must be interfered with, firstly, because factory work at home is continuous all the year round, and secondly, material is stored for varying periods both in Asia and in this country and such as is collected in the summer months in Asia will not necessarily be handled at a corresponding later date here in the factory. The fact that the average number of cases in each of the four months—July to October—is 15·1 and for each of the eight other months is 25·7 points slightly to reflection of the lessened incidence among animals in the winter months in Asia.

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[11] Annual Administration Report of Civil Veterinary Department in India.

[12] Report on the Working of the Army Veterinary Department with the Sikkim Tibet Mission, by Lieutenant-Colonel R. Moore, Simla, 1904.

The simplest explanation of the facts stated is seasonal variation in temperature and all that this means in changes in the soil and vegetation. We know of the anthrax bacillus that its greatest development takes place at a temperature of 35° C., that multiplication is arrested below 12° C. and above 45° C., and that cooling below the freezing point does not kill it. Spores are most readily produced at a temperature of 32° C. Below 18° C. and above 42° C. the capacity for sporulation ceases. In studying the possible saprophytic growth of the bacillus Koch[13] found that excellent media for its growth could be obtained from emulsions of seeds rich in starch, such as barley, wheat, peas, and grass, and from the fresh juice of potatoes, turnips, &c. Living plant cells do not form a suitable soil but water in which hay and straw have been allowed to decay, if neutralised or made slightly alkaline, became a suitable medium. Possibly the presence of chalk in the soil by neutralising the acids produced in decay may help to render suitable soils otherwise unfitted for the bacillus to develop in.

The characteristic of anthrax specially to infect certain districts has been known for centuries. Long before the bacillus anthracis was discovered as the *causa causans* the epidemiology of anthrax had been studied in many different countries by Hewsinger,[14] especially in Siberia and Germany, with results which led him to the conclusion that the conditions of climate and soil which favoured the development of anthrax in animals were the same as those which favoured the development of malaria in man. In Siberia it was most commonly met with on the salt grass steppes, in the river valleys, and round the bitter lakes. He had noted that its occurrence never failed on land rich in organic matter and liable to putrefaction, such as is found in the impervious peaty moorland soils with tendency to the formation of pools and marshes. The existence of brackish water and generally of water containing alkaline salts which favours decomposition favoured also the development of anthrax. He observed, too, that the use as fodder of the grass or hay of particular meadows or districts was believed to be often the cause of outbreaks. Wilhelm Koch,[15] from consideration of the principal anthrax districts in France (on the banks of the Loire, Oise, Aisne, Saône, the marshy low-lying country of the Gironde, &c.), in Germany (on the banks of the Danube, the swampy sides of the Bavarian Highlands, the valleys of the Elbe, Mulde, Saale, Bode (which are all liable to flood), and elsewhere, concludes that the favouring conditions of soil for the development of the disease as an epizootic are: (1) fairly impervious soils of chalk, marl, or clay; (2) sandy soil, but only when the sand lies in a thin layer on impervious ground and when it is intimately mixed with decomposing animal and vegetable matter; and (3) peaty soils rich in organic and mineral substances, such as prairies, steppes, and moor and marsh land. Height above the level of the sea matters little, but a definite temperature must be reached at which the growth of the bacillus and formation of spores can take place—i.e., between 18° and 40° C. For a typical anthrax district are required only, in addition to the bacillus, a degree of moisture in the soil greater than that of the surrounding country, periodical high temperatures, and profuse vegetation. The moisture must not be so great as to constitute a bog, because the bacillus will not multiply in land thus saturated. As Billings[16] expresses it, "Places liable to be flooded and drying out to a considerable degree in summer and often exposed to the full action of the summer's sun" are those which describe the anthrax district. In America he describes some of the most marked centres as "cups" in high prairie lands, which retain the spring rain but tend to dry out in the summer. The flooding of low-lying lands, followed by drying from great warmth, make certain parts of the valley of the Mississippi markedly anthrax districts. There during the spring and summer of 1895 of a total of 103,507 horses, cattle, sheep, and pigs 6655 were attacked. In the Bavarian Alps in Switzerland Billings further says: "The people know almost to a day how long they dare let cattle graze on the anthrax districts before they must remove them." Factors which must not be left out of consideration, as they form important links in the chain of the creation of anthrax districts, are the insect bird and animal life and the occurrence of dust storms. Marchoux and Salimbeni[17] have shown, for example, the part played by vultures in South America in the spread of anthrax, first by observing them devour the carcasses of animals which had died from the disease and subsequently finding the bacilli in the excreta.

If we consider for a moment the conditions under which the sheep and animals are reared in Asia, especially in Central Asia, the likelihood for occurrence of anthrax among them is apparent. The central plateau of Asia Minor, the home of the Angora goat, is characterised by a climate of severe winter followed by a sultry summer. A prominent feature of this plateau is the existence of numerous fresh and salt water lakes, such as Lake Van, the brackish waters of which have no outlet. Wool is grown in all parts but the quantity produced is dependent on the character and modes of life of the inhabitants. Most is exported from Mesopotamia, where the nomadic inhabitants have no other occupation than to take care of very numerous flocks of sheep migrating with them according to the climate and foraging conditions. These districts are the warmest in Asia Minor and the reason why the wool from the districts of Bagdad and Bassorah is considered of such fine quality is attributed to the fact that the flocks, owing to the mild climate, can pass the winter outside, whereas in the northern mountainous regions the sheep have to be kept under peculiar roofs which are always inadequate to cover the animals which often lie in dirt. Still, the wool from the plains, though of finer quality, contains much more dust than that from the north. Even among the principal family of sheep inhabiting Mesopotamia the character of the wool differs according to the regions whence it comes and various names such as Karadi, Awassi, Mendelli, and Kerkouk are assigned to the qualities. A vast lacustrine region dotted over with lakes or tarns, many of them brackish and with no outlet, or strewn with them like beads on a string, best describes huge districts in Persia, Tibet, Kurdistan, the Kirghiz Steppes, Mongolia, and Northern China, and it is throughout these districts that varieties of the same fat-tailed Persian sheep is found and where the tending of them and of camels, horses, and cattle is the main occupation of the primitive nomadic tribes. Innumerable wild boars haunt the thickets surrounding the salt lakes and swampy delta of the Oxus and Aral.

The number of recorded instances in which the presence of anthrax bacilli has been demonstrated in imported material is not large. This must be because search has not often been made. Andrewes[18] has cultivated bacilli from the dust shaken from a few strands taken at random out of a hydraulically packed bale of China hair weighing five hundredweights. Andrew[19] found them in Siberian hair used for brushmaking in an asylum for the blind in Glasgow and Balfour Stewart[20] in a piece of a Kurachi hide in Liverpool. Other instances are given by Silberschmidt,[21] Gruber,[22] Frank,[23] and Berka[24] in horsehair and by Heim[25] in goat hair. The most important, however, of such experiments are those of Webb and Duncan made at the factory of the former in Worcester. Of eight cases of China mane hair four contained anthrax; of four bales of the same material all were infected, as were also both of two samples of dust taken from large bulk quantities. From these experiments they draw the conclusion that all bales of China mane hair must be regarded as infected. Whether further development of bacilli occurs inside a bale after it has been packed has never been determined.

If then the conditions of soil, temperature, moisture, and decomposing vegetable matter play so prominent a part in the development of outbreaks of anthrax among animals it becomes unnecessary to insist that the contagium must invariably be conveyed directly from animal to animal and from an animal that has died from the disease to man.

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[13] Mittheilungen aus dem Kaiserlichen Gesundheitsamte, Band i., p. 77, 1881.

[14] Die Milzbrand-Krankheiten der Thiere und des Menschen, Erlangen, 1850.

[15] Loc. cit., p. 91, et seq.

[16] Twentieth Century Practice of Medicine, Article, Anthrax, p. 422.

[17] Annales de l'Institut Pasteur, 1903, p. 564.

[18] Annual Report of Chief Inspector of Factories, 1899, p. 263

[19] Ibid., 1900, p. 471.

[20] Ibid., 1901, p. 239.

[21] Zeitschrift fur Hygiene, vol. xx., p. 455.

[22] Oesterreichisches Sanitatswesen, 1896, p. 6.

[23] Münchener Medicinische Wochenschrift, 1899, No. 9.

[24] Wiener Klinische Wochenschrift, 1904, No 13.

[25] Arbeiten aus dem Kaiserlichen Gesundheitsamte, 1901, vol. xviii.

Dirt and sand adhering to the fleeces of healthy Bagdad sheep and Angora goats may contain spores picked up in anthrax districts. In many outbreaks from manipulation of wool, horsehair, and hides no evidence of a fallen fleece or of damaged material is forthcoming. This view is supported by the fact, well known in the trade, that mane hair is considered much more likely to be infected than tail hair inasmuch as the mane hair comes most in contact with the earth. It explains also most readily the remarkable conclusion of Mr. Webb that it would be unsafe to assume that a single bale of horsehair from China was free from risk. The conditions under which animals are herded together in winter "under roofs always inadequate to cover the numerous animals," as is the custom in Kurdistan,[26] or the shelter given to the sheep in caves by the Bedouins in the vilayet of Aleppo might be expected to be much more productive of anthrax once a case occurred than the conditions of soil and temperature described. There is, however, no evidence pointing in this direction.

Several outbreaks of anthrax in animals have been directly traced to spores which have escaped from factories in which raw animal products are dealt with either through pollution of streams or through refuse dust used as manure on fields. Sometimes, however, infection is even more direct. Thus two horses at grass in a field on to which dust from Persian wool used in the manufacture of blankets was blown died from the disease in 1901 in Yorkshire. In a series of outbreaks near Zürich[27] eight out of 22 animals were infected by dust blown from the chimney of a horsehair factory and at least seven other cases were due in one way or another to conditions in this factory. Almost the first recorded outbreak of splenic apoplexy in cattle,[28] as the disease was then called, occurred in the valley of the Yeo in Somerset and the existence of a considerable glove industry at Yeovil suggests that the outbreak had relationship with factory conditions. I mention this outbreak because recently Houston[29] has demonstrated the presence of anthrax (1) in the general effluent from the final catchpit in a hide factory in Yeovil; (2) in the septic tank liquor, the sludge, and the washings of coke from primary and secondary coke beds, and (3) in mud from the banks of the river Yeo and Yeo brook. That the spores of anthrax would, he says, "be swept from the banks in time of flood and carried when present in the mud or river bank down the river to be spread over low-lying land bordering the river hardly admits of any doubt." He guards himself against magnifying the danger thus apparent by saying that "flood water, 'while widening the potentially infective anthrax area,' might affect so wide a separation of the individual spores of anthrax one from the other as to largely remove the element of danger." The fact that there is no increased incidence of anthrax in the hottest season of the year in this country points to the absence of the peculiar and special conditions of temperature and soil which are necessary for the germination of the spores into bacilli and further multiplication of the latter.

On the corporation sewage farm at Kidderminster since 1897, where incidence on the workers from the use of Persian wool during the same period had been high, there have been 11 outbreaks. An outbreak on the sewage farm at Market Harborough in October, 1904, synchronised with the occurrence of three cases of malignant pustule in men employed at a tannery where previously no case had been known to occur. Illustrative outbreaks of a similar nature have been described by Mr. J. Spear,[30] the one traced to washings of Van mohair, manipulation of which had given rise also to cases of malignant pustule in man, and from the refuse sludge from a tannery in London which was used on the farm of the occupier of the factory. Similar outbreaks are reported from Germany[31] and the United States. Thus, in 1901 15 cattle, and in 1900 23 cattle, were believed to have contracted the disease in Marbach on the Neckar by eating grass infected by the water of a stream used in washing foreign hides. At Kirchhain in Hesse-Nassau, an important tanning centre, in 1901 and previous years several outbreaks in animals had been traced to the use of hay from meadows manured with the hair and refuse from tanyards. In 1899 on the Black River, Wisconsin,[32] the distribution of the cases along the river bank for a distance of ten miles below a tannery receiving hides from South America and China indicated the river water as the carrier of the virus. The influence of tanneries in spreading anthrax among the operatives and cattle on pastures watered by streams carrying off the refuse from them was made the subject of inquiry in Pennsylvania during 1897.[33] The deaths of 12 men and 60 head of cattle in that year were attributed to the manipulation of Chinese dry hides in the tanneries of that State. While in some cases, therefore, the association of outbreaks of anthrax in animals with factory and workshop conditions is clear, the evidence when closely examined in this country fails to show that incidence of outbreaks of anthrax in cattle is greatest in counties where industries connected with wool or with raw animal products are mostly carried on. Elsewhere[34] I have shown that the number of outbreaks and the number of cattle attacked in each county worked out as a proportion on the number of cattle in each of the counties over a period of five years, negatives so far as can be done by this means, any close association. Indeed, incidence on animals appears to be greatest in counties where danger from factory conditions appears most remote, as, for example, in Cornwall, Westmorland, Northumberland, Hertford, Aberdeen, Banff, Elgin, and Haddington. Incidence of anthrax on animals is twice as great in Scotland as it is in England, yet incidence on the human subject from wool is negligible in Scotland as compared with England. No doubt the direct influence of a particular factory in causing anthrax in animals operates over an extremely limited area, but the use which it is well known is made of refuse dust from wool and horsehair factories as manure is an unknown quantity and may be the cause of many outbreaks the origin of which cannot be traced. Most cases are rightly attributed to the consumption by cattle of infected fodder either from direct grazing on fields where previously cattle had died from the disease, or from grass which had been cut from places where animals have died, or where the carcasses have been buried at an insufficient depth.

As showing the probable relation of the bacillus to the soil I would cite as instructive the tracing of outbreaks in 1903 and 1902[35] to the feeding of cattle on turnips grown near the place where an animal suffering from anthrax had been [illegible] in the digging up of [illegible] f the death of six [illegible] from consumption [illegible] s of anthrax must have been attached, as only the six oxen thus fed succumbed. But recital of such cases does not explain sufficiently all the outbreaks in animals, particularly those erratic instances occurring on farms hitherto free from the disease. To account for these McFadyean[56] suggests two possible sources: (1) artificial manure and (2) imported feeding stuffs. Against the view that artificial manure can be the cause he states "the erratic way in which outbreaks occur throughout the country apparently quite unconnected with the more or less liberal employment of artificial manure." In analysing 39 consecutive outbreaks, in 29 of which there was no previous history of anthrax on the farm, he found that in 26 of the 39 outbreaks the animals were receiving a diet into which artificial food in different forms entered. He says: "The circumstances connected with the series of outbreaks deepen the suspicion which already existed that a considerable number of cases of the disease in this country have an extraneous source of infection and that the vehicle of infection is not infrequently some artificial food stuff of which the raw material is derived from a foreign country." In one outbreak amongst cattle which caused the death of six valuable shorthorns he isolated the bacillus from linseed cake and in this instance as soon as the linseed meal was stopped the outbreak ceased. In another outbreak among horses in London similarly the bacillus was isolated from the oats. Of the outbreaks in Germany in 1903 Russian bran was believed to have been the cause in several instances. In 1902 fodder consisting of bran, barley or hay from Russia is cited as having been believed to be the cause of the outbreaks in seven instances. In 1901, in addition to fodder imported from Russia, reference is made to two farms believed to have been infected from fodder grown in the tropics. This view makes intelligible the source of infection in the case of a corndealer, a person unloading corn in a warehouse, and a person carrying sacks of potatoes mentioned at the beginning of this lecture. If the soil under certain conditions is recognised as a suitable medium for the growth of the bacillus it is no longer necessary always to seek for the material cause in raw animal products alone.

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[26] S. P. Sweeney in Wool and Manufacture of Wool, by W. C. Ford, Washington, 1894.

[27] W. Silberschmidt: Zeitschrift fur Hygiene, vol. xx., p. 455.

[28] Duguid: Transactions of the Seventh International Congress of Hygiene, vol. iii., p. 213.

[illegible] Report of Com- [illegible] e Local [illegible]

[32] Wisconsin Station Report, H. L. Russell, 1900, pp. 171-84

[33] Influence of Tanneries in Spreading Anthrax, by M. P. Ravenal, M.D. Paper reprinted in the Veterinary Journal, 1899, vol. xlix., p. 23

[illegible] p. 131.

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The Hunterian Lectures

ON

THE PHYSIOLOGY AND TREATMENT OF SURGICAL SHOCK AND COLLAPSE.

Delivered before the Royal College of Surgeons of England on March 6th, 8th, and 10th, 1905,

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LECTURE I.

Delivered on March 6th.

MR. PRESIDENT AND GENTLEMEN,—In most of the surgical treatises of the seventeenth and eighteenth centuries shock, if it is mentioned at all, is only described as a complication of gunshot injuries and it is attributed to the commotion or agitation communicated to the body by the bullet. Peter Lowe, a Scotchman, writing in 1612, describes syncope as a "sudden fall and decay of the whole forces of the body," and he gives as the cause of it "intemperature of the noble parts, vehement passion of the spirits, and anything which may destroy the vital spirit." The shock following gunshot injuries is attributed by him to a loss of vital heat or spirit. Le Dran, in 1737, describes shock as due to the agitation set up in the body by the bullet. Travers, writing in 1826, attributes it to a functional concussion, Groeningen, in 1835, describes shock as due to the vibratory effect of the injury. This commotion theory of shock seems to have been the most usually accepted one up to a comparatively recent date. Dupuytren attributed shock to a hæmorrhage of nerve energy. Shock has often been supposed to be due to an effect upon the heart caused by the injury either of the nature of exhaustion of that organ or of the centres controlling it. In almost all text-books on surgery there is a chapter on shock and its treatment, but if one looks back at the older text-books one cannot help being struck by the fact that there is very little difference between the way in which the subject is treated in the older books and in the more modern ones. With but few exceptions we find that the cause is mentioned as doubtful, or unknown, or is wrongly attributed to cardiac exhaustion, and the methods of treatment are based with but few exceptions upon empirical grounds or upon false ideas of the physiological causes.

The two great dangers of any big surgical operation are sepsis and shock. Thanks to the modern aseptic methods of performing operations sepsis has been practically eliminated as a source of danger and the most extensive and heroic operation can now be performed with almost complete safety as regards any fear of subsequent septic infection. But we still have to contend with shock and our aim should be to eliminate that also as thoroughly and effectually as we have eliminated sepsis. Could we be certain of preventing shock or of effectually treating it much would have been done to render surgical operations free from danger and we should be able to reduce the mortality of many operative procedures. Much has already been done by improvement in the methods of administering anæsthetics, by improved methods of operating, by saline infusion, and other allied methods to get rid of this source of danger. But much still remains to be done before shock can be said to have ceased to be a danger in the more severe surgical procedures, especially when these involve interference with the abdomen or its contents.

The study of the causation of shock is not a pathological study and pathology can teach us little or nothing in regard to it. It is a study in physiology, or rather in morbid physiology, and to understand shock and its production it is necessary to understand the physiology of the circulation and more especially of the blood pressure. If we consider the circulation as a great hydraulic system we cannot help being astonished at the way in which the pressure is maintained at or near a uniform level. In spite of the complexity of the circulatory system of man the blood pressure is maintained within a few degrees of the normal range even under extreme variations in outside pressure. In a normal healthy individual the variations in the blood pressure which follow changes from the standing to the sitting position or violent exercise or changes in atmospheric pressure are very slight. Just, however, as is the case with the thermic mechanism, so with the circulation once the individual is in an abnormal condition from disease or injury great changes in the pressure are liable to follow comparatively slight effects. The circulation of the body may be looked upon as a vast hydraulic system of infinite complexity and under the most complete control and these conditions as the results of a breakdown in the system. Ever since Harvey's great discovery the circulation of the blood has been the subject of much study. Till comparatively recently, however, but little has been known about the hydraulics of the circulation. Investigation has chiefly been confined to observations upon the pulse-rate and although the arterial tension has always been considered important and much has been learnt by its careful study by experienced clinicians, no great advance has been possible until the discovery of a suitable instrument by means of which the blood pressure can be measured accurately under normal and abnormal conditions. There are two ways in which the physiology of the circulation has been studied: (1) by experiments on animals; and (2) by clinical observations with the aid of suitable instruments for recording the blood pressure.

1. *Experiments upon animals.*—A very large number of most carefully conducted experimental observations have been carried out upon animals for the purpose of investigating this subject. There cannot, I think, be any doubt about the accuracy of these experiments as they have been amply repeated and confirmed by control experiments. There is now a very large amount of experimental data on which a more or less exact knowledge of the physiology of the condition known as shock can be founded. The most valuable work that has recently been done upon this subject is that of C. S. Sherrington, Louis Cobbet and Roy, and G. W. Crile. Almost the whole of the experimental data have been obtained by experiments upon dogs. One often hears it said that the results obtained by experiments upon dogs are not a fair criterion of the same conditions in man. And this argument is often used against the adoption of results obtained in the lower animals by experiment in the treatment of abnormal conditions or disease in man. There is, of course, a certain amount to be said for this argument but since it is impossible for experiments to be performed upon man experiments upon animals afford the only way of ascertaining the physiological conditions of the circulation in health and disease. I think when by experiments upon animals we find certain definite results follow upon certain definite causes and from these results are able to deduce a working theory which is adaptable to man, we should consider it carefully. In the case of shock the facts are very conclusive. By a large series of experiments upon dogs the physiology of shock has been most carefully worked out and the most important factors in the causation of that condition have been accurately determined. Assuming that the physiological causes of shock so worked out are also correct in man we find that all the clinical facts are compatible with that assumption and that if careful observations of the blood pressure in a patient suffering from different degrees of shock are made the results are the same as those in the experiments on animals. And further, still assuming the

theory to be correct, we find that if we treat patients suffering from shock by methods founded upon the known physiological cause of that condition we are able to modify or to arrest the shock. When these conditions are fulfilled I think we are justified in saying that we have as much proof of the causes and physiology of shock in man as is necessary. In the case of shock all these methods of [illegible] ed out and have been found to [illegible] physiology of shock cannot be [illegible] main factors in its causation are known and have been sufficiently proved to allow of their being taken as a foundation for methods of rational treatment.

2. *Methods of estimating the blood pressure in man.*—Numerous instruments have been invented for the purpose of making clinical observations of the blood pressure. The earlier forms of apparatus, such as Hurthle's, where the arm was inclosed in a glass cylinder filled with fluid, are only suitable for laboratory work. Potain's and Hoepfle's instruments, though designed for clinical work, were too inaccurate to be of much value. These instruments were designed to estimate the pressure necessary to obliterate the pulse. Oliver's hæmadynamometer is not a very accurate instrument except in the hands of its inventor or a specially skilled observer. Gaertner's tonometer is too complicated for ordinary use and has too large a margin of error. The most practical of these instruments are Oliver's hæmadynamometer and the Hill-Barnard instrument. The chief objection to them is that they both record diastolic pressure and that to obtain a reading with them it is necessary to measure the point at which a needle or the upper surface of [illegible] As the excursion [illegible] difficult to obtain [illegible] d there is thus a large margin of error. In the hands of skilled observers they no doubt give very fairly accurate results but in the hands of others they are apt to be very untrustworthy. Another objection to this type of instrument is that it takes some little time to obtain a reading of the blood pressure. For an instrument to be of much clinical value it is necessary that it should be able to be used by anyone of average intelligence without any special training in its use and that there should be only a small margin of error. By far the most satisfactory instrument is the Riva-Rocci sphygmometer in one or other of its different forms. This consists of a mercurial manometer connected by rubber tubing to an inflatable rubber armlet which fits round the arm above the elbow. Connected to the tubing by a T-piece is a rubber bellows by means of which the pressure within the armlet can be increased. It estimates the pressure, acting at right angles to the artery, which is necessary to obliterate the pulse at the wrist on the peripheral side of the cuff or armlet. This pressure is the maximum systolic pressure. This is a thoroughly practical and useful instrument; it is simple in construction, it gives a positive reading within one or two millimetres of mercury, no special skill is needed to use it, and there are no springs to become worn and alter its accuracy. The Riva-Rocci sphygmometer was first brought into general use by Dr. Harvey Cushing. The great advantage of this instrument over all previous ones is that it can be very easily used and is simple in construction. Any nurse can take a reading with it and both at St. George's Hospital and the North-Eastern Hospital blood pressure charts have been kept for me by the nurses for some time and the instrument has proved perfectly suitable for ordinary routine clinical work. A reading with it can be made by anyone who has been trained to feel the pulse. The instrument records systolic pressure and the objection has been raised that this may result in error and that the mean arterial pressure ought to be taken. The mean arterial pressure would certainly be better, but it is not at present possible to get any instrument with which the mean arterial pressure can be recorded that is in any way suitable for practical use. The Riva-Rocci instrument can be used for ascertaining both the systolic and diastolic pressures (from which the mean pressure can easily be calculated) by using rigid tubes to connect the different parts of the apparatus. The position of maximum pulsation of the mercury column will then give the diastolic pressure. A portable Riva-Rocci instrument on this principle has been invented by Dr. Zaneway of New York. Zaneway's instrument has heavy tubing and is arranged to allow the diastolic as well as the systolic pressure to be ascertained. Stanton's instrument is also similarly constructed. Erlanger has invented a recording sphygmomanometer, with which it is possible to obtain absolutely accurate readings of both the systolic and diastolic pressures. This is by far the most accurate instrument but it is far too complicated and cumbersome for clinical use.

There are now several patterns of the Riva-Rocci sphygmometer. The best are those in which the cuff or armlet is at least four inches broad and in which the calibre of the manometer is not too narrow. For ordinary hospital use the patterns with a straight, upright manometer tube are the best as the reading is direct and no calculation is necessary to obtain the blood pressure in millimetres of mercury; also the mercury is less easily spilled than in the instruments fitted with a U-shaped manometer. In all the instruments which measure the blood pressure by estimating the point at which maximum pulsation occurs it is assumed that this point corresponds to the diastolic pressure. It seems almost certain, however, that it is not the diastolic pressure which is thus estimated nor yet the mean pressure. And we do not at present know what relation this so-called diastolic pressure bears to the real arterial pressure. We do know, however, that we can accurately estimate the systolic pressure by means of the Riva-Rocci type of instrument, and it is better, therefore, to record the systolic pressure only and not at present to attempt recording the mean pressure.

The blood pressure charts illustrating these lectures are compiled almost entirely from records taken with the Riva-Rocci instrument of the type shown and using a broad armlet. A source of error in the use of this instrument is that such conditions as rigid muscles, œdema of the tissue, or rigid arterial walls as in arterio-sclerosis will, by offering greater resistance to the compression of the pulse, lead to too high pressures being recorded. As a matter of fact, the error is not great except when marked arterio-sclerosis exists and for the present purpose this objection may be allowed to pass, since it is the variations in arterial pressure in a given case rather than the comparative records of blood pressure in different patients that are of importance. Its greatest value is as a test of therapeutic measures, since not only does it show the exact effect upon the blood pressure of the administration of a certain drug or procedure but it enables us to ascertain with accuracy the duration of this action. As showing the value of certain methods of treatment for conditions such as shock and collapse it is of the very greatest value and it has put an entirely new complexion upon the use of stimulants.

In using the Riva-Rocci sphygmometer the patient should always be in a horizontal position. The armlet is then adjusted round the arm above the elbow and whenever possible I use the left arm so as to keep the conditions as comparable as possible. The armlet should fit closely and should be strapped on. The instrument and inflator are then connected and with the left hand feeling the pulse air is pumped slowly into [illegible] gradually increased until [illegible] the pressure at which th [illegible] meter and then the pressure is allowed to fall slowly and the exact point at which the pulse at the wrist returns is noticed. This pressure or the mean between it and the first reading is taken as the blood pressure. In order to avoid error from respiration affecting the blood pressure as far as possible I always take a second pair of observations at once in the same way and take the mean of the four readings. It takes about 30 seconds, as a rule, to take a record of the blood pressure when one is used to the apparatus. In taking blood pressure charts of operations I always, if possible, obtained two or three observations of the patient's blood pressure previously to the commencement of the administration of the anæsthetic. During the operation observations were generally taken every five minutes or oftener if it seemed advisable. No observations were taken while anæsthesia was being induced as the variations were considerable but unimportant.

The accuracy of the instrument has been tested by observations on the cadaver, the pressure (artificially produced) within the vessel being known. It was found that the Riva-Rocci instrument gave accurate results and the resistance of the tissues caused but slight differences. By the kindness of Dr. A. D. Waller, the director of physiology at the Imperial Institute, and Dr. W. L. Symes I have been able to test the accuracy of the Riva-Rocci sphygmometer upon animals by actual comparison with a mercurial manometer connected to a cannula in one of the main arteries. Three experiments were made upon different animals. In the first experiment a glass cannula connected to an ordinary mercurial manometer was tied into the right femoral artery and the armlet of the Riva-Rocci sphygmometer was fastened round the left thigh of the animal. In the first two animals used it was found very difficult to feel the pulse and in order to do so the artery had to be exposed in the popliteal space and directly palpated. The readings were as follows: Riva-Rocci sphygmometer, 108, 107, 107; Hg manometer, 110, 106, 106. In the second experiment the same procedure was followed. The readings were: Riva-Rocci sphygmometer, 65, 65; Hg manometer, 64, 64. In the third experiment a medium-sized dog was used and it was possible to feel the pulsation of the posterior tibial artery through the skin without exposing the vessel. The results obtained were as follows: blood pressure in right femoral with Hg manometer connected to the artery, 106, 108, 108, 110, 86; blood pressure in the left femoral obtained by Riva-Rocci sphygmometer, 118, 107, 110, 110, 84. The error of the first reading was accounted for by the armlet not being adjusted properly. These experiments show that the instrument works with quite a negligible degree of error and that the readings obtained with it may be taken as accurately representing the blood pressure in the artery compressed by the armlet. The resistance of the tissues overlying the artery did not appear in these experiments to make any difference to the readings, as the blood pressure observed with the sphygmometer was sometimes higher and sometimes lower than the real blood pressure, and what error there was appears to have been due to the personal error of the observer and not to any fault in the instrument.

Variations in the blood pressure in health.—Gravity plays a very important part in the height of the blood pressure in man and considerable variations occur in the pressure as estimated by observations on the brachial artery in different positions of the body. Dr. Stephens made a series of observations upon 22 male medical students of an average degree of health in different positions. The median or average pressure in the supine position was 156·4 millimetres of mercury and the pulse-rate was 68·7. This is the position in which the blood pressure in the body as a whole is maintained at a high level with the least difficulty as shown by the low pulse-rate as compared with any other position. In the head-down position the average pressure is 165·6 and the pulse-rate 65·8. In the standing position the average pressure is 131·0. In the lateral positions there is a very marked difference on the two sides which is accounted for partly by the effect of gravity and partly by the relation of the heart and great vessels to the position. The average pressure is 133·8 and the pulse-rate 68·6. In the right lateral position the blood pressure is 1·5 millimetres of mercury greater than in the left. The difference in the pressures in the left and right brachials is very marked, varying least in the supine and head-down positions, though in some cases it was as much as 20 millimetres of mercury. It is not possible or advisable, considering the great variations in blood pressure in different positions of the body and on the two sides, to fix any normal pressure. The normal pressure may be taken as being between 120 and 140 millimetres of mercury for a young adult. The most usually adopted normal pressure is 130 millimetres of mercury. In my own observations I have found 130 to be the most common normal pressure for a healthy adult of middle age. Mental conditions, such as excitement, fear, &c., cause temporary alterations in blood pressure. A series of observations made in America on the inmates of an orphan asylum demonstrated frequent slight variations in the blood pressure of different and of the same individuals. The ingestion of food causes a marked alteration in general blood pressure. A rise in pressure first occurs after a meal, to be followed by a fall which reaches its minimum in a few hours. This fall in pressure in the brachial artery is due to a corresponding rise in the splanchnic blood pressure due to the flushing of the intestines with blood.

Under abnormal conditions.—Variations in pressure outside the body cause alterations in the blood pressure but the vaso-motor centre is capable of compensating the pressure to an extraordinary extent. Thus in the sinking of caissons and building of tube railways the workmen often work in compressed air under very high pressures. It has been found that with ordinary care men are able to withstand pressure as high as 40 pounds to the square inch, an astonishingly high pressure when one remembers what a delicate mechanism the circulation is. Similarly it has been found in mountain and balloon ascents that very low external pressure can also be sustained without serious results and with comparatively slight alterations in the blood pressure. Potain made observations of his blood pressure during balloon ascents. In diseased states great variations in blood pressure often occur. Inflammatory conditions, especially if they affect the peritoneal cavity, cause a considerable rise in the blood pressure. In fact, perforation of the intestines or stomach and peritonitis have been diagnosed by observations upon the blood pressure. Curiously enough, organic cardiac disease has, as a rule, but little effect upon the general blood pressure. In fevers a marked rise in blood pressure is generally noticed at first but if the fever is long continued a decided fall subsequently occurs. A decided fall in blood pressure is seen during the critical stage of almost all fevers. Variations in the blood pressure occur in a great variety of abnormal and diseased conditions and it seems not improbable that in future these variations will prove to be of as much clinical importance as the variations in body temperature now are. A considerable fall in the arterial blood pressure usually results in one of three abnormal conditions or morbid physiological states—syncope, shock, or collapse. To study any one of these conditions necessitates a study of all three, since the physiological factors in each are similar. I shall start by defining these three conditions according to their physiological causes in order to prevent, if possible, any misconception in terms and I shall then proceed to give the reasons for these physiological definitions. Syncope may be defined as a sudden cessation of the cerebral circulation or cerebral anæmia. Shock may be defined as the condition resulting from a fall in general blood pressure due to exhaustion of the vaso-motor centres. Collapse may be defined as the condition resulting from a fall in general blood pressure due to inhibition of the vaso-motor centres or a loss of circulating fluid in the vessels.

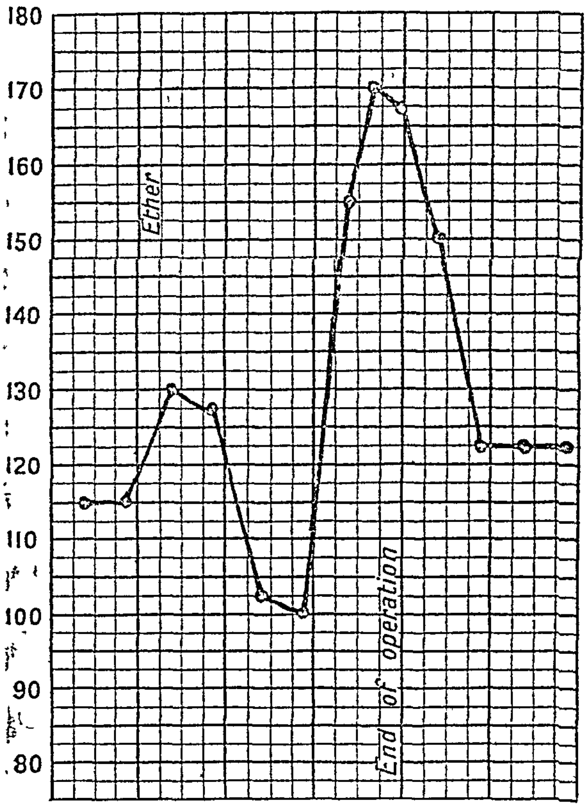
Syncope.—This is a condition that appears to be peculiar to human beings. It has been shown by Mr. Leonard E. Hill that if a tame hutch rabbit is suspended by the ears it soon passes into a condition of syncope and if not put down dies. A wild rabbit, however, will stand being placed in a vertical position for a considerable time. If, however, the wild animal be chloralised suspension soon results in syncope and death; if when the animal is in this condition a tight abdominal binder be affixed the animal recovers and further suspension has no effect. The most probable reason why syncope or fainting is peculiar to the human subject is that the nervous system of man is much more highly developed and more delicately balanced than is the case in animals and also that man owing to his upright position has his circulation more under the influence of gravity and so has to depend almost entirely upon his nervous system for the proper maintenance of his cerebral circulation. In man any sudden disturbance of the higher vaso-motor centres which puts them even momentarily into abeyance allows gravity to act upon the circulation and as we should expect is followed by a sudden fall in the cerebral blood pressure, resulting in anæmia of the brain and syncope. In animals, however, we should not expect this to happen as their horizontal position does not give gravity the same advantage in respect of their cerebral circulation. That many other causes besides the fall in cerebral blood pressure contribute towards the condition we call syncope there can be little doubt; all the higher centres must be more or less affected, either primarily or secondarily, but the primary factor in the causation of syncope is the sudden stoppage of the cerebral circulation resulting from a fall in general blood pressure. It appears fairly certain from the experiments of Hill and Gulland that, whether there are vaso-motor nerves to the pial vessels or not, the vaso-motor centre does not exert any influence over the cerebral circulation such as is the case in other organs; so that the anæmia of the brain which occurs in syncope is entirely attributable to the fall in blood pressure in the general circulation and is not the result of any local contraction of the cephalic blood-vessels. It seems probable that the condition of syncope is due to a cessation of function of the cortical centres of the cerebral hemispheres, as loss of consciousness is the most marked symptom of the condition. A certain amount of rigidity is commonly seen in syncope and sometimes this may amount to a spastic condition. It would be extremely difficult, if not altogether impossible, to collect any statistics to show in what percentage of all cases of syncope there is definite spasticity of the limb and trunk muscles. Cases of syncope occur quite unexpectedly as a rule and. no medical man is at hand to observe whether the patient is rigid or not during the attack. Most medical men, however, who have been questioned on this subject admit that marked rigidity is often present. I have myself frequently observed marked spasticity in patients who have fainted and believe that a certain amount of spasm invariably accompanies a genuine attack of syncope. Professor Sherrington was the first to describe a condition which he has called decerebrate rigidity and which is a form of persistent extensor spasm. He found that after ablation of the cerebral hemispheres in an animal this condition of decerebrate rigidity comes on, either immediately or after the lapse of several minutes; the condition is a spastic one of the limb and neck muscles, the whole animal being more or less rigid with the exception of the digits. This spastic condition lasts for several hours or even days. It can be inhibited by peripheral stimulation of the skin or any of the afferent nerves or cortical centres. This decerebrate rigidity which occurs in animals after removal of the cerebral hemispheres probably has some relation with the spastic condition seen in human beings during an attack of syncope, only that in the latter case it is due to sudden alteration in intracranial pressure. That sudden anæmia of the brain from cutting off of the blood-supply will give rise to syncope there does not seem to be any doubt; obliteration of the carotid arteries in man is followed by dizziness, loss of consciousness, and often by spasm. It is interesting to notice in this connexion that some people are able to produce syncope at will by compressing their carotids, and that this method of voluntarily causing syncope is used as a form of magic to impress the ignorant among the natives of Burma and Java. It is known as Javanese anæsthesia and is undoubtedly only syncope from sudden cerebral anæmia. It was the knowledge of this physiological fact that enabled the garroters to render their victims unconscious while their pockets were rifled. Ligature of both the carotid and vertebral arteries almost simultaneously has been performed in animals many times and is found to result in loss of consciousness and voluntary movement followed in a few minutes by clonic spasms of the neck and trunk muscles The cause of syncope is a sudden cessation of the cerebral circulation or cerebral anæmia resulting from a sudden fall in cerebral blood pressure. This sudden fall in blood pressure may be produced in a great many ways, many of which are difficult to explain. It may follow upon sudden mental impressions, especially in individuals the tone of whose central nervous system is below normal; it may follow sudden loss of fluid from the circulation; it may follow violent stimuli to afferent nerves, as in blows upon the testicle or in the splanchnic area; it may follow compression of the carotids; it may result from the effects of gravity alone, as in persons who have been long in the recumbent position and who faint upon first assuming an erect position; and it may result from several other conditions where the cause is less obvious.

In syncope, therefore, the cerebral effects produced are caused by the sudden stoppage of the cerebral circulation, but it seems probable that this is not due to cutting off of the blood-supply to the brain tissue, as if such were the case similar cerebral effects ought to occur in conditions of shock and other conditions where anæmia of the brain is produced, but we find that so long as the anæmia of the brain is produced slowly no cerebral effects result. Also we know from experiments that the brain can remain functional on a very small blood-supply. The cerebral effects that occur in syncope therefore are not to be looked for in the effect on the brain tissue caused by the lack of blood-supply. The cause of the cerebral effects, such as loss of consciousness and spasm which result from sudden cerebral anæmia, is probably mechanical from the sudden change of tension in the cranial cavity as a whole. Sudden lowering of the cerebral arterial pressure will tend to cause a vacuum in the cranial cavity as the amount of blood in the cavity tends to be diminished suddenly and the amount of cerebro-spinal fluid immediately available to take its place is very small and increase in the quantity of the latter fluid by the transudation of lymph must of necessity be slow. Consequently when the blood pressure in the cranial cavity is suddenly diminished a great alteration in the pressure on the brain tends to take place. When the cranial blood pressure is slowly reduced, however, as is the case in shock and collapse, no such sudden alteration in intracranial tension occurs and there is time for cerebro-spinal fluid to take the place of any deficiency of blood in the cerebral vessels. No alteration therefore in the intracranial pressure need occur and, as a matter of fact, we do not find loss of consciousness and spasticity associated with the conditions of shock and collapse. The physiological law which has been called the Monro-Kellie doctrine states that the quantity of blood in the brain must be the same at all times and that it is not the volume of blood but the rate of flow through the vessels that is altered by changes in the general blood pressure. I think, however, that this law is only true for sudden alterations in blood pressure and that the explanation just given why the cerebral effects seen in syncope do not occur in shock is correct.

Physiology of shock.—The essential factor in the production of the condition which we know as shock is a steady fall in general blood pressure. This fall in blood pressure results from exhaustion or fatigue of the vaso-motor centres. That it is not due to structural changes is evident from the fact that no lesions are found in persons dying from shock and that when recovery takes place it is complete. If we take the experimental evidence we find that shock may be produced in two main ways: (1) by injury to important afferent nerve paths; and (2) by exposure or injury of the abdominal viscera

Shock produced by injury to important afferent nerve paths.—In Crile's experiments the animals were anæsthetised and the general blood pressure was estimated by means of a mercury manometer tied into the carotid artery. He found that if the animals were subjected to severe and repeated traumatism involving important nerve paths after a time there was marked fall in the general blood pressure which was steadily progressive, the animal passing into the condition of shock after a certain minimum pressure was reached. If the traumatism was sufficiently severe or was continued the blood pressure eventually fell to nothing and the animal died with the usual symptoms of shock. The fall in blood pressure was slow at first but towards the end was often rapid. By connecting another manometer with the portal vessels he was able to prove that the portal blood pressure rose while the systemic pressure was falling. This proves that the essential cause in the fall in the systemic pressure is dilatation of the vessels of the splanchnic area and consequent loss of blood from the systemic circulation into that area. That this fall in blood pressure is not due to cardiac exhaustion or, indeed, any cardiac condition was proved by the fact that shock could be produced just as readily after the cardiac branches of the stellate ganglion had been divided or the cardiac inhibitory apparatus had been cut out by section of the vagi or the injection of atropine. This clearly shows that the heart has no part in the production of shock and changes in the pulse which occur in shock are entirely secondary to the changes in blood pressure. Crile's experiments clearly show that shock resulting from severe amputations or other traumatisms of the extremities is solely due (hæmorrhage excluded) to the injury to the nerves of the part and is in direct proportion to the nerve-supply. Thus shock is more readily produced by crushing the paw of an animal than by amputation of the limb high up. This was further proved by the fact that if previously to injuring the limb the main afferent nerve trunks were cocainised so as to prevent afferent nerve impulses from reaching the brain and spinal cord no fall in blood pressure resulted and no shock was produced, however severe the traumatism. Crile found that the readiness with which shock was produced varied considerably in different animals and also with injury to different nerve paths. Thus injury to the genital organs produced shock much more rapidly than injury to the paw. Stimulation of any afferent nerve tends to cause an alteration in the blood pressure. The most usual result seen from stimulating a nerve is a rise in blood pressure. This is very easily seen during experiments on animals and is frequently seen clinically during operations if a record of the blood pressure is kept by means of a sphygmometer. The incision of the skin usually results in a marked rise in the blood pressure. Dilatation of the sphincter ani causes a very marked rise in the blood pressure (see Fig. 1). A similar result is also seen during dilatation of the os uteri (see Fig. 2). Stretching a nerve such as the sciatic for sciatica causes a very great rise in blood pressure and the first effect of almost any traumatism is to produce a rise in blood pressure. Recent observations, and especially those at Howell's laboratory, seem to show that in every mixed nerve there exist definite nerve fibres the central stimulation of which produces a rise in blood pressure through their action on the vaso-motor centre. These fibres have been called "pressor fibres." There are also other fibres the central stimulation of which produces in a similar manner lowering of the blood pressure; these fibres have been called "depressor fibres." Both pressor and depressor fibres are found in all large mixed nerves. The pressor fibres are those which most readily respond to stimulation, as they are also the first to become exhausted. Howell has demonstrated that if cold is applied locally to a mixed nerve, pressor effects—that is to say, a rise in blood pressure—can no longer be elicited by stimulation but depressor effects can still be produced. Hunt, working along the same lines, has shown that certain forms and kinds of stimulus will affect depressor fibres only and consequently such stimuli produce a fall in pressure only without any previous rise. The experiments of these observers seem to show that the first effect of stimulation of a mixed nerve, whether from injury or other cause, is to produce a pressor effect—that is to say, a rise in blood pressure—but on repetition of the stimulus, or if it be of a certain degree of severity, a point is reached where depressor effects alone follow stimulation and a fall in blood pressure results. This may be seen clinically during surgical operations. I have several times noticed that when a severe operation has been going on for some time and the first signs of shock have shown themselves by a fall in the blood pressure, injury to a nerve from traction upon it, or from cutting it, or stimulation from enlarging the incision, has produced not a rise in the blood pressure as is usually the case but a definite and sudden fall to a lower level, showing that a depressor effect alone has been produced. These nerve impulses, reaching the vaso-motor centre by the afferent nerves from the site of operation or injury, are undoubtedly the main cause in the production of shock from injury or operation. This is proved beyond question by the fact that blocking these nerve impulses by cocainising the nerve trunks of the part prevents any alterations in the blood pressure resulting from injury or operation to the parts distal to that at which the nerves are cocainised.

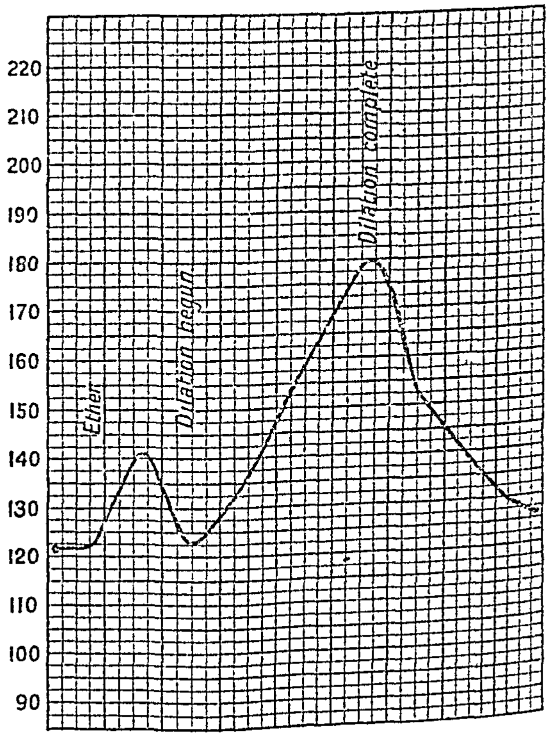
FIG. 1.



Shock produced by exposure or injury of the abdominal viscera.—If an animal's abdomen was opened and the intestines freely exposed it was noticed that after a variable interval a marked fall in general blood pressure took place accompanied by vascular dilatation of the whole of the splanchnic area and if the exposure were continued the animal was eventually reduced to a profound degree of shock. This effect did not occur immediately but was sooner or later certain and was steadily progressive. Injury or manipulation of the intestines increased the effect in a marked manner and hastened the onset of profound shock. Mere exposure of the intestines, however, without any more injury than that necessary to open the abdomen is sufficient to produce shock. The fall in blood pressure after exposure of the abdominal viscera is due to dilatation of the splanchnic vessels. This could be seen to take place in these experiments and has, moreover, been frequently observed clinically in man. Further, if the arteries supplying the splanchnic area were clamped before opening the abdomen no amount of exposure or manipulation of the intestines gave rise to a fall in the blood pressure and no shock resulted. This seems to show that one of the most important factors in the production of shock is the condition of the splanchnic vessels. The vessels of the splanchnic area may be called the key of the blood pressure. It is owing to the control of this large vascular area by the vaso-motor centres through the splanchnic nerves that the blood pressure is kept at a constant level under varying conditions of the circulation. If it were not for the existence of this great vascular reservoir the distribution of the blood in different portions of the body could not be altered to any appreciable extent without causing tremendous variations in the systemic blood pressure.

Another very important series of experiments are those of Professor Sherrington and Dr. S. Monckton Copeman in which they have shown that operations upon a healthy animal are followed by a loss of fluid from the blood. After the operation has proceeded for some time the specific gravity of the blood commences to rise. This increase in the specific gravity tends to occur earlier but is prevented by absorption of fluid from the tissues and it is when this source has been exhausted that the rise in specific gravity takes place. In one of Professor Sherrington's experiments the specific gravity of the blood rose from 1·054 to 1·062 in 15 minutes during an operation for intestinal anastomosis in a healthy dog. This increase in the specific gravity was found to last for several days after the operation and then slowly to pass off. These observations upon animals have been confirmed by testing the specific gravity of the blood of patients before, during, and after operations both by Professor Sherrington and others. Increase in the specific gravity is most marked after operations involving exposure of the peritoneum and in cases involving extensive denudation of tissue. This increase in the specific

FIG. 2.

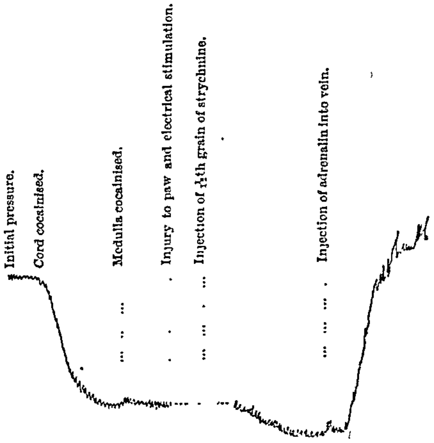


gravity of the blood is most marked after opening the abdomen and exposing the intestines and the effect is increased by injury to the intestines. It is also well marked after burning or scalding the skin. This at once suggests that the increase in specific gravity is due to evaporation from a tissue surface uncovered or denuded of the skin which should ordinarily protect it. There does not, however, appear at present to be sufficient evidence to prove that this is the case. That this factor is an important one in the production of shock in some cases the [illegible] of [illegible] me [illegible] cir [illegible] which is such a common feature after most abdominal operations. From the aspect of treatment it is of considerable importance, as it has been supposed that the transfusion of saline solution so lowered the specific gravity of the blood that it was prevented from being beneficial in the treatment of shock except when employed in small quantities. This is, however, not the case, as a large quantity of saline solution has to be injected before the specific gravity will even come down to the normal and, indeed, it was found in the experiments that although the specific gravity could be reduced to the normal by transfusion it rapidly increased again if the exposure of the peritoneum was continued. In some of the *observations made upon patients during prolonged abdominal* sections the rise was as much as five or even seven degrees. Cobbett and Roy somewhat earlier had carried out a similar series of experiments in which they showed that the shock resulting from prolonged abdominal operations was accompanied by a marked increase in the specific gravity of the [illegible] k that it [illegible] Arguing [illegible] tration of the abdominal operations to the collapse of cholera in which a similar inspissation of the blood is found to occur. [illegible] ge in [illegible] the [illegible] Dr. W. S. Lazarus-Barlow has shown that if the volume of blood in the body is increased by bandaging the extremities there is an outpouring of fluid from the blood into the tissues and the specific gravity of the tissues is *lowered*. After a few hours, however, the normal equilibrium between the blood and the tissues is re-established again. If, then, the bandages are removed the volume of blood in the body is decreased and there is a flow of fluid from the tissues into the blood so that the specific gravity of the tissues is *increased*. This seems to show that when there is a demand for a larger volume of blood the tissues give up fluid to the blood to make up the deficiency and when there is occasion for a less volume of blood in the body the reverse condition occurs. From this it seems probable that the alterations in the specific gravity of the blood which occur in shock are the result of the fall in the blood pressure.

Another phenomenon of importance which has been observed in shock was first noticed by John Hunter while bleeding a patient for syncope. He noticed that the blood which flowed from the vein was bright red instead of being blue. This arterial hue of the blood in the veins during conditions of greatly lowered blood pressure has been noticed by numerous different observers and has been attributed to very different causes. One obvious explanation is that owing to the vaso-dilatation which is the cause of the fall *in blood pressure the blood is able to get through fro* [illegible] arteries into the veins more easily than normal and [illegible] sequently does not lose its oxygen. Brown-Séquard [illegible] that this condition of an arterial hue of the venous blood was present in animals suddenly killed by electrical stimulation of the vagi, and he says that arterial contraction accompanied the condition. He therefore argues that this condition of arterial blood in the veins must be due to an arrest of all metabolic processes. He noticed the same condition in shock experimentally produced. Roger made similar observations and comes to the same conclusion as Brown-Séquard. Van Engelen demonstrated that absorption is much retarded in shock. Contjean has also demonstrated the same fact. Frank Vale has confirmed these experiments of Roger and Contjean and [illegible] Brown-Séquard's experiments [illegible] primarily due to an arrest of [illegible] arrest of cell activity and that it cannot be due simply to exhaustion or paralysis of the nerve centres. It seems to me that these arguments are not conclusive and that we can quite well attribute the arrest of metabolic processes to the fall in blood pressure.

Further proof that exhaustion of the vaso-motor centres is the cause of shock is afforded by the fact that when profound shock has been established procedures which normally produce marked stimulation of the vaso-motor centres with a corresponding rise in blood pressure have no such effect—such procedures, for instance, as electrical or traumatic stimulation of large nerves, injection of strychnine into the veins, asphyxia, &c., all of which must produce a rise in blood pressure if the vaso-motor centres are not exhausted. Crile argued that if shock is produced by exhaustion of the vaso-motor centres it should be possible to produce shock by cutting out the action of the vaso-motor centres in a healthy animal. This was done by injecting into the medulla a 2 per cent. solution of cocaine. At the time of the injection the blood pressure was 115 millimetres of Hg; immediately afterwards it fell to 50 millimetres, that is to say, to the level of profound shock. Respiration stopped and artificial respiration had to be supplied. While the pressure was at this level electrical stimulation of the sciatic nerve, the injection of strychnine, and other methods which normally caused a rise produced no alteration in the blood pressure. After the animal had been in this condition of profound shock for some time, *during which no form of stimulation caused any rise in the blood pressure*, 22 minims of adrenalin were injected; the pressure at once rose to 250 millimetres of Hg and this pressure was sustained for nearly two minutes. Crile repeated this experiment several times with the same results (Fig. 3). This experiment affords a further and most emphatic proof that exhaustion of the vaso-motor centres is the cause of shock. A similar result is also obtained if the vaso-motor centres [illegible] (Fig. 4.) [illegible] upon animals have been [illegible] *of the blood pressure* during surgical operations upon man. Some of the earliest clinical obs[illegible] made by Kapsammer working with the Gaertn[illegible] Riva-Rocci [illegible] many obser[illegible] clinical obs[illegible] procedures [illegible] and others have also recorded numerous observations. Also working with the Riva-Rocci instrument I have for some time kept careful records of the blood pressure during surgical procedures and a considerable amount of valuable [illegible] has thus been acquired. Injury to important [illegible] an produces a fall in blood pressure [illegible] as found to be the case by *Crile* in dogs. Evulsion of the Gasserian ganglion causes a considerable fall in blood pressure and shock results; this was observed

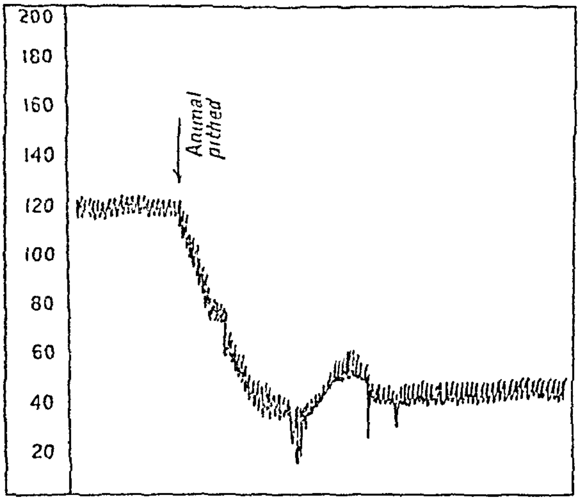
FIG. 3.



in two cases by Cushing. During amputation of the penis for epithelioma in an old man Crile observed a fall in pressure from 190 millimetres to 112. During an operation upon a scrotal hernia in which a firmly adherent sac was dissected off the cord Crile observed a fall in blood pressure from 152 to 58 millimetres. In one case of extensive removal of the breast for carcinoma in which during the process of clearing the axilla there was considerable traction upon the brachial plexus I observed a fall in pressure from 135 millimetres to 60 millimetres; the pressure soon rose again but remained for some time between 80 and 100 millimetres and a slight degree of shock developed, the pressure not returning to its previous level for over 24 hours. In another case of a very difficult excision of the shoulder for an old dislocation in a woman, aged 53 years, the pressure fell from 160 millimetres to 95 millimetres. In all cases where careful observations of the blood pressure during operation are taken the fall in blood pressure and shock which occurs is found to be in proportion to the duration of the operation, the amount of traumatism to which the tissues are subjected, the loss of blood, and the importance of the nerves in the field of operation.

In operations upon the abdomen there is usually a steady decline in the blood pressure. In the earlier stages of an abdominal operation irregular rises in blood pressure are usually noticed due to stimulatory effects from traction or trauma of the peritoneum; during the later stages a steady fall is usually observed. The extent of the decline in blood pressure is influenced very much by the amount of exposure of the peritoneum and the amount of traumatism to which it is subjected. In the case of a woman, aged 55 years, who was operated upon for the removal of an enormous fibroid of the uterus, the blood pressure fell from 140 millimetres to 70 millimetres in the space of two hours and a dangerous degree of shock developed. During an operation for gall-stones the blood pressure fell from 200 millimetres of Hg to 125 millimetres of Hg in 35 minutes The reason why shock tends to develop as the result of abdominal operations or injury is probably two-fold. In the first place the removal of the support of the abdominal wall from the contained viscera allows dilatation of the splanchnic blood-vessels to occur and this tends to lower the blood pressure. Secondly, any operation upon the abdominal contents means considerable mechanical insult to the sympathetic nerves.

FIG. 4.



The easiest and clearest way of describing the physiological sequence in the causation and development of surgical shock and of showing the different physiological factors in their true relation to one another and to the result is to describe the course of events in a case in which shock develops as the result of some surgical operation. I believe the course of events to be somewhat as follows. A fall in general blood pressure takes place or tends to take place. This will immediately be compensated for by the vaso-motor centres; vaso-constrictor impulses will be sent out and the pressure will rise again, or if this takes place with sufficient rapidity will not fall. Of course, if the shock is due to a primary breakdown of the vaso-motor centre this stage of compensation will be absent. If the cause of the original fall in blood pressure continues this compensation will sooner or later become insufficient to maintain the blood pressure and the aid of the heart will be called in by means of the cardio-accelerator centre, and for a time by increased action the heart will help in maintaining the mean pressure. This we see by the fact that in the development of shock the rapidity of the pulse is increased. As the vaso-motor centre becomes exhausted, however, a point will be reached when, in spite of the increased action of the heart, it is no longer possible for the pressure to be maintained at the normal level and consequently a fall in general blood pressure will occur. Directly the blood pressure has fallen below a certain level the circulation will become partially inefficient and not only will the circulation of the different nerve centres be impaired but the blood itself will not be properly oxygenated owing to the pressure not being maintained in the lungs. This will affect all the great nerve centres and will tend to hasten exhaustion and to prevent recovery of the vaso-motor centres. As the vaso-motor mechanism breaks down there will be a tendency for the blood to collect in the large venous trunks and especially in the large splanchnic veins. This will interfere with the intake of the heart. As the output of the heart is directly proportional to its intake and the latter is diminished owing to stagnation of the blood in the great venous trunks supplying the right auricle, the former will be proportionally diminished. It has been proved experimentally by Crile and other observers that the output of the heart is not dependent upon the aortic blood pressure but upon the pressure in the vena cava. As the supply of blood to the right side of the heart is diminished it will beat more and more rapidly to try to compensate for the small volume of blood which it has to act upon. At the same time there will be transudation of fluid from the blood-vessels into tissues or in the case of abdominal injury into the peritoneum and the specific gravity of the blood will be increased. And as the result of the falling blood pressure and failure of the circulation the general cell activity of the body will be arrested or diminished and all metabolic processes will cease and death will ensue.

Surgical shock is the result of a general vaso-motor paralysis, the primal cause being exhaustion of the vaso-motor centres. Other centres, such as the cardiac and respiratory centres, are only affected secondarily in most cases. As one would naturally suppose, shock and the conditions which give rise to it cause very marked alterations in the action of the heart. The pulse-rate affords a useful guide to the condition of the vaso-motor mechanism during operative procedures secondary only in importance to the blood pressure. In most of the blood pressure charts taken during operations the pulse-rate has been recorded at the same time as the blood pressure, and it is noticeable in these charts that during the early stages of the operation the pulse-rate follows the blood pressure. That is to say, that a rise in the blood pressure is usually accompanied by an increase in the pulse-rate and *vice versâ*. During the later stages of severe operations, however, when the blood pressure has reached a low level or when shock has developed, a fall in the blood pressure is accompanied by an increase in pulse-rate and when the blood pressure rises again the pulse-rate decreases. This shows that the heart by increased action is attempting to compensate for the fall in blood pressure and that the vaso-motor mechanism is becoming inefficient to hold up the blood pressure by itself.

I do not wish to argue that the only centres affected in shock are the vaso-motor centres. There can, I think, be no doubt that all the other centres are more or less affected in profound degrees of shock. But I think that as regards the production of the phenomena of shock the exhaustion of the vaso-motor centres and the consequent general vaso-motor paralysis is the primary factor and that the other centres are for the most part secondarily affected and that the other phenomena of shock are the result of this vaso-motor paralysis and the resulting fall in general blood pressure. In many cases of shock there is a marked *toxic element* present. We see this in cases were patients die apparently from shock soon after operations upon the abdomen, where septic peritonitis or intestinal obstruction are found to be present. Such cases often die from shock, though the severity of the operation is not sufficient by itself to account for the condition. In such cases direct poisoning of the nerve centres, especially of the vaso-motor centres by the toxins in the blood, *is a factor* of no inconsiderable importance in the production of exhaustion and paralysis of these centres. After all the step from exhaustion produced by over-stimulation or overwork of the vaso-motor centres to that of poisoning by toxic products in the blood is no great one. And in many cases of death from shock after operations for conditions where there is septic peritonitis or a similar condition present I believe this toxic element to be an important contributory factor in the production of shock. That this toxic condition of the blood may cause marked effects upon the nerve centres and may cause a fall in the blood pressure we have abundant evidence in the low blood pressure found during the critical stage of almost all acute infections, such as pneumonia, diphtheria, t [illegible] differs from shock r [illegible] tor centres are not exhausted. The symptoms in the two conditions are almost identical but whereas in shock the vaso-motor centres are exhausted in collapse their function is suspended. Collapse is the condition due to a sudden great fall in blood pressure resulting from a severe hæmorrhage or from a great and sudden loss of circulating fluid such as occurs in cholera; or from a sudden suspension of function or paralysis of the vaso-motor centres resulting from some violent afferent nerve impulse as, for instance, a blow in the splanchnic area or upon the genital organs. The symptoms in shock and collapse are practically identical. In shock, however, the condition develops gradually, whereas in collapse it develops suddenly or at any rate rapidly. There is, however, a very important difference in the way in which these two conditions react to treatment. In shock treatment is very difficult and often unsatisfactory since we have to deal with *exhausted* nerve centres. In collapse, on the other hand, treatment is much more likely to be effective, since the cause is either a lack of circulating fluid, which can be remedied, or a suspension of function of nerve centres, it being only necessary to set them going again. Crile has demonstrated that animals dying from collapse can be resuscitated 15 minutes after they are apparently dead. A dog apparently dead from the effects of an electric current of 2300 volts was restored to life and in a patient whose heart had ceased beating for nine minutes the normal functions were restored for 32 minutes.

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ABSTRACT OF

The Hunterian Lectures

ON

THE CHANGES PRODUCED BY INFLAMMATION IN THE CONJUNCTIVA.

Delivered before the Royal College of Surgeons of England on Feb. 27th and March 1st and 3rd, 1905,

BY M. STEPHEN MAYOU, F.R.C.S. ENG.,

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LECTURE III.[1]

Delivered on March 3rd.

TRACHOMA.

MR. PRESIDENT AND GENTLEMEN,—Trachoma, I think, is a specific infective disease of the subepithelial lymphoid tissue of the conjunctiva, characterised by the formation of follicles and by infiltration, which go on to subsequent cicatrisation and partial obliteration of the conjunctival sac. Clinically the disease usually appears at first in the upper fornix and is characterised by the formation of follicles. These follicles may remain for a long time and reach a large size without giving rise to any symptoms. At other times a muco-purulent conjunctivitis is set up. This muco-purulent conjunctivitis does not occur in all cases nor at the same period of any particular case, and indeed may not occur at all throughout a case. Pyogenic organisms are always found in the discharge and indeed I think the purulent discharge in these cases may be looked upon as a septic infection of the conjunctiva in addition to the trachoma which without doubt lowers the vitality of the tissue and provides a means of entrance to the organisms by rupture of the follicles. This muco-purulent conjunctivitis may have varying effects on the disease. It may be associated with increased spread, as is seen in the most virulent cases, which are usually accompanied by a quantity of discharge; or it may bring about its cure, the reasons for which will be discussed more fully when speaking of its pathology. Not only are follicles formed in the subepithelial tissue but diffuse infiltration of the tissue occurs, the conjunctiva appearing red, brawny, and swollen. Although, pathologically speaking, follicular formations and infiltration do not occur apart, they receive names to distinguish them clinically in this disease. Hence the terms follicular, papillary (in which the infiltration is chiefly superficial), and brawny œdema (Stelwag) in which deep infiltration is broken up by fibrous tissue.

The etiology of pannus will be discussed with its histology.

Histology.—These observations were made on sections from over 30 cases of trachoma.

[The appearances noted in the epithelium and the follicles were then described.]

CONCLUSIONS AS TO THE ORIGIN AND EFFECTS OF THE DISEASE ON THE CELLS OF THE FOLLICLES.

As we have already seen, trachoma is produced by direct infection. The actual cause of the disease has not yet been discovered and although numbers of organisms have been described none has yet been identified as pathogenic to the disease. Without doubt, whatever the cause of the disease, it has a very powerful action on the cells, for we have seen the amount of destruction it produces in the centre of the follicles where, presumably, the disease is most active. As a result of the destruction of these cells hyaline material is formed which may subsequently develop other changes. In the follicles of follicular conjunctivitis we find great numbers of plasma cells, whereas in a definitely trachomatous follicle they are practically absent. Now if plasma cells are derived from the endothelium with the lymphocytes, how is it that they do not appear in the follicles of trachoma? The answer to this question seems to me twofold. First, plasma cells, to judge by their intensely basic staining reaction, are probably young cells and very active proliferation of the endothelium is not taking place. Secondly, I have shown that plasma cells are not very resistant to toxins and are easily broken up; hence, if formed, they would quickly disappear. Indeed, Whitfield has suggested that the presence of these cells is evidence of the attempt at the production of local immunity in the part.

It has been stated that follicular conjunctivitis and trachoma are identical diseases and that the milder follicular conjunctivitis is simply the beginning of trachoma. This statement was made *before the introduction of plasma* stains and I need hardly say is incorrect. All the follicles in trachoma do not show the changes above described but many of them show no change beyond that found in the so-called follicular conjunctivitis. This, I think, is due to the fact that they are not infected with trachoma, for if we take an analogous example, such as in rare cases of tuberculosis which affects the follicles, necrosis can be seen in some of the follicles, lying side by side with perfectly healthy follicles. The effect of the tubercle bacillus on the cells is very nearly *allied to* trachoma, causing destruction of the plasma cell at the most active site of the disease, with an increased formation outside the diseased area. Similarly, in the early stages of tuberculosis of the lymphatic glands, there are often found follicles in the same gland which are not affected with the disease. I take it, therefore, that the granules in trachoma are follicular formation *plus* trachomatous infection, the follicles being simply an effort on the part of the tissues to produce mononuclear cells and becoming secondarily infected with trachoma. Although, indeed, as a general rule, a considerable number of them seem to be infected even in quite the early stages, as is evidenced by the cells beginning to show signs of degeneration and by plasma cells being absent, yet follicles can be found in trachoma which are packed with well-formed plasma cells and are evidently not yet infected with trachoma. These follicles may contain considerably more plasma cells than those of follicular conjunctivitis.

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[1] Lectures I. and II. were published in THE LANCET of March 4th (p. 545) and 11th (p. 625), 1905, respectively.

The Differential Diagnosis of Follicular Conjunctivitis and Trachoma.

Clinically the differential diagnosis of trachoma and follicular conjunctivitis is made principally from the following facts: 1. The follicles in follicular conjunctivitis are found principally in the lower fornix, whilst those of trachoma are in the upper. Follicles on the tarsus are more frequent in trachoma. 2. The absence of scarring in follicular conjunctivitis. 3. The absence of pannus in follicular conjunctivitis. 4. It has been said that trachoma is most common in adults although I think that there is considerable doubt about this statement, whereas follicular conjunctivitis occurs principally in children.

Microscopically: 1. Smear preparations from the conjunctiva obtained by gentle friction contain an enormous number of plasma cells in trachoma; in follicular conjunctivitis, although the discharge often contains a certain number, they are not found to the same extent. 2. Sections: (*a*) *The epithelium* in follicular conjunctivitis, although showing extensive mucoid change, does not dip down into the tissue to the same extent and there is not so much new gland formation. (*b*) *The subepithelial tissue* in trachoma consists almost entirely of plasma cells; in follicular conjunctivitis, although they occur in large quantities near the follicles, they are not packed together beneath the epithelium as they are in trachoma. (*c*) In trachoma there is an increase in the fibrous tissue which often contains a large number of mast cells; the mononuclear exudation extends into the deep layer of the conjunctiva. In follicular conjunctivitis the deeper layers of the conjunctiva are unchanged. The follicle in trachoma contains practically no plasma cells and in the centre the cells are undergoing necrosis and there are very few cells undergoing mitosis.

Epithelioid-like cells are absent from the follicles of follicular conjunctivitis but are present in trachoma. The older follicles of trachoma contain considerable numbers of well-formed connective tissue cells, which are practically absent in follicular conjunctivitis. In sections from both diseases, one finds usually follicles of varying age; it is therefore generally possible to make a differential diagnosis. But it must also be remembered that a trachomatous conjunctiva may have a healthy follicle, which may contain even a greater number of plasma cells than in follicular conjunctivitis. The most important point in determining the diagnosis is the necrosis of the cells, which in trachoma can not only be seen in the follicle but in the infiltration. (See Stelwag's brawny œdema.)

The Histology of the Bulbar Conjunctiva in Trachoma.

The epithelium shows some short papilla-like processes which dip down into the subconjunctival tissue. It is also somewhat thickened on the surface.

Subepithelial tissue.—It is usually stated that the bulbar conjunctiva is unchanged in trachoma. This is not, strictly speaking, correct. I have had the opportunity of examining three cases of bulbar conjunctiva in trachoma removed by peritomy in which there were considerable infiltration of the lids and well-marked pannus. The subepithelial tissue shows a great increase in the number of plasma cells and some chorioplaques. A quantity of new vessels with a proliferating endothelium are also seen. As the limbus is approached this layer is greatly increased in thickness and the plasma cells in the deeper layers show extensive degeneration. At the limbus there are found a number of collections of lymphocytes and mononuclear leucocytes surrounded by masses of plasma cells in every stage of degeneration. These masses of leucocytes degenerate into epithelioid-like cells towards the centre. There are no plasma cells in these masses although the surrounding tissue consists practically of nothing else. In fact, the whole appearance is similar to the follicles seen in the lids except that these follicles at the limbus are smaller in size, contain no darkly staining outer zone, and have a smaller number of plasma cells.

Conclusions as to the Changes at the Limbus.

There has been considerable discussion as to whether the condition of the limbus is a true infection with trachoma or not. I think from examining the above-described sections that the answer is without doubt in the affirmative. It is generally admitted that the bulbar conjunctiva is not affected with trachoma. No doubt as the result of the irritation produced by the friction of the granules over the surface it becomes filled with well-formed plasma cells, showing that the disease is absent, but as the limbus is approached the tissue alters entirely. The plasma cells disintegrate and masses of mononuclear leucocytes make their appearance, whilst at the limbus we find plasma cells completely absent and the mononuclear cells in every stage of degeneration forming a typical trachomatous follicle, similar to that seen in the fornix.

Histology of Pannus.

I have only been fortunate enough to cut sections of one case of pannus in which the eye had been hardened in alcohol. Clinically, the case was of not very great severity, the pannus covering about the upper third of the cornea and not very dense.

The epithelium over the surface of the cornea was slightly thickened and towards the lower margin of the pannus a break in the epithelium, evidently a small ulcer, could be seen.

Subconjunctival tissue.—Beneath the epithelium there were a considerable number of new vessels surrounded by lymphocytes and plasma cells. These had formed a more or less rounded accumulation somewhat resembling a modified follicle. Clinically I have seen cases of very thick flesh pannus in which if sections had been made I am sure that true follicular formation would have been found. Indeed, I think that pannus is nothing more than the spread of the disease from the limbus to the cornea modified by the dense nature of the tissue and the absence of the blood-vessels.

Histology of the Various Forms of Trachoma.

Papillary trachoma.—In this form of trachoma the conjunctiva, when examined clinically, is seen to be covered with minute papillæ, like the pile on velvet. As a rule this condition is found in the early stages of trachoma and as it subsides the follicles make their appearance.

Histology.—*The epithelium* is thrown into folds by the swelling beneath, the surfaces in apposition showing mucoid change; in fact, they form the so-called new glands.

The subepithelial tissue consists of an exudation of mononuclear leucocytes and plasma cells, the plasma cells being principally found directly beneath the epithelium, especially at the summit of the papillæ. Beneath the papillæ are found typical trachomatous follicles which are usually small and the existence of which is masked by the papillæ. There is comparatively little fibrous tissue; in fact, the papillary condition seems to be characteristic of the early stage of the disease.

Brawny œdema (Stelwag).—In this condition the upper palpebral conjunctiva is converted into a pale gelatinous-looking tissue; it is usually associated with much scarring and is generally found in cases of trachoma of long standing. Microscopically the condition is of considerable interest.

The epithelium is thickened and is often keratinised and, unlike the other forms of trachoma, is not thrown into folds but is smooth on the surface.

The subepithelial layer consists of infiltration much broken up by fibrous tissue, there being practically no follicular formations. The infiltration consists of a few mononuclear cells and a large number of plasma cells; these latter cells are found in all stages of degeneration, their cytoplasm being much broken up but still taking the pyronine stain. When separated from the cell this material is found both free in the infiltration and scattered through the fibrous tissue, constituting a form of hyaline degeneration. The newly formed fibrous tissue takes up the pyronine of Pappenheim's stain on that account. Sometimes this hyaline material goes on, no doubt, to secondary changes, such as amyloid and calcareous degeneration.

Phlyctenulæ.—Clinically, in its simplest form a phlyctenule is a small red eminence of about the size of a millet seed, usually seen in the ocular conjunctiva, in the region of the limbus, with a leash of dilated vessels leading up to it. As a rule, the epithelium on the surface of the eminence gives way, with the extrusion of the contents and the formation of a greyish looking ulcer, which rapidly heals. Occasionally these nodules disappear without the formation of an ulcer. Almost invariably the disease is preceded by some other form of conjunctivitis, it being very rare to find a case in which there has not been some slight discharge beforehand if the history be carefully inquired into.

The position of the phlyctenule is by no means limited to the limbus, although without doubt that is the most common situation for the lesion. It is found in other parts of the bulbar conjunctiva and, according to H. Herbert,[2] it occurs on the palpebral conjunctiva. This statement I have had the opportunity of verifying in a child suffering from a muco-purulent conjunctivitis due to the staphylococcus pyogenes albus, accompanied by pustules on the face due to the discharge from the eye. On the outer side of the limbus was a typical phlyctenule. On everting the upper lid there were three or four follicular-like enlargements on the palpebral conjunctiva covering the tarsus, one of which was ulcerating. There were no other follicles in the upper or lower fornices or in the other eye. A piece of this tissue containing two of the phlyctenulæ was removed for examination. The other phlyctenules disappeared in one week under protargol. Finally, phlyctenulæ may start in or spread to the cornea from the limbus, and when lasting for some time become vascularised by the budding out of the endothelium of the vessels from that region.

The number of the phlyctenular varies considerably. In some cases there are only one or two; in others they may be extremely numerous, the conjunctiva in the neighbourhood of the limbus being covered with very small nodules which do not usually break down into ulcers but resolve. In cases in which the discharge from the eye runs down over the face numerous pustules are formed in the skin from direct infection. The patients are usually children, although not invariably so, and are as a rule run down in health. It is stated that these children are always tuberculous and it is supposed by some authorities that these lesions are of a tuberculous nature, but since the surroundings which give rise to both diseases are the same this theory is of but little value, especially as the pathological changes do not bear it out.

Histology.—I have had the opportunity of examining eight cases microscopically which showed most of the stages of the disease.

[illegible] of phlyctenular con-jun[illegible] berculosis, is essentially ass[illegible] patient and diminished resistance to bacterial invasion. Hence it is only natural that these diseases should often be found in the same subject. The discharge in cases of phlyctenular conjunctivitis runs over the face and produces suppurating points in the skin. We know that if the staphylococcus is rubbed into the skin it will produce similar suppuration. But Leber, like Bach, has been unable to reproduce the disease by inoculating the healthy conjunctiva with the pus from these points. This, I think, may probably be accounted for in the same way that crops of boils constantly recur in the skin in patients who are out of health through reinfection from the discharge but cease to form directly the health is re-established. With regard to the histology, although in the early stages the exudation is chiefly mononuclear it becomes polynuclear before rupture takes place, a point which is almost positive evidence of the presence of pyogenic organisms. The occurrence of the mononuclear cells I think can be accounted for by the special tendency of the conjunctiva to form mononuclear cells, as has been shown when treating of the lymphoid tissue of the conjunctiva. The most frequent seat of phlyctenulæ is the limbus, a point at which the conjunctiva is attached firmly to, and supported by, the globe, so that the lid, passing constantly over the surface, is more likely to rub the organism in. Although the corneal conjunctiva is equally subject to friction from the lid the entrance of organisms is probably hindered to some extent by Bowman's membrane although phlyctenular ulcers do occur here also. Another factor undoubtedly is the absence of lymphoid tissue, for we find that phlyctenulæ only occur where none exists.

The whole course and histology of a phlyctenule correspond very closely to those of a boil on the skin, to which, I think, it is exactly comparable, with the exception that it occurs in a thin membrane in which rupture takes place very early. In the cornea where the tissues are thicker definite macroscopic abscesses are occasionally found. When the disease starts in, or spreads to, the cornea the ulcer which is produced often persists for a considerable time, the endothelium of the vessels which bud out from the limbus vascularising its base. The long duration of a phlyctenular ulcer in the cornea compared with that of one at the limbus is very marked, which is, I think, accounted for very largely by the non-vascular condition of the cornea, for we have seen that a healing phlyctenule at the limbus consists practically of new vessels and proliferating endothelium.

The comparative absence of the plasma cell in this disease is of considerable interest. We have seen that this cell does not make its appearance to any extent during acute inflammatory processes but that in tuberculosis around the foci of the disease they are present in enormous numbers. In other words, the non-appearance of the plasma cell in phlyctenulæ is indicative of an acute inflammatory process and therefore not due to tubercle which produces plasma cells in enormous numbers. In the healing stage plasma cells are not present to any extent and we have already seen in trachoma, &c., that the presence of the plasma cell is an indication of local immunity. So again in phlyctenulæ their non-appearance is associated with the fact that phlyctenule after phlyctenule can recur about the same region.

VERNAL CATARRH.

Histology.—The condition is one of enormous papillary overgrowth of the conjunctiva.

The epithelium is thickened over the surface of the papillæ and in the folds dips down into the underlying tissue. As a rule these processes show comparatively little mucoid change.

Subconjunctival tissue.—The papillæ on the tarsal conjunctivæ are very hard and consist of a quantity of dense connective tissue. It has been pointed out by Herbert[3] that in addition to the ordinary connective-tissue cells there are a quantity of eosinophile cells and that these cells are present in the discharge—a point which he considers diagnostic. I have examined six cases histologically and can confirm this point in every way. The eosinophiles, both polymorphonuclear and mononuclear, are found in enormous numbers in the discharge, whole fields of the $\frac{1}{12}$th often containing no other cells. The granules from the cells which are often rupture[illegible] the specimen they are best [illegible] with Leishman's methylene blue compound. In the tissue they are far fewer in proportion than the other leucocytes, their appearance in such large quantities in the discharge being due to their greater power of amœboid movement. They are situated principally in the small vessels lying beneath the epithelium and can be seen coming through the vessel walls, being derived from the blood. I could find no evidence of proliferation of these cells in the tissue. According to Herbert they make their way through breaks in the epithelium. Although this is so, all my sections show them actually in the epithelium, making their way through it. In addition to these cells there are considerable numbers of plasma cells, most of which show marked necrosis, evidently due to the presence of some powerful toxin.

SUMMARY OF THE CHANGES WHICH OCCUR IN THE SUBEPITHELIAL TISSUE OF THE CONJUNCTIVA AS THE RESULT OF INFLAMMATION, AS SHOWN BY THEIR HISTOLOGY.

In studying inflammation in the conjunctiva we are dealing with a tissue which is very responsive to the slightest stimulus and the cells of which are normally undergoing proliferation in the superficial layers. It is moist and warm, well supplied with blood, nerves, and lymphatics—all factors which assist in rapid tissue changes.

The cells.—The character of the cells found in the exudation depends on the character and degree of virulence of the toxin introduced into the conjunctiva; if this be extreme, as in the case of the pyogenic micro-organisms, there follows a response, not only locally in the tissue of the conjunctiva, but from other tissues of the body, such as the bone marrow, with the resultant exudation in the conjunctiva of polynuclear leucocytes[4] brought by the blood stream from these organs to the inflamed conjunctiva as seen in the early stages of a wound or in acute muco-purulent ophthalmia. When the toxin is not so virulent, especially when the subepithelial tissue is directly affected, as in the early stages of a phlyctennle, the local response on the part of the tissue is the production of mononuclear leucocytes. These cells are probably derived from the rapid proliferation of the perithelium and endothelium of the blood-vessels, lymphatics, glands, &c., which in the conjunctiva produce these cells with enormous rapidity.

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[2] Ophthalmological Review, 1898.

[3] British Medical Association Meeting, 1903.

[4] The polynuclear leucocytes are mostly neutrophile, but in some forms of exudation, such as that occurring in vernal catarrh, the eosinophile cells may predominate.

The conjuuctiva is always receiving a certain amount of irritation and therefore is producing mononuclear cells, the only period at which these cells are absent from the tissue being the fœtal stage of existence, when naturally no irritation occurs. Now when the degree of irritation is increased, as in the case of atropine irritation or in the later stages of Koch-Weeks conjunctivitis, there is an increased call on the tissue for the production of mononuclear cells, followed by the formation of follicles. This follicular formation also occurs in children without any special cause of irritation at the age when the lymphoid tissue is unusually active and is then known as follicular conjunctivitis. The follicles are either small and discrete or large and containing a number of other follicles (which I have called endo-follicles); the latter variety are identical with lymphatic glands which, like the follicles, may be of new formation. Subsequently these follicles, like the lymphatic glands, can become the seat of disease, such as tubercle, trachoma, &c., and undergo secondary degeneration changes, such as hyaline, amyloid, &c.

In all inflammatory changes of any duration the plasma cell is produced, its presence in large numbers signifying that the disease is chronic or of a non-virulent type such as diplobacillary conjunctivitis. Its origin is closely allied to the mononuclear leucocyte, its structure and staining reaction being very similar to the large mononuclear leucocyte; in fact, the plasma cell is possibly nothing more than a slightly altered large mononuclear leucocyte, and is probably a young cell, because of its basic staining reaction. It may be either directly derived from the mononuclear cells or differentiated in the process of their formation from the perithelium and endothelium. It seems to me impossible that the plasma cell can be, as is stated by Unna, derived from the fixed connective-tissue cell for reasons already given.

The great importance of these cells in conjunctival disease is that, if they are formed, they show the situations in which disease is present by disintegrating in that area; and, conversely, by their presence they show the local immunity of the area in which they are found, for if we look at sections from ophthalmia neonatorum of some duration we find the deeper tissue packed with plasma cells, whilst directly beneath the epithelium, which is known to contain the organisms producing the disease, plasma cells are absent. Between these two areas, one consisting almost wholly of plasma cells and the other having practically none, we find plasma cells in every stage of disintegration. In the follicles of the so-called follicular conjunctivitis (normal lymphoid tissue) they are present in large numbers, whilst in the trachomatous follicle they are broken up. Again, in the bulbar conjunctiva of trachoma, which is admittedly not affected with the disease, they are present in large numbers, but as the limbus is approached they decrease and disintegrate, and in the diseased follicle at the limbus they are absent. Again, in wounds of the conjunctiva they appear in 12 hours, simultaneously with the comparative cessation of exudation of polynuclear leucocytes—that is to say, that the wound has become at that time locally immune from any organism it may contain if not acutely septic. Around a phlyctenule very few plasma cells are found, in connexion with which fact we note that phlyctenulæ constantly recur in the same situation.

The endothelial and perithelial cells, as well as being the probable origin of the mononuclear leucocytes and plasma cells, are strongly phagocytic, for it is seen that they take up the particles of silver oxide in argyrosis and also polynuclear and mononuclear leucocytes and plasma cells which within these cells undergo a process of digestion. They are so numerous in resolving follicles that it would seem they may account largely for the disappearance of the exudation after the cause of the inflammation is removed. No doubt also the disappearance of the exudation is assisted by the return of a certain proportion of its cells into the blood stream and the lymphatic vessels; but the whole subject of resolution and organisation is too vast to be treated here and belongs rather to the realm of general pathology than to that of the special pathology of the conjunctiva.

THE NATURE AND TREATMENT OF EPILEPSY.[1]

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In bringing before your notice this evening some considerations upon the nature and treatment of epilepsy I am aware that I am referring to a malady which has been carefully and elaborately studied since the time of Hippocrates. The mere mention of this fact is a reason for its further study as there is a perennial interest attached to a disease so frequent in its occurrence, so graphic in its manifestations, and so intractable to treatment. Our knowledge of the mechanism of convulsions was enormously widened a generation or more ago by the elaborate physiological investigations upon the functions of the cerebral cortex but it seems to me as if the detailed study of convulsions which these investigations initiated had somewhat detracted from the more general study of epilepsy as a morbid entity, in which convulsions form only one, though an important, symptom.

It is only during the last decade that more attention has been paid to the chemical physiology of epilepsy, through a study of the fluids and secretions of the body, from which interesting and suggestive information has been obtained. From the use of finer means of staining nerve cells and their processes, from a more intimate knowledge of the association tracts in the central nervous system, and from the study of statistical data, afforded by the accumulation of epileptics in special institutions, facts have been obtained bearing upon the natural history of the disease which previously were difficult to ascertain.

It is not proposed to do more than refer to the classical fit, well known to all physicians and described in detail in textbooks on medicine. But I cannot refrain from quoting a graphic account of the grand mal seizure given by Lucretius,[2] a writer who has been able to cloak with poetical feeling one of the most gruesome sights within our knowledge. Writing some twenty centuries ago he thus describes an epileptic seizure:—

> "Oft, too, some wretch, before our startled sight,
> Struck as with lightning, by some keen disease,
> Drops sudden: By the dread attack o'erpowered
> He foams, he groans, he trembles, and he faints;
> Now rigid, now convulsed, his labouring lungs
> Heave quick, and quivers each exhausted limb.
> Spread through the frame, so deep the dire disease
> Perturbs his spirit; as the briny main
> Foams through each wave beneath the tempest's ire.
> He groans since every member smarts with pain,
> And from his inmost breast, with wontless toil,
> Confused and harsh, articulation springs.
> He raves since soul and spirit are alike
> Disturbed throughout, and severed each from each
> As urged above distracted by the bane.
> But when at length the morbid cause declines,
> And the fermenting humours from the heart
> Flow back—with staggering foot first treads,
> Led gradual on to intellect and strength."

We readily recognise in this description the main elements of the major seizure: the sudden onset, the fall, the epileptic cry, and the loss of consciousness, the tonic followed by the clonic convulsions, and the stertorous breathing. Then ensues the period during which the whole body is swept by the convulsion so that death seems imminent. Now follow a return to consciousness, with attempts to move and to speak, and the termination of the fit.

Although this is the common manifestation of epilepsy there are also seen the minor or petit mal attacks in which consciousness is more or less obscured with or without slight motor spasm. Of these two types of seizure, the commonest and the most frequently met with as the only epileptic manifestation is the major fit, then comes a combination of the major and minor attacks, and least frequently the petit mal occurring alone.[3]

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[1] A paper read before the Leicester Medical Society on Feb. 8th, 1905.

[2] Quoted from Peterson: National Association for the Study of Epilepsy, 1901, p. 11.

Epileptic equivalents.—Although these two types may be described as the classical manifestations of epilepsy there are other clinical phenomena sometimes met with in epileptics, at other times as independent symptoms, which stand in close relation to the psychical condition underlying epilepsy. The phenomena about to be described present many points of interest, are of rarer occurrence than true epilepsy, and are more difficult to diagnose. Owing to the peculiar character of the phenomena, which occasionally partake of the nature of misdemeanour or even of crime, epilepsy is brought within the range of legal medicine. I refer to the phenomena known as psychical epilepsy or psychical epileptic equivalents. By epileptic equivalents are designated certain states of consciousness "differing not only from normal consciousness but from the state of consciousness that usually occurs in epileptic attacks" (Peterson). The term really signifies a psychical state that in some degree takes the place of an epileptic seizure. Assuming this to be the true interpretation of the term "equivalent" it would be an error to regard psychical epilepsy and its analogues as sequelæ of attacks which were either so slight or so transitory as to have passed unobserved. It is therefore necessary to distinguish between post-paroxysmal psychoses, or mental phenomena [illegible] epileptic equiva- [illegible] linary fits. This [illegible] quainted with the history of the patient which is frequently difficult to obtain in the circumstances in which he is seen.

The following characters may be accepted as sufficient reason for regarding psychical clinical manifestations as epileptic equivalents: (1) the occurrence in the family history of similar or allied conditions, interchangeable with forms of genuine epilepsy; (2) their association in the same person with the classical types of epilepsy; and (3) the existence of definitely epileptic characteristics, such as sudden onset, transitory duration, and irregular periodicity.

Perhaps the best known and certainly the most striking form of epileptic equivalent is that which is described as "automatic wandering" or epileptic ambulatory automatism. A number of such cases have been recorded but I may best illustrate the condition by referring to one which has come under my own observation.

The patient, a married man, about 40 years of age, after some prodromal irritability and a few days' severe headache, lost all knowledge of his surroundings for a period of ten days, during which time he carried out some of his ordinary duties, called upon his brother on one occasion, and then disappeared from his home in London. He had no recollection of anything until he came to himself again in Hull, where he applied to the police for assistance. During these ten days he had been seen by his wife, his brother, and a friend, none of whom noticed that he was different from his usual condition except that he seemed quieter and had a dazed appearance. He answered questions satisfactorily. He had no recollection as to how he journeyed from London to Hull or where he had spent the two nights after his departure from London. He had disposed of some of the money he had with him but his watch and other contents of his pockets were untouched. He had never had an epileptic fit although at times he said he had "felt queer." He had, however, been subject to periodic headaches. His little daughter has had chorea and his brother, who has also been a patient, has had an epileptic fit and a brief attack of acute delusional insanity requiring restraint.

The main feature of the epileptic ambulatory automatism is the existence of acts of an apparently purposive character with entire oblivion on the part of the patient. The condition more closely resembles the somnambulistic state than any other; so much so, indeed, that *some states of somnambulism in adults* appear to be epileptic in character. These attacks usually occur only at rare intervals and are of great practical importance from the medico-legal standpoint. [illegible] sting of the [illegible] or periodic falling asleep should also be regarded as an epileptic equivalent. It is not a common phenomenon but a few cases have been under my observation. In one case in particular attacks of falling off to sleep lasting from one to five minutes were interchangeable with what appeared to be petit mal seizures. A brother of the patient suffered from a similar malady and a sister was subject to epileptic fits.

The close relation which exists in some cases between epilepsy and migraine leads me to the belief that *some forms of migraine* should be classified as epileptic equivalents. The points to which reference may be made are the frequency of migraine amongst the ancestry of epileptics, the presence of periodic headache in those who are subject to epileptic seizures, and the not uncommon substitution of migrainous attacks in youth by epileptic fits in later years. Some writers, while admitting the not infrequent combination of the two phenomena in the same person, deny their identity, laying stress upon the mental deterioration which occurs in epilepsy but not in migraine. It will be shown that the mental impairment found in epilepsy is a symptom of the disease in the same way as are the convulsive attacks, whilst in the aberrant types of epilepsy or epileptic equivalents now under consideration mental enfeeblement is characteristically unobtrusive.

Before leaving this part of the subject a brief reference may be made to the question as to whether epilepsy may occur without loss of consciousness. It is well known that localised convulsions or Jacksonian epilepsy indicating focal irritation of the cortical motor region may occur without this phenomenon. In epileptic vertigo consciousness is impaired to only a slight extent. It is not unlikely that some forms of abortive epilepsy in which only the aura is present may be unaccompanied by loss of consciousness, but in these cases there will be found evidence of other attacks in which consciousness is obviously lost. There is a form of attack characterised by sudden jerks or jumps, so violent as to cause a fall or to make the patient drop suddenly what he may be carrying which may be unaccompanied by unconsciousness, but these rarely occur alone, being usually interparoxysmal motor phenomena. I do not think, therefore, it is legitimate to diagnose epilepsy unless there is evidence of loss or impairment of consciousness, although, as already shown, some incomplete epileptic manifestations may be unaccompanied by loss of consciousness.

The interparoxysmal mental state.—In addition to convulsions, "sensations," "faints," and giddiness, epileptics present, as a rule, some mental impairment, but whether the mental condition is an integral part of the disease or is a consequence of the seizures has been a subject of discussion.

The mental states found in epileptics are, as a rule, described under two heads: first, those which are incidental to the seizures and form the pre- and post-paroxysmal psychoses; and secondly, the interparoxysmal mental state. It is the latter condition which should be regarded as the typical epileptic ment [illegible] of this condition consist [illegible] defect of memory, more especially for recent events. This defect of memory constitutes the first grade of epileptic dementia and was found as the only mental impairment in about 31 per cent. of the cases. The second class embraces those in whom, in addition to the impaired memory, there are defective power of initiation and capacity for work. These epileptics are slow in comprehension and often lazy; many of them are also irritable and passionate. Then follows the third class, containing those who present the most typical features of epileptic dementia. Although not legally insane they require supervision.

I have elsewhere[4] attempted to show that the interparoxysmal mental condition found in epileptics is not [illegible] nce of the seizures, but is an expres- [illegible] which [illegible] —

1. A strong hereditary disposition to epilepsy or insanity [illegible] the production of the severer types of dementia and [illegible] se as a confirmed malady.

[illegible] the disease is a potent factor in determining the mental state its influence is incidental to, rather than causative of, dementia, for we may meet with a fair degree of mental integrity even after the fits have persisted for over 50 years.

3. The age at the onset of the convulsions influences to some extent the mental condition, for the earlier the onset of the disease, especially during infancy and childhood, the

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[3] Of 189 cases of epilepsy, 106, or 56 per cent., were of grand mal type alone; 66, or 34 per cent., showed the combined grand and petit mal seizures; and 17, or 8 per cent, were of petit mal type.

[4] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxvii.

of epileptics. According to Féré[6] this is merely a local expression of a general sclerotic change found throughout the cerebrum. The observations of Chaslin,[7] Alzheimer,[8] and others point to an extensive increase in the neuroglial tissue, although Binswanger[9] has contended against the constant presence of a cortical gliosis except in cases of old-standing epilepsy with well-marked mental deterioration. Small cystic tumours and angiomata have also been described as of not infrequent occurrence and having a definitely causative influence in the production of epileptic seizures. In senile epilepsy general arterio-sclerosis is common and may cause seizures by starving the cortex of blood and by the production of small thrombotic occlusions. In status epilepticus multiple punctate hæmorrhages are usual and have been credited with the cause of this condition. Whatever may be the nature of the lesion it is generally admitted that the seat of epileptic seizures is primarily the cerebral cortex.

The recent investigations of Clarke and Prout[10] have shown that the most striking changes are seen in the sensory cells of the second cortical layer. They have found these cells swollen and undergoing the usual chromatolytic changes indicative of a functional or nutritional alteration. In addition there was a marked neuroglial overgrowth, more especially of the outer cortical layers. In their view the essential phenomena of the disease are sensory in character, the motor manifestations being secondary. With [illegible] Dr. John Turner, of the Essex County Asylum, to conduct them and he has permitted me to make a preliminary communication upon what he has found and to show some illustrative lantern slides. The phenomena which he has observed consist in the formation of coagula in the veins, capillaries and arterioles of the cerebrum and cerebellum. The clots appear to be formed by the accumulation, and eventually amalgama[illegible] show that the coag[illegible] constituent of their [illegible] undergo a degenerative change and in process of time become absorbed. The chief consequence of these thromboses, which are extensive and readily recognised, is to deprive the cortical grey matter of the arterial blood necessary for its proper function and to produce a condition of blood stasis. If the coagulation and obstruction occur in the veins, as is commonly the case, the same result is brought about as if it occurred in the arterioles—viz., arrest of the arterial blood-supply to the affected cortical area The occlusion may be either partial or complete. If the latter distension of the vessel proximal to the obstruction may ensue, with the result that small hæmorrhagic extravasations take place either into the cerebral tissue or the perivascular sheath. These are no doubt the small hæmorrhages long ago described by Hughlings Jackson which have been seen in the brains of persons dying in status epilepticus. The nutrient artery of the cornu Ammonis is a common seat for thrombosis. It is shown that the coagula are not passive processes occurring during a moribund condition, as they exhibit vital phenomena, whereby blood-vessels are blocked and hæmorrhages occur. Apparently, as a result of the deprivation of arterial blood, produced in the manner described, the large pyramidal or Betz cells show charactistic changes. Such are mainly seen in a large swollen and clear nucleus. These changes were very similar to what has been described by Mott,[11] from the experiments performed by Hill upon ligature of the carotid arteries in dogs It may naturally be asked what evidence is there that these thromboses do not take place in consequence of the convulsions. The reply to this lies in the fact that such [illegible] -cessarily [illegible] it unless [illegible]

The essential feature for the development of convulsions would appear to be *deprivation of arterial blood, coinciding with capillary and venous stasis, from cortical motor areas* In the Kussmaul-Tenner experiments convulsions were produced as a direct consequence of ligature of the innominate arteries, the spasms stopping upon the release of the ligature. Leonard Hill[12] in his work upon the "Cerebral Circulation" [illegible] comp[illegible] to the [illegible] be produced, but less quickly, by experimental ligature of veins. Hill refers to the experiments of Hermann and Esher, who obtained convulsions by ligaturing the superior vena cava and azygos veins. Further reference to Hill's work makes it clear that there is no evidence of constrictor spasm of the cerebral blood-vessels in epilepsy. He writes: "Every experimental method employed to detect vaso-constriction failed and therefore the cerebral vaso-motor spasm theory of epilepsy and convulsions must be withdrawn from pathology.[13] … .. As to the dependence of idiopathic epilepsy on cerebral anæmia, whether produced by poison or diminution of blood flow, [illegible] I submit, however, th[illegible] of Dr. John Turner [illegible] unlikely cause of [illegible] capillary thrombosis and venous stasis. I am led to accept this view tentatively as a possible explanation of epileptic fits in general, from a consideration of some circumstances in which these seizures are prone to occur. First, the marked frequency of epileptic fits at night, especially during the hours of deepest sleep, immediately after falling off to sleep and an hour or two before waking, when the cerebral blood pressure is at its lowest and capillary stasis is most likely to ensue. Secondly, the frequency of epileptic seizures in association with acute inflammatory diseases, such as pneumonia, enteric fever, and scarlet fever, in which there are an increased coagulability of the blood and a tendency to venous thrombosis. In this category also may be placed the puerperium—a period which is notoriously prone for the incidence of epileptic fits.

A brief reference may here be made to the examination of the cerebro-spinal fluid in epilepsy. Cholin, one of the products of lecithin disintegration, has been found here. Donath[15] found it present in 15 out of 18 cases of epilepsy. It has also been found in diseases of the cerebro-spinal system in which there is clear evidence of the breaking up of nerve tissue, such as general paralysis of the insane and tabes dorsalis.

Chemical pathology.—Owing to the apparent insufficiency of the pathological changes found in the brains of epileptics to form a satisfactory explanation of the epileptic phenomena, a school of observers, more particularly in France, broke new ground in their endeavour to find the exciting cause of epileptic attacks in biochemical changes. Much of the most recent work upon epilepsy has been done in this line and numerous researches during the last decade have added largely to our knowledge. The general results of these investigations are of a confusing and contradictory character but a brief *résumé* of the chief points may not be out of place.

Although the toxicity of the urine in epilepsy had been the subject of some investigation prior to the work of Voisin[16] it is mainly by this author and his associates that the intoxication theory of epilepsy was elaborated. Voisin showed that immediately prior to a fit there was urinary hypotoxicity, gauged by injections into rabbits; that during the attacks the toxicity rose and reached a point considerably above normal after the fit (hypertoxicity). During the interparoxysmal periods the toxicity was comparable to that [illegible] Voisin based his [illegible] of the blood, [illegible], by the aid of [illegible] -ter the fit came [illegible] clearance from the blood of toxic [illegible] se observations to be correct, a plausible and seemingly satisfactory explanation of serial epilepsy and the status epilepticus was at hand, but subsequent investigations by Hebold and Bratz, Roncoroni, and others have failed to find the urine of epileptics more toxic than that of health. The general result of the investigations upon the toxicity of the blood in epileptics is also negative, the researches of Mairet and Vires,

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[6] Féré: Les Epilepsies et les Epileptiques, 1890, p. 442.

[7] Chaslin: Comptes Rendus de la Société de Biologie, 1889, p. 169.

[8] Alzheimer: Monatschrift für Psychiatrie und Neurologie, Band II., S. 2, 1897.

[9] Binswanger: Epilepsie, Nothnagel's Specielle Therapie, &c., p. 322.

[10] Clarke and Prout: Spratling's Epilepsy, p. 325.

[11] Mott: Croonian Lectures on Degeneration of the Neurone, 1900, pp. 40–41.

[12] L. Hill. The Cerebral Circulation, London, 1896, p. 142

[13] Hill: Op. cit., p. 145.

[14] Ibid., p. 146.

[15] Donath: Referred to by Mott, Brit. Med. Jour., 1901, vol II., p. 1557.

[16] J. Voisin and Peron: Archives de Neurologie, vol. xxiv., p. 178.

Hebold and Bratz, and Herter having failed to obtain any positive or constant results from the injection of epileptic blood serum into rabbits.

From the study of blood toxicity we may turn briefly to the reaction of the blood in epilepsy. Haig suggested that there was a definite relation between excess of uric acid in the blood and such maladies as migraine and epilepsy; but treatment directed upon this theory has not proved of greater value than other methods of treatment conducted along conventional lines. Somewhat similar to the uric acid theory is the view of Krainsky[17] who propounds the doctrine that uric acid is not the toxic agent but a derivative in the form of ammonium carbamate, a substance having a convulsion-producing character as testified by its injection into rabbits. Pugh[18] has found a sudden fall in blood alkalinity immediately prior to a fit and a further diminution in the alkalinity after the convulsion, the average interparoxysmal alkalinity being lower than the average of normal cases.

The general conclusion to be derived from a study of the researches upon the blood in epileptics is that prior to a convulsive attack or series of attacks there is a diminution in the blood alkalinity, but whether this arises from retention of uric acid (Haig), from formation of carbamic acid (Krainsky), or from the presence of acid toxins as yet of undetermined nature and source, remains unproven. The stage of diminished alkalinity would correspond to the preparoxysmal period of clinical observers—a period characterised in some cases by mental phenomena such as irritability, lethargy, depression, and occasionally delusional states, and in other, though rarer, instances by an unusual sensation of well-being. It is not to be supposed that such symptoms are invariably present or are characteristic of all forms of epileptic seizure. They are found more especially in serial epilepsy—that is, epilepsy shown by frequently recurring fits for a few days, to be followed by an interval of freedom of greater or less duration; in cases in which two or three fits occur at a time; or in cases the type of which is an occasional severe convulsive attack. They are not present, so far as I am aware, in the petit mal type of the disease.

Treatment.—It will be readily seen from the foregoing remarks that the scientific treatment of epilepsy should consist in more than an endeavour to subdue the convulsive element of the disease by drugs. As it is impossible in this country to legislate against the marriage of epileptics and defective persons we shall, I suppose, always have epileptics with us. It is not possible in the limits of time at my disposal to do more than mention the special attention necessary in the upbringing of children predisposed to epilepsy, the particular lines along which their education should be conducted, the treatment of confirmed epileptics in institutions or colonies, and the regulation and direction of their work under supervision.

The remarks upon treatment will therefore be confined to the subjection of the seizures. At the outset it may be stated that there is no single specific remedy in the treatment of epileptic fits although the bromides come nearest to this definition. The influence of the bromide salts upon epileptic fits is variable. In the first place, bromide medication may arrest the seizures immediately or within a brief period of their administration. Under this heading are found the curable types of epilepsy, cases characterised by an absence of mental impairment and with fits recurring at long intervals—in fact, a mild type of the disease. If any given case is capable of arrest by treatment a satisfactory response will be apparent within a short period of the commencement of bromide treatment. Of 86 cases in which the fits were arrested for periods varying from two and a half to 25 years, rather more than 50 per cent. yielded to treatment within the first 12 months of regular bromide medication. Secondly, the bromides may induce a marked lessening in severity and frequency of seizures without their complete arrest. This is the common result of bromide treatment and is what may confidently be expected in the majority of cases in the early stages of the disease. Thirdly, the bromides may change the time incidence of the seizures, converting nocturnal into diurnal attacks or *vice versâ*. Fourthly, the bromides may exert no influence at all or may even make the attacks worse.

Bromide treatment should be commenced at the earliest possible time after the onset of the fits, as there is a greater prospect of arrest or improvement during the first five than during the second five years of the disease, although arrest of fits may occur after a duration of from 20 or 30 years. The administration of the bromides should be continued for a period the duration of which is to be determined by a study of each case separately but should not be less than two years. The dose usually given is, I think, too large. If benefit does not follow a daily dose of from 45 to 60 grains of one, or a combination, of the bromide salts, some other remedy or method of treatment should be sought. The large doses prescribed on the continent, from 75 to 150 grains daily, although no doubt suppressing the seizures for a time induce other and more serious phenomena. It has been shown that daily doses of from 150 to 200 grains of bromide salt produced slurring articulation, lassitude, and mental dulness, with abolition of the palatal and pharyngeal reflexes. Moreover, the bromides have an accumulative action. Laudenheimer[19] has proved that an epileptic taking ten grammes of bromide salt daily for eight days only excreted 35 grammes during that period. The blunting influence of the bromides upon the cortical motor cells has also been demonstrated by the fact that a considerably stronger electrical current is required to excite the cortical motor areas of dogs which have been dosed by bromide of potassium.

In confirmed epilepsy with mental deterioration all that can be expected from the continuous use of the bromides is diminution in the number and perhaps in the severity of the seizures. The daily 30-grain dose of bromide of potassium was stopped entirely for a month in each epileptic in a house at the colony for epileptics containing 24 patients, with the result that the total number of fits during the month rose from 278 to 402. The mental condition showed no material change.

Of the influence of the bromides upon the several types of epileptic fit it may be said that the grand mal seizure is that most amenable to their influence, the petit mal attacks and psychical equivalents being little influenced. In serial epilepsy and the status epilepticus, chloral in combination with the bromides forms the most effective remedy, while in the post-paroxysmal psychoses the bromides are of little service.

Various modifications of the bromides have been introduced of recent years. Bromipin being difficult to dispense and costly has not in my hands met with much success; bromocarpin has been especially advocated in the forms of seizure arising from intestinal auto-intoxication. Borax has been strongly recommended by some authorities. Unless in combination with the bromides I have not found it of great use, although a combination of borax and digitalis has been found serviceable in some cases of minor epilepsy. Belladonna is a remedy which should be tried in all cases in which the bromides have failed. Every now and again a case will be met with in which this drug produces remarkable and persistent arrest of the seizures.

A modification of the bromide treatment is to be found in the *opium-bromide therapy* recommended by Flechsig about 12 years ago.[20] The principle of the treatment lies in the preparation of the nervous system for subsequent bromide medication by a preliminary administration of opium. One of the preparations of opium, preferably the extract, is given for a period of six weeks in increasing doses up to 15 grains per diem, when it is suddenly stopped and large doses of bromide salt, from 90 to 120 grains, are substituted, this large dose being gradually diminished until about 30 grains are taken daily. The most favourable cases for its administration are young epileptics before or about puberty and epilepsy in the early stages. Confirmed epileptics and those with pronounced psychical degeneration are not materially benefited. Some authors speak very highly of the method, more especially Binswanger and his pupils, while others have not found its advantages outweigh its dangers. My own experience of the method has been limited and not satisfactory.

Various forms of *organo-therapy* have been suggested and tried in epilepsy. Of these thyroid administration was at one time strongly advocated, more with a view to counteract mental deterioration than as a subduer of convulsions. In a number of cases of confirmed epilepsy in which preparations of the thyroid gland were given over considerable periods, no appreciable result was detected either in the mental condition or in the frequency or severity of the fits. The administration of cerebrin also did not lead to any results which warranted its further or more protracted use.

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[17] Krainsky: Abstract in Neurologisches Centralblatt, 1902, p. 16.

[18] Pugh: Brain, 1902, p. 100.

[19] Laudenheimer, referred to in Binswanger, op. cit.

[20] Flechsig: Neurologisches Centralblatt, 1893, p. 229.

The observation that a large and persistent thymus gland is found in cases of epilepsy in young persons has led to the view that the secretion of this gland may have some influence in the production of epileptic seizures, a view which appears to have some corroboration in the fact that the administration of preparations of this gland have materially aggravated the condition [21]

"*Salt starvation*"—Of the several forms of diet recommended in epilepsy I have found that of salt starvation or "dechloridation" the most satisfactory The suggestion of substituting the salts of chlorine by the bromide preparations is due to Toulouse and Richet, who recommended a diet in which the total quantity of sodium chloride per diem was limited to one or two grammes It was thought that by diminishing the chlorides in the food the bromides might be given in smaller doses and various writers have found the method useful The dietary which has been found most serviceable consists of milk, fresh butter, eggs, fruit vegetables, and bread, all salt being as far as possible eliminated The general results which were observed from the administration of the saltless diet in a number of cases of confirmed epilepsy were briefly as follows [22] There are some cases in which the number of attacks is diminished during the continuance of the treatment and others in which the improvement has lasted after the diet has been stopped These are the cases in which the bromides are not well borne or are even deleterious The mental condition also has shown some improvement The chief disadvantage of the diet is its monotonous character, but as a relief to dyspeptic symptoms it has been found distinctly useful The chief feature of the method lies in the diminution of the bromide dose, from 20 to 30 grains of one of these salts at bedtime being sufficient

Immunisation (Ceni's method[23]) —The idea of rendering epileptics immune to their fits, either by the injection of blood serum from one epileptic to another or by reinjecting into patients the blood serum which had been previously withdrawn from them, is due to Ceni The theory upon which this method is based is determined by the belief in the existence of a toxic biochemical substance in the blood serum of epileptics From his experiments Ceni concluded that there are two active principles in the blood of epileptics, one circulating in a free state and possessing toxic properties the other in a latent state, having a stimulating action upon the elaboration of the toxic agents The practical utility of this method in the treatment of epilepsy, even in the hands of its originator, has not been sufficiently satisfactory as to render its application general, while later investigations, more especially at the hands of Sala and Rossi,[24] have failed to confirm the original results

In conclusion, I wish to emphasise the fact that the medicinal treatment of the convulsions forms only one item in the treatment of epilepsy To my mind the most satisfactory management of the disease is that which is carried out in special institutions or under the care of a well trained and sensible nurse attendant In this way only can the patient be guided along hygienic lines, in respect of the suitable quantity and quality of food, the proper allotment of work and rest, and the carrying out of those physical exercises consistent with the malady Epileptics suffer notoriously from lowered vitality and sluggish circulation in the extremities for which warm baths, spinal douches, and massage are important remedial agents In the treatment of epilepsy, therefore, there has ever to be kept in mind the persistent character of the malady and the tendency towards mental deterioration As important as therapeutic remedies are congenial employment, hygienic modes of life and suitable amusements

Harley street, W

[illegible] 1907

[illegible] 1904

[24] S [illegible] 852.

DRAINAGE OF PLYMOUTH —A Local Government Board inquiry was held at Plymouth on Feb 28th respecting the application of the town council to borrow £65,000 for the purpose of main sewerage This sum, together with the amounts that have been sanctioned on previous occasions, makes a total of £210 800 which has been required for the scheme It was originally estimated that the work could be completed for £100,000

MENTAL FACULTY IN THE CHILD. ITS GROWTH AND CULTURE[1]

BY FRANCIS WARNER M D LOND , F R C P LOND ,
PHYSICIAN TO THE LONDON HOSPITAL, ETC

LOOKING at an infant or a young child we may observe the indications of mental faculty and study their growth and development in much the same way as we look at any other living creature Looking carefully at a healthy, strong, newly born infant we see *much spontaneous movement*, *the* fingers and the toes move separately, these movements do not appear to be stimulated through the senses and at this early stage they are not controlled by sight or by sound but appear to be quite irregular in their order This spontaneous movement, seen while the child is awake, is produced by the activity of groups of nerve cells in the brain, for these cells discharge nerve currents to the muscles and thus stimulate them to movement We see the spontaneous movements in the *child* and we *infer that the nerve cells of the brain are* acting spontaneously This mode of brain action is analogous *to what occurs in the cellular stem of young seedlings In* these the unequal swelling and growth of the vegetable cells on successive sides of the stem produce the circumnutatory movements which subsequently become adapted by light, gravitation, or other form of stimulus into definite controlled movements, such as turning towards the light, *climbing, &c, and the movements* produced in this way from the 'spontaneity' of the living plant when controlled by external stimuli are of great importance in its life-history This spontaneity of the nerve centres of the brain is temporarily lost when the child is ill and it is not seen in the imbecile

When observing an infant four or five months old the sight of an object, such as a red ball, may temporarily arrest the spontaneous movements, and this may by followed by the turning of the head, the eyes, and the hands in the direction of the object seen or the sound heard It will probably be said that this is a sign of 'attention" in the child and it may correctly be called a mental act, perhaps this is the earliest sign observable that can be so called I may here remark that all visible indications of mental action are by movement or the results of movement, whether in action speech, or writing At this early stage of development sight or sound may so affect the brain centres as to arrest momentarily their spontaneous motor action, a pause in movement is seen lasting but the fraction of a minute after which the infant fingers move again in a new and coordinated manner The new action which is seen after this pause is clearly the result of control of the brain centres during the temporary absence of movement and is a further act of 'attention" These facts suggest the hypothesis that during the pause in a sensory stimulus functional brain centres preparing them then, corresponds to the second stage of mental action which may be subsequently expressed in some mode of response

We have seen that two phenomena are characteristic of the earlier workings of the brain—namely, spontaneity and controllability, by the interaction of these two natural conditions it is possible to coordinate the brain cells through the senses by suitable methods of training As the child grows older some attempt must be made to cultivate the mental faculty and to control his playfulness, in part at least, for a few moments while trying to produce a new impression, but it is harmful to suppress or to destroy all spontaneity of brain action and movement After frequent repetition some *impressions are retained This leads us to* consider the means at our disposal in producing impressions by brain training as growth proceeds At an early school age, say in the kindergarten, we proceed, stage by stage, to develop such elementary mental impressions as it is intended to employ in subsequent teaching It will be useful to consider briefly, though with careful attention the nature of brain impressions and the means of producing them with accuracy *in a* well planned method of education Two points must be insisted on first, a certain length of time is required for the production of a new impression in the growth was not cut so as to afford microscopic evidence, but it is most suggestive and interesting. Personally I am now advising the trial of this violet treatment in all cases of undoubted cancer which are inoperable and I will in due course publish the results. The publication of this case may possibly induce others to give a more serious trial to the so-called "violet cure" than I fancy it has hitherto received.

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[1] A paper read before the Childhood Society on March 2nd 1905.

Exeter.

TWO CASES OF POISONING FROM THE EXTERNAL APPLICATION OF BELLADONNA OR ATROPINE.

By VALENTINE MATTHEWS, M.R.C.S. ENG., L.S.A.,

SENIOR SURGEON TO THE WESTMINSTER GENERAL DISPENSARY.

IN the first of the cases now to be described the patient was a man, aged 53 years, who suffered from lumbago for the relief of which he applied to his loins, before going to bed, a belladonna plaster, measuring eight inches by five inches, made by a well-known firm. On waking in the morning he was confused in his ideas and complained of dryness of the throat and considerable thirst. When seen by me about midday his pupils were much dilated and his fauces were dry and red. He talked excitedly but quite coherently, saying that it was only by a considerable effort that he was able to restrain himself from talking nonsense. He had removed the plaster at the commencement of the symptoms, remembering, as he informed me subsequently, that he had on one occasion previously suffered in the same way from a similar application. He had, before using the plaster, rubbed himself with some liniment, but there was no redness or abrasion of the skin when I saw him. The symptoms, with the exception of the dilatation of the pupils which remained for a day or two, subsided by the end of the day.

The second patient was a man, aged 63 years, who suffered from chronic eczema of the nates and applied some ointment containing four grains of sulphate of atropine in the ounce once before going to bed and once again during the night. Next morning he complained of dryness of the throat and great thirst and had a frequent desire to micturate. He consulted me, complaining of these symptoms and also of much pain and discomfort in the lower part of the abdomen. He was voluble and excited, the pupils were somewhat dilated, the fauces were dry and beefy looking, and the bladder was much distended. Emptying the bladder by means of a catheter relieved the abdominal pain. The symptoms in this case also subsided by the evening but there was a frequent desire to micturate for some hours after the bladder was emptied.

The remedy in each of these cases was self prescribed.

Suffolk-street, Pall-mall, S.W.

A CASE OF COUGH DUE TO INTESTINAL WORMS

By HERBERT C. P. MASSER, M.R.C.S. ENG., L.S.A.

THE following case may be of interest in view of the recent accounts in THE LANCET of similar instances.

A patient under my care, a woman, aged 87 years, suffered every night from intense paroxysmal cough for which I could in no way account. One morning on my visit I was shown a large specimen of ascaris lumbricoides which had travelled upwards through the naso-pharynx and was pulled out of the nose by her night attendant. After this all cough ceased. Santonin was given but no further worms were obtained.

Longford, Coventry.

ROYAL NATIONAL PENSION FUND FOR NURSES.—At the annual meeting of this society, held on March 9th last, Sir Henry Burdett, K.C.B., deputy chairman, presided and moved the adoption of the report which stated the year 1904 to be remarkable as having witnessed the issue of an exceptionally large number of pension policies, the total being 1185 as against 953 in 1903. The annuities falling due showed satisfactory progress and at the December quarter of the year these were being paid at the rate of over £12,000 per annum under 818 policies. The usefulness of the sickness branch was again exemplified by the fact that a sum of £1651 was distributed in sick pay during the year. The total funds increased during the year from £820,792 to £910,525.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Discussion on the Subsequent Course and Later History of Cases operated on for Appendicitis.

AN adjourned meeting of this society was held on March 14th, Sir R. DOUGLAS POWELL, the President, being in the chair.

Mr. HARRISON CRIPPS said that in dealing with the treatment of an acute attack of appendicitis it was necessary to consider the cause of these acute fulminating attacks. It was certain that some of them arose from ulceration and consecutive inflammation produced by a concretion, for the offending body was not uncommonly found *flagrante delicto* in the accumulated pus. But there was another and not infrequent cause to which pathologists had paid insufficient attention. This cause was inflammation or gangrene produced by a corkscrew-twist in the mesenteric attachment of the appendix giving rise to strangulation, a condition exactly similar to that which is seen in cases of twisted ovarian tumour. The clinical features of the onset and the condition found on operation were analogous. In both cases the onset of the attack was very sudden and was frequently described as a strain during some sudden exertion. The mechanism of the twist at the base could be clearly seen but in an extremely short time the twisted pedicle became so disguised by adhesion or inflammation that it could only be made out by subsequent careful dissection. No surgeon accustomed to operating on the appendix could fail to have been struck with the extraordinary position and distortion of the organ often disclosed. The appendix was often tucked away in the most extraordinary manner apparently beneath the cæcum, and when so discovered it was no longer a straight tube but acutely bent, so that the lower half lay parallel with the upper. In this position it might be only found and exposed after dissecting through what seemed to be dense adhesions and when discovered it was dark and swollen and not infrequently gangrenous. The explanation of the sudden attack in these cases and the distortion found could only be accounted for by a volvulus or twist in the mesenteric attachment and what appeared to be dense adhesions cut through before exposing the appendix was the folded and twisted mesentery, while the twist completely explained the doubling of the appendix on itself. The true cause of the trouble, however, was shown by the doubled-up, distorted, and often gangrenous appendix hidden away in the twisted mesentery. Since his attention had been directed to these cases he had twice had an opportunity of actually verifying and demonstrating the twist when operating. One was the case of a young man who, whilst at stool, was seized with violent pain in the right inguinal region followed by vomiting. The pain was very severe for an hour or so and then almost suddenly ceased. When the patient was seen the following day he was apparently perfectly well and with the exception of a little tenderness nothing could be found amiss. Six months later, when practising a young horse over some hurdles, he had an exactly similar attack which he described as having "sprained his groin." However, unlike the first attack, the pain and sickness continued and when seen on the third day he was in the midst of a typical and acute attack of appendicitis. An operation was at once performed and it was found that the neighbouring structures were already slightly glued together. The appendix was found with difficulty, being drawn down and doubled on itself and concealed by what appeared to be a folding over of the mesentery and this was partly cut through, believing the fold to be only an old adhesion. Mr. Cripps then referred to a similar case in which a twist of a turn and a half in the mesentery had resulted in a complete doubling of the appendix. The appendix in this case was obvious directly the abdomen was opened; it was superficial and completely doubled up by a corkscrew twist of its mesentery. It was as large as the little finger, being in a swollen and œdematous condition. The condition was so obvious and the adhesion was so slight that the volvulus was readily untwisted and the swollen appendix, previously doubled up, came out straight and was nearly four inches in length. The discussion last week at this society, together with the invaluable records of cases furnished, demonstrated beyond doubt what had already been generally admitted, that when appendicectomy was done for recurrent attacks during a quiescent period it was one of the safest and most successful operations in surgery, while, on the other hand, the same statistics showed the great danger there was in the cases that had gone on to suppuration. He believed in evacuating the matter by a full-length incision and cautious dissection. After gently washing out the pus if the appendix could be seen or felt it should be removed with as little disturbance of the parts as possible. If, on the other hand, the appendix or its remains could only be removed by [illegible] nsive separation of [illegible] contaminating the [illegible] be satisfied with a good gauze drain, only closing the angles of the wound. In conclusion Mr. Cripps wished, without hesitation, to endorse the views of Mr. Pearce Gould. It being universally admitted that the presence of suppuration or sloughing enormously added to the risk of the patient, why then wait between the onset of an attack until this condition was established?

Dr. S. WEST said that to estimate the facts correctly the experience of both physicians and surgeons was necessary and that each of them looked at the subject from different points of view. The physician was impressed by the number of cases that recovered without operation and the surgeon by the success which attended operation. It was not a safe assumption to make that the appendix was an obsolete structure and useless to the body. For all they knew the contrary might be the case. The increase in appendicitis of recent years was rather apparent than real and was explained largely by the increased number of cases operated on in the quiescent stage. To appraise the statistics of operation at their true value the statistics of appendicitis without operation were required for comparison. Not many statistics were available. Taking Hawkins's figures as a basis it appeared that 72 per cent. of the cases of acute appendicitis recovered without any operation, that of the remainder 13 per cent. had general peritonitis of whom most died whether operated on or not, and 15 per cent. ended in suppuration of whom about 4 per cent. died. The total mortality for all cases together was 14 per cent. Fitz made it 11 per cent. If the cases of general peritonitis were excluded the mortality rate with the minimum of surgery was under 5 per cent. If this were the truth or anywhere near the truth it should make them pause before recommending operation in all cases indiscriminately. Dr. West summed up his conclusions as follows. 1. The great majority of all case[illegible] without operation. [illegible] on in the quiescen[illegible] 3. Whenever suppu[illegible] should be performed at once. 4. Even perforation cases might be less fatal if operated on earlier. 5. The risk of perforation was exaggerated. 6. The opening of the abdomen was not a trifling procedure but introduced risks of its own. 7. Each case must be considered on its own merits and dealt with accordingly. 8. The success of operation largely depended upon the skill of the operator, so that a personal factor entered into the results which could not be allowed for in general statistics.

Mr. W. BRUCE CLARKE said that most speakers had divided [illegible] There [illegible] dealing [illegible] cases, [illegible] tly due to infection of the peritoneum, and he would not in such cases make any endeavour to find and to remove the appendix unless it was easily seen or felt. He referred to two very similar cases, one in which the abscess was opened and the appendix not removed and a second in which the appendix was removed. The first made a good recovery but the second died. He then referred to the condition of the appendix removed in some 200 cases. In 191 the epithelium was denuded and opened a path for septic absorption, in two there were tuberculous ulcers, whilst in the remaining seven no lesion was found. Of these seven cases five had been lost sight of, but in the remaining two one had subsequently had a renal calculus removed and the other a gall-stone. In these cases it was probable that an error of diagnosis had been made in the nature of the attack. He referred to another case in which a patient had had the appendix removed and yet suffered from recurrent attacks of "appendicitis." The abdomen was opened and an ileo-colic intussusception was [illegible] the other tables went back for so many years that the objection might be raised that all sorts of improvements had been introduced in the meantime. It seemed to him that the registrars would have placed the present state of affairs in clearer relief if they had confined themselves to recent years during which treatment had been influenced by various modifications of older methods. His table showed what had happened when the operation had been carried out immediately and the appendix removed in all cases. He thought that an absolute uncertainty prevailed as regarded prognosis in any individual case and no additional experience afforded him any added power of making one. A prognosis resting on statistics gave cold comfort to the individual when he could be well assured that he might not form one of the unfortunate minority.

Mr. J. D. MALCOLM gave his support to the view that early diagnosis and early treatment should be aimed at with a view to the prevention of septic complications. He related a case in which after 30 hours of very insidious symptoms a [illegible] which, however, was not shut off from the general sac of the peritoneum by adhesions. At a little distance the serous membrane appeared healthy but the intestines were greatly distended. He said that an inflammation terminating in sloughing was a sthenic process accompanied by a quick pulse, high temperature, hot dry skin, tenderness in the focus of infection, with great vascularity and œdematous swelling around it. Moreover, these symptoms progressed in severity for about three days before they terminated i[illegible] gangrenous [illegible] of the whole [illegible] the onset of [illegible] could not [illegible] that the gangrene occurred spontaneously and painlessly. It was pointed out that a similar process, without pain or symptoms, sometimes occurred in the wall of an ovarian tumour and in some cases of senile gangrene in the stomach and in the duodenum. He thought that the resemblance which had been noted between the appendix and the digestive organs in their structure and functions might be extended to their pathology, for in both there seemed to be a liability to a spontaneous, localised, painless, non-inflammatory gangrene which in both cases might be in single patches or multiple. Such a gangrene, when the slough did not separate, would give rise to a filtration of infective material through the sloughs and a consequent development of an asthenic peritonitis, causing death later by paralysis of the intestine, the symptoms at first indicating little danger. It was suggested that a localised spontaneous gangrene, if accompanied by pressure within the walls of the appendix, would very readily give [illegible] part and so some cases of [illegible] plained. Case No. 190 in [illegible] a gangrenous patch was found and pus in the pelvis and iliac fossa, was a good illustration of this condition. It was argued that immediate operation was as necessary in such cases as in those of perforating gastric [illegible] be equally goo[illegible] was, however, [illegible] necessary to ope[illegible] if those of spontaneous gangrene were to be saved. This plan was therefore considered advisable unless such early operations were prejudicial in other cases. It was urged that a true inflammation of the appendix always began in the mucous membrane, so that an early operation would insure a complete removal of the source of mischief. By delaying it was possible to save many patients from an operation but they might be saved only to become victims of dangerous septic complications, and if the surgeon waited until an operation was absolutely necessary it would have to be undertaken at the worst possible time, that is, when the ill-effects of the initial inflammation had fully developed.

It was considered safe to leave only those cases in which the patient was already recovering when first seen.

Mr. F. C. **WALLIS** said he would refer but to two points which had not been touched upon during the discussion. The first was the condition of the omentum in cases of acute appendicitis. He mentioned the case of a boy operated on for appendicitis in whom the omentum was infiltrated but not adherent. Three weeks after the operation symptoms of partial obstruction were present. The abdomen was opened and it was found that the small intestine was adherent to the omentum in two places. Two methods of treatment were possible in such a case, one to anchor the omentum and the other to remove it, and he was in favour of the second mode of treatment. The second point to which he referred was a protest against allowing patients to get up on the tenth or fourteenth day after the appendix had been removed. He considered that considerable risks were run by allowing patients to get up at so early a period after operation.

Dr. G. **NEWTON PITT** said that he had come to the conclusion that appendicitis had become more common. A marked increase occurred during 1889-90 and was coincident with the prevalence of influenza. He was of opinion that there was both an increase in the incidence and in the mortality of the disease.

The **PRESIDENT** regretted that Sir Frederick Treves was prevented from attending to conclude the discussion. He thought all would agree that that debate had been of extreme value. The subject of it had ripened through many years of experience, discussion, and criticism since it was first propounded at that society by Sir Frederick Treves in 1887, and it was particularly appropriate therefore that he should have introduced and reviewed it on this occasion. It must have been gratifying to him and to many other surgeons, most of whom had spoken in that debate, to watch the development of this domain of surgery to its present state of completeness. The great value of a discussion such as they had had, lasting through three prolonged and well-attended meetings, was that it had, for that time at least, concentrated the attention of both surgeons and physicians upon one particular problem in this case as to the best way of rendering the results of operations for appendicitis most satisfactory and of avoiding untoward complications. Many minds would have been settled as to the best modes of procedure, many points decided in the course of the debate, and by the large statistical experience with which it had been enriched. 1. One point, for instance, insisted upon by Sir Frederick Treves and strongly advocated by Mr. Pearce Gould, Sir William Bennett, Mr. Cripps, and Mr. Bruce Clarke, was that in cases of perityphlitic abscess it was best, as a rule, not to try to remove the appendix when imbedded, as it generally was, in entangled adhesions. 2. Another point which seemed to come out very strongly in the debate, and which was referred to by Sir Frederick Treves and alluded to by Dr. H. P. Hawkins and Mr. W. H. Battle, was the fact that failures and subsequent complication of the operation were sometimes attributable to its not having been adequately performed—i.e., to the appendix not having been excised from its very origin at the cæcum but only a portion cut off—and that this incompleteness of the operation was not infrequently due to the cæcal end of the appendix being partially invaginated. 3. Then, again, there was the very difficult question which had been touched upon by more than one speaker—viz., when to operate—and this was a question which was also of great interest and importance to the physician who otherwise was perhaps more concerned with the conditions which led up to appendicitis which did not come within the scope of the debate. When the diagnosis of perityphlitic abscess had been arrived at of course the operation practically immediately followed. Mr. Cripps would not wait for abscess but would advise operation in the earlier stage of appendicitis. But great emphasis had rightly been laid by many speakers, especially by Mr. Pearce Gould, Mr. G. R. Turner, and Mr. H. F. Waterhouse, upon the importance of anticipating abscess by dealing with the appendix in what was called the quiescent period of appendicitis. This view must, of course, be guarded by great care in diagnosis, for whilst, on the one hand, if diseased appendices were allowed to remain there was the risk at any moment of abscess with general peritonitis, with the result of raising the mortality of operative interference to about 25 per cent. instead of 2 per cent. or less for the simple operation; on the other hand, healthy appendices were sometimes removed, leaving behind the malady from which the patient had been promised relief. The danger must be recognised that the operation might be too lightly undertaken and might become too much of a routine practice and not sufficiently safeguarded by careful and accurate diagnosis. 4. Future complications in quiescent cases might be sometimes avoided by a careful preparation of the patient for a few days before the operation. 5. The society was especially indebted to Mr. Lockwood for his most valuable contribution to the debate by illustrating so clearly on the screen those points in the pathology of diseased appendices which were so intimately concerned with the future of the cases operated on. 6. Another point of great importance to the future comfort of the patient was touched upon by several speakers—viz., especially in cases requiring large incisions, the avoidance as much as possible in the first incisions of cutting across muscular fibre, the importance of separating rather than dividing the muscle with the view of obviating ventral hernia and the necessity afterwards of using a large and cumbersome truss. He could not let that opportunity pass without offering the sincere thanks of the society to those gentlemen who had taken part in the debate, and especially to those—Mr. Hugh Lett, Mr. W. H. Battle, Mr. G. E. Gask, Mr. A. Baldwin, Mr. W. G. Spencer, Mr. Barling, Mr. C. B. Lockwood, Dr. Lawrence Jones, Dr. H. P. Hawkins, Mr. H. S. Clogg, and Mr. H. A. T. Fairbank—who had at great labour prepared the statistics of some thousands of cases which had been laid before the society.

MEDICAL SOCIETY OF LONDON.

Carcinoma.

A MEETING of this society was held on March 13th, Mr. **JOHN LANGTON**, the President, being in the chair.

Dr. E. F. **BASHFORD** read a paper on Carcinoma based on researches made under the auspices of the Imperial Cancer Research Fund. He said that he proposed to confine his remarks to the "growth of cancer" and emphasised the fundamental importance of the study of its process of growth as distinct from its genesis. It was, in his view, the only effective method by which progress could be made in the solution of the problems as to the nature and the origin of cancer. He then gave some account of the work which had been accomplished by means of comparative and experimental methods, exhibiting a large number of lantern slides in illustration of various points of importance. He defined cancer as a malignant new growth. Many of the recent hypotheses enunciated to explain cancer had started with a theory of origin but failed to explain how the actual cell multiplication had been maintained in the gradual increase of the tumours.

PATHOLOGICAL SOCIETY OF LONDON.

Recent Work on Proteid Chemistry and Proteid Diet.

A MEETING of this society was held on March 7th, Dr. W. D. **HALLIBURTON** being in the chair.

Dr. **HALLIBURTON** read a paper on Recent Work on Proteid Chemistry and Proteid Diet. The paper, he said, was the outcome of a request from certain members of the society that he should lay before them the results of recent progress in connexion with the chemistry and the dietetic value of the proteids. In the time at his disposal he was only able to deal with this large and important question in its main features. The doctrine of Kühne that the albuminous molecule consisted of hemi- and anti-complexes united together had been abandoned. With the disappearance of that conception interest centred around the final decomposition products such as were obtainable as the result of prolonged proteolysis. Before a synthesis was possible a correct knowledge of these cleavage products was a preliminary necessity. These might be classified into the mono-amino acids like leucine and glycine, the diamino acids or hexone bases, the aromatic amino acids like tyrosine and tryptophane, members of the pyrrimidin and pyrrolidine groups, the sulphur-containing substance cystin, and ammonia. Particular attention was directed to the groups of amino acids called polypeptides which occurred as an intermediate stage in proteolysis between the peptones and the final products; and the fact that Emil Fischer had synthesised some of these was an indication that such work might culminate in the actual synthesis of the proteid molecule. In connexion with proteid absorption the trend of recent research was to show that a much more complete proteolysis occurred in the alimentary canal than was formerly supposed to be the case. The tissue proteids must therefore be constructed from the simple cleavage products and thus proteids were brought into line with fats and carbohydrates. This new theory assumed a complete breakdown of the foodstuffs previously to their being built up within the living tissue. It was thus less difficult to understand how the living organism could construct from the fragments the tissues peculiar to itself and maintain its chemical integrity although the food taken might vary widely in composition. If, however, foreign proteids were introduced directly into the blood stream they appeared to be retained largely in the body and if they were really utilised and preliminary cleavage was necessary, this must be accomplished by the tissue erepsins and similar intracellular enzymes. The activity now manifested by so many workers on the subject of autolysis was warranted by the importance of the subject. The part played by the tissue enzymes during life could only be elucidated by allowing them full scope after death. The discovery of the urea-forming ferment arginase had already been one important outcome of such study. Dr. Halliburton concluded his paper by a reference to the work of Chittenden on the "Physiological Economy in Nutrition" and showed that it was possible that our views concerning what constituted a normal dietary and a normal urine might need revision. Chittenden and his co-workers lived for prolonged periods on diets in which the amount of proteid was reduced to one half of what was laid down in the accepted Voit standard. This they did without apparent detriment to health and maintained their nitrogenous equilibrium. Whether such persons had the reserve force to withstand disease and severe privation must be left to the future. The matter was an important one for the economist as well as for the physiologist and pathologist. The work might also modify modern ideas regarding the feeding of infants and invalids.

Dr. R. HUTCHISON was glad that Dr. Halliburton had thrown out some warning against a too easy acceptance of the views put forward by Chittenden. The questions raised were difficult and involved other considerations beyond the establishment of nitrogenous equilibrium. Proteids had other uses in the economy of the body both in the direction of resistance against disease and as a possible source of stimulation of activity. The points under discussion could not be settled by experiments such as those of Chittenden and it was noticeable that diets all the world over showed a close approximation to the Voit standard.

Dr. E. H. STARLING said that in considering the total amount of nitrogen necessary for the adult man it was advisable to take into account two forms of metabolism—the [illegible] the energy metabolism. In the [illegible] be replaced by any other food and [illegible] a high nitrogen value was necessary for infants and for invalids; in the second the proteid was only of service in proportion to its heat value and could be replaced by the fats and carbohydrates. Chittenden had not taken into account the results of overstrain and the value of a highly nitrogenous diet in dealing with that condition.

Dr. C. G. SELIGMANN referred to the natives of New Guinea as examples of a race subsisting on food of low nitrogenous value. He had found that they lacked stamina and compared unfavourably in that respect with rice-eating races.

Dr. C. J. MARTIN believed that the ordinary diet containing 17 grammes of nitrogen was too high and pointed to the fact that a considerable portion was immediately thrown out in the form of urea. A large number of people could do perfectly well on ten grammes and the additional amount really came into the same category as alcohol and tobacco. The defect in the British army ration was the excess of nitrogen and insufficiency of calories.

Dr. W. S. LAZARUS-BARLOW referred to the specific precipitin reaction of proteids and its remarkable value in the differentiation of varieties which were otherwise identical.

CLINICAL SOCIETY OF LONDON.

Discussion on Rheumatoid Arthritis, Arthritis Deformans, and their Allies.

A MEETING of this society was held on March 10th, Dr. FREDERICK TAYLOR, the President, being in the chair.

Dr. W. HALE WHITE made a communication on Acute Rheumatoid Arthritis, with epidiascope demonstration. He remarked that among the diseases which were often grouped together under the names rheumatoid arthritis, osteo-arthritis, arthritis deformans, and chronic articular rheumatism there was one which should be sharply separated off as a distinct disease and which might be designated acute rheumatoid arthritis. It had, he believed, the following characteristics. It was usually met with in women whose age was most often about 20 years; the disease began, or was at any rate soon found, most prominently in the proximal phalangeal joints and in the wrists; it was markedly symmetrical in the two hands; the swelling was considerable and extended beyond the joints, so that there was a well-marked fusiform or generalised swelling about the affected joints; sometimes a creaking might be felt, due apparently to thickening of the synovial membrane. In the course of a very few weeks most of the joints in the body were swollen and painful, so that the patient was soon bedridden and unable to move fingers, thumbs, wrists, elbows, shoulders, and the corresponding joints of the lower extremity. The joints of the spine were often affected so that turning in bed was difficult and painful; the temporo-maxillary joint was frequently implicated and mastication was consequently difficult. Muscular wasting was so very rapid that it was clearly an extreme degree of genuine arthritic atrophy and not dependent on disuse; the wasting was especially seen in the hand and the forearm, but in a bad case it was almost universal. The temperature was often raised, mostly in the evening, to a point between 100° and 102° F. The hands and the feet were often covered with sweat while the rest of the body was quite dry; the patient was pale and the pulse increased in frequency out of proportion to, and apart from, pyrexia, although neither from the history nor from the examination of the heart was there any evidence to connect the disease with rheumatic fever. Sometimes a number of brown spots like large dark freckles appeared on the face, the body, and the limbs. After two, three, four, or even six weeks the temperature slowly returned to normal and the rate of the pulse diminished, but more slowly than the temperature; the sweating of the hands and the feet lessened, the pain passed away, but much immobility and some swelling around the joints remained. The patient was liable to fresh attacks which exactly resembled the first and resulted in fresh swelling of, and around, the already fixed joints. After the acute stage had subsided the sufferer by no means recovered the use of her joints, for the swelling of the synovial membrane and the soft tissues around led to great immobility and much of the muscular atrophy remained; the patient was hence often a chronic invalid. In this respect, as well as in many others, the disease presented a striking contrast to rheumatic fever. Careful manual examination during life, even in cases which had lasted many years, failed to reveal any lipping or bony outgrowths in connexion with the joints. The deformity appeared to be entirely due to effusion into the joint and swelling of the tissues around. Radiographic examination confirmed this view. As a rule the attacks diminished in severity as time went on and ultimately the patient might only suffer from the deformities resulting from previous attacks. Dr. Hale White next described the histology of the disease and showed that it undoubtedly originated in the synovial membrane and the tissues around the joint and that no changes occurred in the bone or the cartilage except such as were produced by pressure of thickened synovial fringes. [illegible] of a woman, aged 25 years, and [illegible] passive movements in order to [illegible] by means of lantern slides that the bones [illegible] the x rays. Lastly, he discuss[illegible] diseases, maintaining that it was a distinct morbid condition for which the most convenient appellation would be acute rheumatoid arthritis.

Dr. BERTRAM L. ABRAHAMS read a paper on Arthritis Deformans and its Allies. The expression "arthritis deformans" was selected as the least unscientific of the many names—Purnam in his recent monograph had quoted 21—for the disease and that in most general use on the continent and in America. There were, in Dr. Abrahams's [illegible]

[illegible] phatic glands. At the other end of the scale was [illegible] osteo-arthritis which was a degenerative process which might come on as the terminal phase of arthritis deformans, or quite apart from it as a senile change in normal joints or in those already crippled by true rheumatism. The two remaining affections—acute and chronic arthritis deformans—were, it was suggested, different forms of the same malady which was in all probability of an infective or at any rate a toxæmic nature. In the acute type, which occurred for the most part in young women, the poison was in such considerable amount that a large number of joints were, so to speak, flooded with it and simultaneously affected. In the chronic form, a multiple arthritis in middle-aged persons, the intoxication was less severe but more prolonged, so that the morbid changes were more in the nature of degeneration than of inflammation and the joints were picked out in a fairly definite order. At the same time, as might be expected, much of the brunt of the disease fell upon the nervous system. That the two types merged into one another was further indicated by the number of intermediate forms which were met with. Skiagrams and photographs were shown of the following conditions: gonorrhœal arthritis, Charcot's joint disease, acute arthritis deformans, and chronic arthritis deformans.

Dr. F. S. TOOGOOD was familiar in infirmary practice with Dr. Hale White's acute cases but thought that the same disease occurred also in men. He remarked on the difficulty in diagnosis between these cases and gout. In his experience drugs were of no avail in the condition, though a proteid diet sometimes did good. The senile form of arthritis deformans in which fibrillation and other degenerative changes occurred in the cartilages was to be found post mortem in greater or less degree in nearly all persons over 60 years of age. That morning he had examined the joints—specimens of which he exhibited—of a patient which were of this nature.

Dr. A. E. GARROD, following the classification adopted by Dr. Abrahams in his paper, referred to the disease met with in children, the relation of which to acute rheumatoid arthritis he regarded as an open question; in his (Dr. Garrod's) experience the enlargement of the spleen and the lymphatic glands was by no means constant, but the fatal tendency of the disease of children was in marked contrast to what was seen in the malady in adults. He was convinced that the cases met with in middle life were examples of two, if not of three, distinct diseases. In one class of cases, which might be called rheumatoid arthritis, the fusiform swelling around the joints, the special implication of the interphalangeal joints of the first row, the rise of the temperature, and the rapid pulse were important characteristics. In the other disease, which might be designated multiple osteo-arthritis, the osteophytic enlargements, the absence of any obvious swelling of the joint capsules, and the special liability of the end joints of the fingers and carpo-metacarpal joints of the thumbs were conspicuous. Both diseases were apt to implicate the joints of the cervical spine and the jaw. It was important to realise that the former disease, whether acute, as in Dr. Hale White's cases, or more chronic, as it often was, was almost certainly infective and in time ran its course. He suggested that the name of rheumatoid arthritis should be limited to the former and that of multiple osteo-arthritis to the latter disease. The former was commoner in earlier life but might occur at any age; the latter was commoner in later life but might develop unusually early. The infection in the rheumatoid cases was very often a puerperal one, thus partly accounting for the greater frequency in women, though men were also attacked. Treatment was more efficacious in the osteo-arthritic cases. He was inclined to believe that there was a third and much rarer disease which included those cases in which without very conspicuous swelling of joints the muscular atrophy and contracture without resulting deformities were prominent features almost from the onset.

Dr. A. P. LUFF also thought that several different diseases had been included under the same name. He regarded rheumatoid arthritis, whether acute or chronic, as of infective origin. He believed strongly that the infection took place by the alimentary tract and was convinced of the high value of intestinal antiseptics, notably of carbonate of guaiacol. In the distribution of the lesions he remarked that the acute cases affected the proximal interphalangeal joints and the chronic the thumb joints. In the diagnosis between rheumatoid arthritis and gout there should not be much difficulty; the two most important points were the symmetry of the former and the sweating or clamminess of the palms and the soles. The cervical vertebræ and the temporo-maxillary joint were rarely affected in gout. He commented on the advances made of late years in the treatment of rheumatoid arthritis and advocated abundant nutriment. He did not think that the single-joint type of case was of infective origin but was a traumatic form of osteo-arthritis; monarticular rheumatoid arthritis was therefore a bad term.

Dr. PRESTON KING (Bath) remarked that Dr. J. K. Spender of Bath had first pointed out the rapid pulse, the sweating of the palms, and other characteristic features of the more acute forms of rheumatoid arthritis. He (Dr. King) did not think that the x rays were of any value in the diagnosis from gout and doubted whether increased transparency necessarily implied rarefied bone. That there was a strong nervous factor in the disease was undoubted; it was instanced by the muscular atrophy and the vaso-motor symptoms. He regarded the condition as a result of the action of the rheumatic virus on the nervous system.

M. BLANC (Aix-les-Bains) related two severe cases that had contracted diphtheria and had recovered from the joint disease after treatment by antitoxin. In ten cases he had used the same treatment and improvement had resulted but he had rarely had the opportunity of trying its effect apart from bath treatment. In regard to diagnosis the main difficulty was not in excluding gout but in distinguishing between rheumatoid arthritis and osteitis deformans.

Dr. W. EWART was of opinion that the toxic origin of these arthritic conditions was now established, though the number of such toxins was legion. The actual poison was more likely to be that secreted by microbes than the microbes themselves and might indeed be autotoxins. In this connexion he used the analogy of the joint changes seen in bronchiectasis. He was at present getting good results by varying the blood-supply to the part so as to produce alternate anæmia and hyperæmia.

Dr. R. LLEWELLYN JONES (Bath) saw very little difference between the acute and the chronic cases; the temperature ran a similar course in both. He found few cases free from nervous symptoms. He had also been struck by the segmental distribution of the lesions; thus the ring and the little fingers were usually affected together and the thumb and the index finger. He agreed with Dr. Luff as to the importance of gastro-intestinal troubles and cited cases of gastric ulcer followed by rheumatoid disease. He suggested an analogy with tetany and drew attention also to the frequency with which Graves's disease and rheumatoid arthritis were associated.

Dr. HALE WHITE, in reply, agreed that the condition which he had described was not rare in men. As regards the transparency of the ends of the bones and the fusiform shape of the swelling he recognised that both occurred in other conditions but as they were never absent in this disease their presence or absence was of importance in diagnosis. With regard to the grating observed by Dr. Garrod he acknowledged that destruction of the cartilage occurred, but emphasised the fact that it was in these cases always secondary to the synovial mischief. He was very sceptical as to the power of any drug to disinfect the alimentary canal.

Dr. ABRAHAMS, in reply, agreed with Dr. Luff as to the great value of guaiacol carbonate but could not attribute this to its antiseptic properties on the intestines, seeing that it was the only member of the group that possessed such beneficent effects. He was interested in M. Blanc's remarks on diphtheria antitoxin as ten years ago he had seen Dr. Sydney Ringer treat a case of gonorrhœal rheumatism with it. Dr. Ringer's favourite remedies for arthritic conditions were guaiacum and actæa racemosa.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on March 10th, Dr. William Alexander, the President, being in the chair.—Dr. Frederick Edge showed: (1) A specimen of Malignant Adenoma of the Fundus of a Uterus removed by the vagina from a patient, aged 62 years, suffering from sanious vaginal discharge for two years previously; and (2) a Malignant Tubo-ovarian Cyst from a patient, aged 44 years, who complained of a foreign body. The papillomatous growth commenced in the tube and did not involve the wall deeply.—Dr. Edge also read notes of a case of Severe Metrorrhagia where, after removal of the uterus, a submucous fibroid was found at the fundus with lengthening of the cavity for an inch, and exhibited a Uterus removed from a patient past the menopause for prolapse and ulceration of the vagina. In performing vaginal hysterectomy for prolapse he divided the posterior vaginal wall medially and after removing the uterus he sutured the recto vaginal fascia transversely which permitted complete closure of the anterior part of the wound with drainage of the pouch of Douglas from the lowest point without weakening the pelvic floor —Dr J Inglis Parsons then read a paper on the Choice of Treatment for Fibromyoma of the Uterus The question was discussed under seven headings 1 Tumours producing no symptoms *Operation was not considered justifiable in these* cases 2 Small tumours causing severe menorrhagia without pressure symptoms In 95 per cent electricity would diminish the hæmorrhage and ought to be tried before operation 3 Small tumours producing pressure symptoms with or without menorrhagia If the pressure was on the bladder operation was necessary myomectomy, hysterectomy or removal of the appendages 4 Uniform enlargement in shape resembling that of pregnancy at four to six months and causing pain and metrorrhagia Operation was recommended for this group because of the pressure symptoms but if declined electricity was of great value 5 Tumours forming a round mass confined to the pelvis and sometimes impacted should be operated on as soon as possible because of the pressure caused by them 6 Very large tumours filling the abdomen of the size of a full term pregnancy Hysterectomy was the only available treatment for these tumours 7 The relation of the menopause to fibroid tumours The menopause came on much later and as a rule the tumours ceased to grow and became smaller He gave notes of three cases treated by electricity which he had watched for 17, 14 and 9 years respectively through the menopause and which were doing well without operation —Dr J A Mansell Moullin said that the paper ignored the brilliant improvement in the results obtained by operation

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undoubtedly demanded ugl ton
Jones had tried electricity enrodt
had given it up Every case should be dealt with according to its special features and complications —Dr J Macpherson Lawrie protested against the sweeping disapproval of electrical treatment of myoma He had known it to be of good service in many cases diminishing hæmorrhage relieving pain and sometimes leading to shrinking of the tumour —The President thought that a patient ought not to be *informed of the presence of a tumour, the knowledge of* which would be a constant source of depression to her She should invariably be given medical treatment in the first place and the removal of the tumour should only be undertaken by the gynæcologist Any good effects of electricity were merely palliative and deferred but did not do away with the necessity for an operation He had found the results of the removal of -thy and in
the majority of ca e the best
operation though if he might
enucleate it —Dr Inglis Parsons in reply said that if as was sometimes possible the pelvic organs were restored to health by electrical treatment the patient would not be a chronic invalid, he had not found such treatment
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sending the cas
the President as to the removal of the appendages

LEEDS AND WEST RIDING MEDICO CHIRURGICAL SOCIETY —A meeting of this society was held on March 3rd Dr Adolph Bronner being in the chair —Dr E F Trevelyan described cases of Erb s Juvenile Dystrophy occurring in four well developed members of a family made up of father aged 49 years mother aged 36 years four sons aged respectively 18 17, 11 and two years and four daughters aged respectively 20, 15 13 and seven years The father, two sons aged respectively 18 and 11 years and the daughter aged 13 years were affected The chief characteristics of the disease in the father and two eldest children consisted in the winged and displaced scapulæ the wasted muscles of the upper arm (including the brachio radialis), lordosis and a slight waddle in the gait *The* volume of the deltoids was considerable Some unusual muscles were involved in both the father and the eldest son The son aged 11 years, showed only slight displacement of the scapulæ and some weakness of the muscles No hereditary or family factor could be ascertained in the father, in whom the disease commenced at the age of 18 years Dr Trevelyan then distinguished between the various types of progressive dystrophy and between the latter and amyotrophies of spinal cord and peripheral nerve origin The slow progress of the disease and its *temporary arrest were illustrated* by the case of the father who had been able to do manual work up to recently The disease apparently began in the elder son between the age of 12½ and 14 years while he was engaged in hard work in pushing trucks in a quarry The prognosis seemed to be unfavourable in his case as the disease was extending rather rapidly Reference was made to the supposed limited vitality of the muscles in progressive dystrophy and to certain developmental facts, such as the liability to variations in the muscles most often affected in this disease Repair seemed to be impossible in these cases and the most that could be hoped for was the arrest of the disease For this purpose the patient should live under the best hygienic conditions and perhaps massage and systematised exercise might also be useful —Dr Thomas Churton Dr A G Barrs and Dr T W Griffith discussed the paper —Dr Carlton Oldfield read a paper on a case of Vesicular Mole associated with Double Ovarian Cysts and followed by a Growth of Chorio epithelioma in the Uterus The patient was aged 22 years Two weeks after the date when she had expected to be confined she had a dribbling menstrual discharge for three months and then a severe hæmorrhage A vesicular mole was removed and the next *day the ovarian cysts were noticed* Five weeks later the cysts were removed and the body of the uterus was amputated a disc of growth of the size of a shilling being found in the muscular substance of the posterior uterine wall A week later the cervix uteri was removed through the vagina The patient made a rapid recovery and was well and free from recurrence 13 months afterwards Attention was drawn to the association of the three rare conditions—namely lutein ovarian cysts vesicular mole and chorio epithelioma—and quotations from the literature were given to show that chorio epithelioma was so often associated with the other conditions that there must be some causal relationship The theory put forward was that excessive lutein secretion from the lutein cystic ovaries was the cause of the excessive proliferation of the trophoblast resulting first in vesicular mole and then in chorio epithelioma —Professor A S F Grunbaum read a paper on Vaccines and Serums in Theory and Practice —Dr H J Clarke and Mr B G A Moynihan showed a patient upon whom Gastro enterostomy was performed five years ago —Mr L A Rowden showed a case of Lupus Vulgaris nearly healed under treatment by the x rays —Dr T Churton showed a man who suddenly became cyanosed while at work was bled to the amount of 40 *ounces and rapidly recovered —Other cases and specimens* were shown by Mr J Stewart Dr H Irving Dr J B Hellier Mr H Secker Walker Dr T Wardrop Griffith Mr S T Rowling Dr Alfred Mantle Mr Edward Ward and Mr R Lawford Knaggs

ULSTER MEDICAL SOCIETY —The seventh annual meeting of this society was held in the Pathological Laboratory of Queen s College Belfast on March 2nd Dr W Calwell, the President being in the chair Professor Johnson Symington and Dr H Hanna exhibited (1) a series of Young Temporal Bones showing the Develop*ment of the Air Cells*, (2) a *Female Pelvis* with Distended Rectum showing the spread of malignant disease from the uterus (3) a Skull to illustrate the Eruption of Teeth (4) Enlarged Photographs of the Internal Ear and Sections of the Medulla Oblongata, and (5) Drawings from Sections of the Brain —Professor T H Milroy *read a short paper on the Exchange of* Nutritive Material between Different Organs of the Body, as exemplified in the Spawning of Fish —Dr J A Milroy gave a Microscopic Demonstration of some Specimens illustrating the Structure of the Ductless Glands —Dr R A L Graham described a case of General Paralysis of the Insane with Meningomyelitis (illustrated by sections shown *by the lantern)* —Sir William Whitla showed a Tumour of the Brain (with sections) —Professor J W Byers showed (1) a Solid Tumour of the Ovary (section), (2) an Extra uterine Fœtation beautifully mounted to show the bones by *Dr* Marion B Andrews, (3) a specimen with an Ovarian Tumour on one side and on the other *a Tumour of* the Fallopian tube but distinct from the ovary probably tuberculous, (4) a New Pelvis for teaching purposes, and (5) a *series* of Plaster Casts of the Fœtal Head (natural and abnormal).—Dr. John Campbell exhibited: (1) a Kidney Tumour; (2) a mounted specimen of Cancer of the Sigmoid Flexure; and (3) a Uterus removed per vaginam (with section) of an adenomatous nature.—Professor J. A. Lindsay showed a large Aneurysm of the Aorta.—Mr. G. L. St. George described: (1) a Parotid Tumour (with section); and (2) an Axillary Tumour (with section).—Dr. H. L. McKisack showed a Ruptured Aneurysm of the Basilar Artery.—Mr. A. B. Mitchell exhibited (1) a Sarcoma of the Femur (with section); (2) a Hand and Arm showing a combination of Tubercle and Carcinoma (with section); and (3) a Carcinomatous Tumour of the Scalp (with section).—Mr. A. Fullerton showed (1) a Malignant Adenoma of the Breast (with section); (2) a Dermoid Cyst of the Neck (with section); (3) a Duct Cancer of the Breast (with section); and (4) a Stomach showing Gastric Ulcer with Erosion of the Pancreas (section of pancreas).—Dr. T. S. Kirk, exhibited specimens of: (1) Acute Suppurative Periostitis; (2) Ovarian Cyst; (3) Squamous Epithelioma of the Lower Jaw (with section), (4) Lymphosarcoma of rectum (with section); and (5) a Series of Prostates.—Dr. James Lynass exhibited: (1) Charts showing the Effects of the Serum Treatment of Erysipelas; and (2) Glandular Tumours removed from the Neck.—Dr. Marion Andrews showed: (1) an Abscess of the Ovary (with section); and (2) a series of Specimens Preserved and Mounted by the Kaiserling Method.—Dr. William Mair demonstrated certain recent Methods for distinguishing colonies of the bacillus coli and the bacillus typhosus.—Dr. Thomas Carnwath read a note on the Value of the Streptococcus as an Index of Sewage Contamination.—Dr. J. C. Rankin exhibited two interesting Skiagrams.—Dr. Thomas Houston and Dr. Rankin showed Preparations demonstrating that the Opsonic Power of the Serum is Destroyed by Heat at 60° C.—Dr. Houston also gave demonstrations of the Method of Preparing and Administering a Vaccine for the Treatment of Staphylococcic Lesions (A. E. Wright's method).

Manchester Medical Society.—A meeting of this society was held on March 1st, Mr. W. Thorburn, the President, being in the chair.—Dr. Joshua J. Cox showed an interesting case of a boy, aged nearly 11 years, with well-marked Achondroplasia, and weighing about 28 pounds. The differential signs between rickets, cretinism, and achondroplasia were pointed out and a series of skiagrams were on view of the bones in normal children, in a case of infantile myxœdema, and in achondroplasia. In the present case the stunting and deformity of the long bones, the "trident hand," the lordosis, and the immense development of the gluteal, the thigh, and the calf muscles were very noticeable. Dr. Cox pointed out the importance in obstetric practice of having careful pelvic measurements made in any case of pregnancy in which, owing to dwarfism with shortened extremities, slight achondroplasia with narrowing of the pelvis might be suspected.—Mr. E. Stanmore Bishop mentioned a case of Muco-colitis treated by Lavage through the Appendix. These cases usually occurred in women, in neurotic subjects, and were frequently complicated by some disease of the generative organs. After referring in detail to all the methods, medical and surgical, which had been adopted in their treatment he drew attention to a plan proposed by Dr. Weir of New York which utilised the appendix as a natural tube by means of which access might be obtained to the interior of the cæcum and thereby the entire large intestine might be flushed out. Details of the case were then given.—Dr. R. J. Ewart read a paper on Venesection, its Indications from a Physiological Standpoint, in which he showed the unsuitable character of the term "viscosity" as applied to blood. The blood met a much greater resistance in its passage through a capillary than would be the case with a homogeneous fluid, the disparity amounting to between four and five times. If it was desired to get the maximum number of bodies suspended in a fluid through a capillary with the minimum expenditure of energy a certain number must be present per cubic centimetre. This optimum depended on the size, shape, and specific gravity of the suspended bodies. The removal of blood from the vessels was always, even in very diverse conditions, followed by a fall in the number of corpuscles per unit of volume. A certain quantity of oxygen was an absolute necessity for tissue metabolism and this supply was the demarcating factor for the minimum rate of flow. Hence, therefore, variation in the number of corpuscles per unit of volume would render the blood mechanically inefficient as an oxygen vehicle. In disturbed conditions of the circulation, accompanied by anæmia, a hæmatinic course of treatment was more likely to be beneficial than attempts to stimulate the heart. If the number per unit of volume should rise venesection was strongly indicated. From a physiological standpoint the indication for venesection was an excessive relative number of corpuscles, provided that the circulation had sufficient power to make up the loss with lymph drawn from the tissue.—Dr. J. A. Knowles Renshaw showed a Radiogram of the Chest in a case of Aneurysm of the Arch of the Aorta.

West London Medico-Chirurgical Society.—A meeting of this society was held on March 3rd, Mr. C. M. Tuke, the President, being in the chair.—Dr. Alexander Morison read a paper on Boldness in Treatment of Certain Phases of Pneumonia. The principal points referred to by Dr. Morison were (1) the treatment of high temperature by the application of ice to the body or to the head alone; (2) the conservation and relief of the heart by frequent injections hypodermically of strychnine and the administration of turpentine internally; and (3) the relief of the heart by blood-letting.—Dr. G. A. Sutherland, in referring to the use of strychnine, said that as a rule insufficient doses were given and advised the drug to be used at frequent intervals and in large doses until the physiological effects were produced.—Dr. A. Elliot did not think energetic and bold measures for reduction of temperature should be used unless the temperature exceeded 104° or 105° F. and then he found that application of ice to the chest was as a rule badly borne and he recommended cold sponging as being preferable. Referring to blood-letting, Dr. Elliot considered that the amount of blood withdrawn was not of such great importance as the rapidity with which the loss of blood was effected.—Dr. Otto F. F. Grünbaum also advised non-interference with the temperature *per se*, unless it exceeded 104°.—Dr. Morison, in reply, agreed with Dr. Elliot that it was not so much the quantity of blood withdrawn as the rapidity with which it escaped which relieved the surcharged heart.—Mr. Cecil H. Leaf read a paper on the Clinical Causes of Cancer of the Breast in which he proved by a very complete table of statistics that not only one but many causes of cancer exist. The special points discussed by Mr. Leaf were (1) age; (2) state—married or single; (3) family history; (4) lactation; (5) previous diseases of the breast; (6) injuries; (7) corsets; (8) worry and anxiety; (9) residence; (10) diet—consumption of meat, salt, uncooked vegetables, &c., alcohol; and (11) miscellaneous—general health, occupation, and infection.—Dr. S. D. Clippingdale considered the coincidence of cancer with consumption to be of great clinical importance and he also drew attention to a paper published by himself in which he endeavoured to show that both these diseases in London were more common in the low-lying districts near the river, irrespectively of soil.—Mr. J. G. Pardoe wished to impress upon the members the importance of the infectivity of cancer and gave a practical illustration of the same.—Mr. F. Lawrance considered cancer to be, without doubt, hereditary and also possibly infectious.—Mr. Leaf made a few remarks in reply.

Clinical Society of Manchester.—A meeting of this society was held on Feb. 21st at the Palatine Hotel, Dr. E. S. Reynolds being in the chair.—Dr. Gordon W. Fitzgerald read a paper on Hæmorrhage in the First Three Months of Pregnancy, with Special Reference to Abortion. He said that the chief causes of hæmorrhage in early pregnancy were abortion, menstruation, ectopic pregnancy, hydatidiform degeneration of the chorion, and malignant disease of the cervix. Abortions were classified as either threatened or inevitable. Incomplete, complete, cervical, and missed abortions were all inevitable. Chief amongst the causes was endometritis which itself was generally due either (1) to conditions causing chronic congestion of the uterus or disease of the endometrium; or (2) to improper emptying of the uterus at a former confinement. Patients who have previously aborted should, apart from other treatment, observe great caution during the times that they would be "unwell" were they not pregnant. "Habit" was frequently cured by pushing mercury. The use of the pessary to retain a gravid uterus in position was sometimes dangerous. Threatened abortions were treated by opium in large doses and by rest. The indication in inevitable abortion was to empty the uterus and the sooner this was done the better. The blunt flushing curette would empty the uterus more safely and completely than any other means. Tents or rapid dilators might be needed to attain a sufficient dilatation of the cervix. After abortion the patient should be treated as after full-term delivery.

Therapeutical Society.—A meeting of this society was held on Feb. 21st, Mr. A. B. Day being in the chair.—Dr. T. E. B. Brown read a paper on Herbals and Herbaria, in which he described various old theories as to the action of plants as medicines and the necessity for accurate descriptions and pictures of medicinal plants; hence the origin of the science of botany and the formation of herbals. He spoke of Gerarde's, Tournefort's, and other herbals and read extracts of the use of sage and danger from the poison of toads if rue was not added; also of plants that improve the skin, such as arum, cyclamen, vervain, watercress, and white bryony. He described the use of black bryony root for contusions of the eye and of euphorbia juice to remove warts or hairs, or butterwort to turn the hairs yellow, and colocynth black, mentioning that more powerful remedies could be obtained from minerals but also more dangerous ones. He then described various methods of drying plants for herbaria and showed specimens prepared in 1770, and finished by quoting the familiar lines from Erasmus Darwin's "Loves of the Plants":—

> [illegible]

Afterwards there was an exhibition of Botanical and Therapeutical Appliances, in support of which the Society of Apothecaries of London showed a Herbarium made in 1770. —Mr. J. Bryant Sowerby of the Royal Botanic Society showed the original edition of Gerarde's Herbal and pictures of medicinal plants, Dr. Herbert French showed an early copy of Gerarde's Herbal, hand-painted, and two copies of [illegible] hod to Measure Blood [illegible] arious kinds of leucocytes [illegible] rpuscles; while Messrs. [illegible] Botanical Presses and Collecting Cases, Messrs. Watson and Sons exhibited an improved High-frequency Apparatus in action, an X Ray Tube for Alternating Currents, and other electrical apparatus, and Messrs. Burroughs and Wellcome showed a large number of chemical and botanical specimens.

Brighton and Sussex Medico-Chirurgical Society.—A meeting of this society was held on March 2nd, Mr. G. Morgan, the President, being in the chair.—Dr. E. F. Maynard showed a child, aged 12 years, with Right Ulnar Paralysis which had developed gradually two months ago without evident cause and which was improving under electricity and massage. He also showed, with Dr. A. J. Hutchison, a man who was suffering from Spasmodic Dysphonia and who had previously had lead colic and wrist-drop. Dr. Hutchison remarked that spasmodic dysphonia was rare and usually occurred in voice-users, such as clergymen. In this case there was anæsthesia of the palate also and he thought the condition a kind of ataxy of the larynx due to lead. Improvement was taking place under treatment for lead poisoning.—Mr. V. T. Greenyer showed a girl, aged 15 years, whom he had treated successfully for Tuberculous Disease of the Knee-joint by injection of iodoform emulsion two years before.—Dr. L. A. Parry read notes of seven cases of Strangulated Hernia which he had seen lately and remarked on the danger of taxis in young children. He also related a case of acute intestinal obstruction in an *infant from strangulation under a band, in* which he had performed resection of the intestine; he showed the post-mortem specimen.—Mr. G. D. Kerr read [illegible] ica which he had treated [illegible] quency currents.—It is [illegible] meeting of the society.

Plaistow and Canning Town Medical Society.—A meeting of this society was held on March 9th, Dr. W. O. Taylor being in the chair. The annual report was read and passed.—The following gentlemen were elected office-bearers for the year: President, Mr. J. J. Harvey; vice-president, Mr. H. A. Nelson; honorary treasurer, Mr. H. S. Beadles; and honorary secretary, Dr. E. Hay.—Mr. Percy Rose exhibited a Liver and a Spleen with markedly thickened capsules resulting from chronic peritonitis consequent upon chronic interstitial nephritis.—Dr. Hay showed an infant with Dermatitis Gangrænosa in the Genito-crural Region. There was no antecedent varicella or any history of a specific fever to account for this form of local gangrene of the skin, but an elder child in the same family was stated to have just recovered from a similar dermatitis which developed shortly after an attack of diphtheria some three months previously.—Dr. J. Biernacki opened a discussion on the Difficulties in the Diagnosis of the Common Fevers.

South-West London Medical Society.—A meeting of this society was held on March 8th at the Lister Institute of Preventive Medicine, Chelsea, Mr. E. F. White, the President, being in the chair, when Dr. Allan Macfadyen gave an address on Some of the Bacteriological Work carried on in the Institute. He passed in review the various micro-organisms affecting the alimentary tract and demonstrated the method by which the Klebs-Löffler bacillus was isolated. He considered that the antiseptic action of the gastric juice was much over-rated and that most organisms were able to survive its action in the stomach and to pass on to the intestine. He divided food poisons into three groups: (1) food poisons already formed before entering *the body; (2) food poisons due to the presence of a group of* organisms called the "Gartner organisms"; and (3) food poisons due to the "paratyphoid bacilli," which were intermediate between the typhoid bacilli and the Gärtner organisms.—At the close of the lecture numerous cultures *and microscopic* specimens were exhibited.

Bristol Medico-Chirurgical Society.—A meeting of this society was held on March 8th, Dr. Reginald Eager being in the chair.—Dr. H. Waldo showed a case of Leukæmia and Dr. E. W. Hey Groves a case of Multiple Congenital Dislocations.—Dr. A. Ogilvy showed the Orbital Exostosis removed from a patient shown at a previous meeting.—Dr. James Swain showed a Large Broad Ligament Fibroid; and Dr. J. Lacy Firth a Fibroma removed from the abdominal wall.—Dr. Waldo read a paper on the Causes and Treatment of Baldness, and Dr. J. O. Symes read a paper on Cytodiagnosis.—A number of the members present discussed the cases, specimens, and papers.

Wigan Medical Society.—A meeting of this society was held on March 9th, Mr. J. Chronnell, the President, being in the chair. After the usual preliminary business was over a paper on Puerperal Fever was read by Dr. T. B. Grimsdale, lecturer in clinical gynæcology at the University of Liverpool and gynæcological surgeon at the Royal Infirmary, Liverpool.—A discussion followed in which Dr. J. Blair, Mr. M. G. McElligott, Mr. Bowen, Mr. E. H. Monks, Dr. R. P. White, Mr. H. Litherland, Dr. J. Jackson, and the President took part.

University of Oxford.—Attention is called by the secretary of the Board of Faculty to the fact that the new regulations as to the production of certificates of instruction on entering names for the examinations for the [illegible] will take effect at the next [illegible] erm, 1905, commencing on [illegible] orms are supplied by the [illegible] ies, Old Clarendon-building. [illegible] the degree days appointed [illegible] 4th; Thursday, May 25th; Thursday, June 22nd; Thursday, June 29th; and Saturday, July 8th.

The Chemists' Exhibition.—The annual exhibition was held this year in the Covent Garden Theatre and was formally opened by Mr. Glyn-Jones on March 13th. The movement commenced ten years ago, still enjoys considerable patronage, and is no doubt of great interest to pharmacists, perfumers, and others. Amongst the visitors were several medical men who take this convenient opportunity of making notes on the advances of pharmacy and of becoming acquainted with new medical and pharmaceutical appliances. The arena of the theatre afforded ample space for the exhibits which were made as attractive as possible. Apart from trade interests there were several exhibits worth seeing from a purely hygienic and scientific point of view.

Reviews and Notices of Books.

The Diseases of Women: a Handbook for Students and Practitioners. By J. BLAND-SUTTON, F.R.C.S. Eng., and ARTHUR E. GILES, M.D., B.Sc. Lond., F.R.C.S. Edin. Fourth edition, with 127 illustrations. London: Rebman, Limited. 1904. Pp. 520. Price 11*s.* net.

IN the fourth edition of this handbook of Diseases of Women the authors have managed to incorporate much new material without increasing the size of the work. We notice a considerable number of additions and alterations in various chapters. In discussing malformations of the reproductive organs they have adopted the following classification—viz., (1) malformations by arrest of development; (2) malformations by the persistence of septa; (3) malformations by excessive development; and (4) malformations by a combination of the male and female characteristics. In discussing the question of the malignancy of uterine fibroids they point out that the great defect of nearly all such recorded cases is the absence of a complete history. Sarcomata are so prone to give rise to secondary deposits that any case which runs its natural course to a fatal issue might be expected to show secondary nodules in the lungs at any rate. As they point out, the term fibroid includes several kinds of tumours, amongst which there is a soft jelly-like uterine tumour which is met with most commonly in the interval between the twenty-fifth and the thirty-fifth year, associated with profuse metrorrhagia and profound anæmia, and which on section resembles a mass of myxomatous tissue. This tumour is often described as a degenerate fibroid but is in reality a primary condition and serves to bridge the interval between the true fibromyoma and the sarcoma of the uterus. We gather that the authors do not believe in the occurrence of the malignant degeneration of a fibroid tumour of the uterus but rather are inclined to think that in all such instances the growth has been a malignant one from the very commencement. Two very interesting cases of carcinomata of the Fallopian tube are recorded and illustrated in this edition. In the instructions given for the conduct of gynæcological operations the dictum is laid down that "nothing should be allowed inside a patient's abdomen which has not been boiled especially for the operation, and as the surgeon's hands cannot be sterilised by heat he should wear rubber gloves which have been boiled."

The work retains its main characteristics; it is clearly written and although it does not enter into any great detail upon many of the subjects treated, yet it is a good example of its class. The opinions are mainly those of the senior of its two authors and while we may not agree with all that he teaches we are certainly not left in any doubt as to his views upon many debateable points in gynæcology.

About Dreaming, Laughing, and Blushing. By Sir ARTHUR MITCHELL, K.C.B. Edinburgh and London: William Green and Sons. 1905. Pp. 157. Price 5*s.* net.

IN this little book the author has stated opinions which he holds and has endeavoured to support them with fairness. He recognises that they are only opinions but ventures to think that, even if they are not fully accepted, they may still be regarded as worthy of consideration because of their having "a possible useful outcome in the general study of mental disorders." The study of dreams appears to Sir Arthur Mitchell to lead to the following opinions among others:—That there is no such thing as dreamless sleep; that thinking is involuntary—to the extent, at least, that we cannot cease to think under any order of the will; that thinking never ceases during life and is essential to the continuance of life; that dream-thinking is uncontrolled and undirected by the will, is never coherent and concentrated, is more or less of the same character as thinking in delirium, and constitutes a state of mental disorder which is not a state of disease: that thinking when awake is always to some extent under the control of the will by which it is directed to a subject and kept there; that there are many degrees of sleep and wakefulness and as many degrees of efficiency in the controlling power of the will; that thinking, like breathing or the beating of the heart, does not cause a sense of weariness, though all three have a wearing-out effect on all the organs concerned; that the will's inhibiting and directing work brings fatigue and a demand for rest; that the will finds this rest and refreshment in sleep; and that the frequent occurrence of a state of disordered mind in sleep does not do us harm but on the contrary does us good. Some of the conclusions which seem to be the outcome of Sir Arthur Mitchell's study of laughter are as follows:—That laughter is a state of mental disorder which is evidenced by the irrational and purposeless phenomena attending it and the absence during their continuance of all coherent thought; that these short states of mental disorder, which may be very frequent, do not hurt us, but on the contrary do us good; that laughter is not, even usually, the expression of unalloyed pleasure and joy; that on the contrary it very often expresses states of mind which are mean, contemptible, and cruel, the moral faculty being then in abeyance; and that laughter so arising is only pardonable on the view that it is a state of mental disorder. The study of blushing seems to lead to the following conclusions:—That blushing is always the expression of a special mental state; that it causes another mental state which is a state of mental disorder; that blushing is involuntary, is the exclusive property of man, and occurs in all races of men; that it abounds in the young and practically ceases in advanced age; that the inhalation of nitrite of amyl causes the face to flush and that this seems to be attended with the same confusion of mind as that which attends the blush of shame; and that the flush of anger and many other flushes are altogether different from the blush of shame.

LIBRARY TABLE

Atlas and Epitome of General Pathologic Histology. By Docent Dr. HERMANN DÜRCK of the Pathologic Institute, Munich. Authorised translation from the German. Edited by LUDVIG HEKTOEN, M.D., Professor of Pathology in Rush Medical College, Chicago. With 176 coloured illustrations and 36 figures in black and colours. London, Philadelphia, and New York: W. B. Saunders and Co. 1904. Pp. 371. Price 21*s.* net.—The atlas before us contains a large number of admirably drawn reproductions of microscopical preparations illustrating conditions met with in morbid histology. They are beautifully reproduced and afford a striking example of the lithographer's art. The text contains a condensed summary of the principal facts of pathology; the statements contained in it appear to be correct and brought up to date. Having thus paid a well-merited tribute to the author—we may add the translator—to the artists, and to the publishers whose enterprise is so strikingly exemplified in the production of such a book at the price named above, we may confess to a feeling of doubt as to the exact place which such a work is expected to occupy in medical education. We can imagine a good and a bad use to which it may be put. It may rightly be used by the teacher of morbid histology to illustrate to his class conditions of which he does not happen to possess specimens at hand. It may wrongly lead students to rely upon its aid as a means of "cramming up" a certain number of pathological appearances with a view to "spotting specimens" in examinations, to the neglect of the study of actual preparations. In this latter case we think that disaster will result, since in an atlas of this kind it is impossible to preserve any strict perspective in the choice of illustrations, and rare and curious conditions appear on an equal footing with common and important morbid states. This peculiarity is at once evident from the fact that just one-third of the whole book and practically half the number of plates contained in it are devoted to the illustration of different varieties of tumours, a quantity quite out of proportion to their importance from a student's point of view. Indeed, here the very minuteness of the classification will lead to confusion in the mind of one not already well versed in the subject. Hence, while we advise those who have the opportunity of looking into this atlas to avail themselves of it, we cannot think that students with but a limited amount to spend on books will find it worth while to purchase the volume.

The Splendor of the Human Body. By the Right Rev. C. H. BRENT, D.D., Bishop of the Philippine Islands. London, New York, and Bombay: Longmans, Green, and Co. 1904. Pp. 60. Price 2*s.* 6*d.* net.—This is a thoughtful and scholarly address upon the body considered not merely from the physical point of view but as "the living dress" of the soul. Bishop Brent urges in plain and simple language that the body is the crown of creation in this world and that it is indissolubly linked with the rest of creation. From this it follows that the body should be used with due care; that it should neither be made the toy of the passions on the one hand nor considered as the enemy of the soul on the other. This last, of course, was the error into which the Ascetics fell. Beginning with asceticism (*ἀσκησις*) in its original meaning—i.e., discipline or training—they gradually came to regard the body as an evil; then came the inevitable rebound and excess in the other direction. Bishop Brent ends with an exhortation to self-restraint and we consider his little book to be one which all parents may study with advantage and may give to their children.

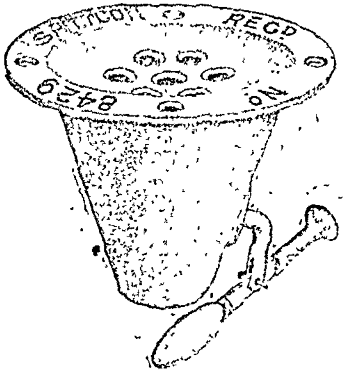
Obstetric and Gynecologic Nursing. By EDWARD P. DAVIS, A.M., M.D., Professor of Obstetrics in the Jefferson Medical College and Philadelphia Polyclinic; Obstetrician and Gynecologist to the Philadelphia Hospital. Second edition; revised. With numerous illustrations. London, Philadelphia, and New York: W. B. Saunders and Co. 1904. 12mo, pp. 402. Price 8*s.* net.—In issuing the second edition of this useful book the author has taken the opportunity of thoroughly revising it and adding a certain amount of new matter. No very marked alteration has been made in the character or the scope of the work. It has evidently met with a fair amount of success and, as we pointed out in our review of the first edition, it forms a useful and practical text-book for nurses. There are many points of considerable practical value contained within its pages and Professor Davis has been successful in limiting his information to such an amount as may fairly be comprehended by any intelligent nurse.

The Plenum or Propulsion System of Heating and Ventilation. By HAROLD GRIFFITHS, A.R.I.B.A., F.S.I., M.S.I. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1905. Pp. 107. Price 4*s.* 6*d.*—With regard to ventilation there exist now broadly two schools—one which favours ventilation by so-called natural means and the other which maintains that mechanical ventilation either by propulsion or extraction is alone satisfactory. However this may be, practical experience would appear to be deciding in favour of the propulsion as opposed to the extraction system of mechanical methods. There can be no doubt that the plenum or propulsion system of heating and ventilation is making progress and the installations which have been fixed in this country have so far given very satisfactory results. There are certain minor points connected with its supervision, however, which if neglected may raise a prejudice. Mr. Griffiths indicates these apparent defects. As he shows, they only exist so long as carelessness in working the system occurs. Complaint is often made, for example, as the author points out, that the plenum system gives rise to "bad air." When such a complaint is justified it is often due to a neglect to keep the apparatus clean. Filth, for example, accumulates in the nuts on the batteries and elsewhere and instead of being washed away on the first opportunity is allowed to remain until it is carried with the air into the rooms. As another example may be quoted the omission for three months of a man in charge of the installation to keep the filtering and humidifying screens supplied with water. Of course, such inexcusable negligence will easily account for unsatisfactory results. We have had occasion to visit public buildings in which the plenum system has been installed and have invariably found the process to be working satisfactorily and to the health, comfort, and convenience of the occupants of the various rooms and offices. But, as the author is careful to point out, "superior supervision and occasional surprise visits at irregular intervals are essential to insure the proper and efficient working of a plenum installation." It is often the case that any prejudice that may be entertained against the system is overcome when the efficiency of the installation is maintained. The author evidently has practical experience on the subject and deals with all the technical points concerned in a clear and intelligible manner. While acknowledging that defects may arise he is strongly in favour of the system. The book is a useful guide on the subject.

New Inventions.

A SELF-EMPTYING SPITTOON FOR RAILWAY CARRIAGES.

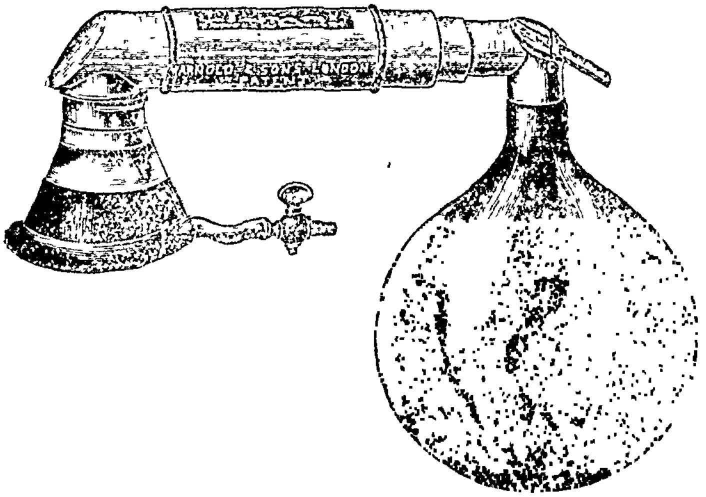
SPITTOONS of the pattern shown in the illustration are fixed in the floor of a railway carriage so that their upper surface is flush with the general level of the floor. The pan or container is of a conical shape and open at the bottom but in order to prevent any upward current of air while the train is in motion there is a hinged flap which closes the aperture. When the pan is partly filled with saliva or other expectorated matter the weight of the contents causes the flap to open so that the liquid is emptied on to the permanent way and the bottom is again closed automatically. For the



convenience of smokers and others several spittoons are placed in the floor of each carriage where they are used, and dripping umbrellas may also be held with their tips in the perforated bowl. The dimensions of the spittoons are five and three-eighths inches in diameter and four and a quarter inches in depth; they are made of malleable cast iron and weigh one and a half pounds. They have been in use for some months on the Tynemouth branch of the North-Eastern Railway. Railway passengers who spit freely are not usually refined in their manners but when they get into the habit of using the spittoons the result will be a great improvement in the cleanliness of the carriage floors and less danger from the dissemination of tuberculous sputum which after drying has become converted into dust. Further information relative to the spittoon may be obtained from Mr. George Graham, Westminster Chambers, 43, Victoria-street, London, S.W.

A NASAL INHALER FOR THE ADMINISTRATION OF ETHER.

With the inhaler represented in the illustration prolonged anæsthesia may be obtained by means of ether administered through the nasal passages during operations in or about the mouth and particularly in extensive dental extractions. It consists of a nose-piece, A, which rotates through half a circle and is fitted with an indiarubber pneumatic cushion connected with a tubular chamber B in which lies a loosely fitting sponge, the other end of the chamber being fitted with the angle-joint C and the indiarubber bag D of a Clover's inhaler. In the chamber B there is a large aperture which serves the purpose of charging the sponge with ether and which can be closed by a sliding sleeve. There is a small hole closed by a sliding cover C at the angle-joint of the bag; through this a charge of ethyl chloride can be squirted into the bag for the purpose of inducing anæsthesia before the ether is added if so desired. For a short operation such as the extraction of all the teeth the uncharged inhaler is placed over the nose, the bag hanging over the patient's head, the patient being instructed to keep the mouth closed and to breathe only through the nose. About two cubic centimetres of ethyl chloride are then squirted into the bag through the small aperture C which is immediately closed. As the patient becomes anæsthetised the large aperture B is opened, about two drachms of ether are poured on the sponge, the opening is again closed, and the patient passes into deep ether anæsthesia without any struggling or choking. The mouth is immediately opened and the operation proceeded with, the inhaler being kept in position until the operation is over and the operator working as deliberately as he desires. Patients as a rule recover very quickly (in a few minutes) and without sickness. For longer operations such as that for ununited fracture of the jaw, it is perhaps wiser to induce a full deep anæsthesia with an ordinary inhaler and when the operation is about to commence to maintain anæsthesia with the nasal inhaler, charging it however with about an ounce of ether in the indiarubber bag as the sponge chamber will not hold sufficient ether for prolonged administration. During an operation for ununited fracture of the lower jaw in a powerful man addicted to alcohol perfect anæsthesia was in this way maintained without any trouble for over half an hour, the surgeon being in no way impeded or interrupted in his work. During the past nine months the inhaler has been tried in many dental and various surgical cases with surprising and unvarying success. The whole apparatus may be sterilised by boiling. The makers are Messrs. Arnold and Sons, West Smithfield, London, E.C.



H. C. Drury, M.D. Dub.
Dublin. M. F. Thomson, L.D.S. Edin.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary meeting of the Council was held on March 9th, Mr. John Tweedy, the President, being in the chair.

Mr. W. H. A. Jacobson and Mr. Bilton Pollard were introduced and having made declarations in the terms of the oath prescribed by the Charter of 1800 were admitted members of the Court of Examiners.

A report was read from the Board of Examiners in Dental Surgery recommending the adoption by the Council of synopses indicating the range and extent in the subjects of anatomy, physiology, surgical pathology, and surgery for candidates for the licence in dental surgery.

The Senior Vice-President reported the delivery of the Hunterian Oration by the President on Feb. 14th.—The best thanks of the Council were given to the President for his oration and he was requested to publish it.

The President reported the delivery of the Erasmus Wilson lectures by Mr. Leonard S. Dudgeon and Mr. Percy W. G. Sargent on *Peritonitis* and he also reported that Mr. Stephen Mayou had delivered a course of three lectures on the Changes Produced by Inflammation in the Conjunctiva.

The President reported that in pursuance of the provisions of the Bradshaw bequest he had chosen Mr. Henry T. Butlin as Bradshaw lecturer for the ensuing collegiate year.

The Chairman of the Library Committee reported that the President had presented to the College eight volumes of fifteenth century books, forming a valuable and interesting addition to the collection of books of that period in the library.—The best thanks of the Council were given to the President for his gift.

The President reported that Sir Gilbert Blane's medals had been awarded to Surgeon Sidney Thomas Reid, H.M.S. *Vestal*, 1901-02, and Surgeon Robert William Glennan Stewart, H.M.S. *Latona* and *Thames*, 1903.

In accordance with the report of the Museum and General Purposes Committees it was resolved not to instal the electric light in the museum at present; this decision was arrived at chiefly on account of the cost.

Dr. J. Ward Cousins presented a report of the proceedings of the Central Midwives Board for the past year. The report contained many matters of great interest and among these may be specially mentioned the necessity which exists for an amendment to the Midwives Act providing for a fair scale of remuneration of the medical men who may be summoned in cases of difficulty and danger by midwives.—The best thanks of the Council were given to Dr. Ward Cousins for his report.

A letter was read from the Lord President of the Privy Council transmitting a copy of a communication received from the Russian Chargé d'Affaires in regard to the Fifth International Congress on Gynæcology to be held at St. Petersburg in September, 1905.

After discussion it was resolved that the clause in the regulations of the Council relating to meetings of Fellows should be further suspended and that in place of the meeting of Fellows a subscription dinner should be held at the College on the day of the Council election in July next.

The President reported that he had had the honour of dining with His Majesty the King at Buckingham Palace on March 4th.

THE LANCET.

LONDON: SATURDAY, MARCH 18, 1905.

Hospitals in their Relation to the Public and the Profession.

THE conference on Hospital Reform recently held under the auspices of the British Medical Association is one of many indications of the important movement now in progress for the organisation of the medical relief of the sick poor. If the actual conclusions arrived at by the conference seem only to touch the fringe of a great subject the facts that unanimity was secured on some points and keen interest was manifested in many more should give satisfaction to the responsible organisers of the meeting. Satisfaction may also be felt that it was found possible to bring together from all parts of the country many of the proverbially busiest of laymen who have most time and are willing to devote a considerable proportion of it to hospital administration. The meeting together in such large numbers of busy laymen and busy medical practitioners to discuss hospital matters is worthy of note, not only because of its possible results but because of its probable cause. No mere desire to exchange views on methods of heating and ventilation, or even on a suitable age-limit for the retirement of the medical staff, would have brought together in London representatives of hospitals in Scotland and Wales as well as in the most distant parts of England. If medical practitioners were instrumental in seeking this conference because their profession is feeling the intolerable strain of providing without payment the constantly increasing demands for hospital treatment the laymen were no doubt anxious to discover some means of relief from the equally intolerable strain of collecting money to meet the same demands. So long as the limits of medical charity can be kept within reasonable bounds the governors and the staffs of our hospitals find mutual satisfaction in administering to the relief of suffering. They are at the present time being drawn still more closely together in an attempt to deal with developments which appear almost overwhelming. The exact direction of their united efforts must be a matter for anxious and careful consideration, for success in one direction may mean disaster in another. The multi-millionaire who would free our hospitals from debt and allow for such extensions as would meet all present claims for free medical relief might, while delighting the hearts of the governors, run a considerable risk of straining the charity of the profession to the breaking point. For it must be clearly remembered in dealing with this question that whatever success attends the labour of the governors of hospitals in securing funds for increasing their charity necessarily involves a proportionate increase in the unpaid labour of the medical profession.

It is impossible here to refer in detail to the motions submitted to the conference. Most of them were accepted with but slight modification. One of considerable importance was, however, negatived. To this we wish to draw particular attention on account of the divergent views which were expressed during its discussion. The motion was worded as follows: "That no charge for the treatment of any patient shall be made." To most professional readers it will be obvious that the object of the committee in insisting on the absence of payment is to impress upon patients that the hospital is a charity, relying upon their sense of honour not to avail themselves of it unless justified by their circumstances. While compelled by experience to doubt whether the sense of honour in these conditions is an effective deterrent of abuse, this point of view seems to be clear and it was apparently so regarded by the committee, for no great pains were taken to explain the motive underlying the proposal. No wonder, perhaps, that this motion was negatived when some of the laymen regarded the imposition of a small charge for medicine as a useful means of preventing that overcrowding of the out-patient department to which general practitioners are supposed to object. Perhaps, too, the "sense of honour" argument would in any case have been a little discounted by a subsequent proposal to institute inquiries into the financial fitness of every applicant for hospital relief. It is difficult to rely on the effect of trusting to a man's sense of honour when at the same time you are taking active steps to secure the same end by other means. For our part we think that due inquiries into an applicant's financial fitness are more likely to secure that charity shall be properly dispensed than is the most elaborate attempt to bring home to the applicant the dishonour of accepting unneeded charity.

While regarding with great satisfaction any attempt to inform the public, and especially the lay administrators of hospitals, as to the view of the profession with respect to medical relief, we cannot help regretting that the conference was not made use of to arrive at a common understanding of some general principles. The relations of hospitals to the medical work of the Poor-law and the proper attitude of hospital committees to paying wards were subjects distinctly ruled out of the purview of the conference, though they doubtless influenced both the discussion and the voting on some of the motions. At the end of the conference representative laymen were nominated to consider further the resolutions with the committee of the British Medical Association preparatory to making some authoritative statement to the public. It is greatly to be hoped that this joint committee will take a wide view of its reference and will look a little more deeply into the origin of our present troubles with the object of securing a more drastic and permanently effective treatment. No scheme of hospital reform can be said to go to the root of the matter which does not accept as a fundamental proposition that an attempt should be made to prevent the overlapping of hospitals, on the one side, with the Poor-law and, on the other side, with provident dispensaries. Absolutely necessary reforms are prevented in the Poor-law and in the provident system of medical relief by the competition of voluntary hospitals. The State is encouraged to neglect its obvious duty to sick paupers by the knowledge that the charitable public can persuade the medical profession to do for nothing work which should be undertaken by a properly paid Poor-law medical service. General practitioners are handicapped in their attempts to develop the provident system amongst the working classes by the constantly increasing competition of the free out-patient departments of hospitals. From want of proper organisation the hospitals are actually preventing developments which if encouraged would relieve them of a great burden of work. And this work which the hospitals unnecessarily take from the Poor-law and from the private practitioner could be better done by these agencies. The Poor-law can afford, must afford, to keep a pauper until he is once more an effective worker, whilst the general practitioner can follow a provident patient to his home whenever the nature of his illness demands it. Any attempt to prevent this overlapping of different forms of medical relief must be preceded by an attempt to define the proper sphere of hospital work. It is said that it baffled the most fluent French scholars amongst us to explain to our Parisian colleagues during their recent visit to London the essential difference between a Poor-law infirmary and a voluntary hospital. In view of the growing tendency of municipalisation it is no mere academic duty to establish the *raison d'être* of the crowning glory of the metropolis. In the interest of medical education no less than the advancement of medical science it is much to be desired that the great hospitals with medical schools attached should be placed upon a basis of absolutely unassailable public utility. Their proper position is not in competition with Poor-law infirmaries and with charitable organisations through which the general practitioner deals with ordinary cases of illness, but as consultative institutions accessory to these other agencies, where special resources required in selected cases shall be available for every class of patient, whether pauper or private, who cannot afford to pay adequate fees to secure such special resources elsewhere.

In endeavouring to define the proper functions of hospitals and their relation to other medical agencies it is to be hoped that the profession may get clearer ideas of its own proper relation to medical charity. A great deal of the difficulty of controlling medical charity would not exist had it not become an established principle that the charitable public who support hospitals can always obtain medical treatment for the inmates without payment. Whether it would be better for the public and the profession to depart from this principle we will not now discuss. It is enough that it exists and that its existence complicates all questions of hospital reform. It is responsible no doubt for a very natural desire on the part of the profession that hospital treatment should not be indefinitely increased. Although every medical man who accepts a hospital appointment thoroughly recognises the fact that he will not be remunerated for the work which he is called upon to do he does not perhaps sufficiently consider his position from the broad aspect of its economic effect upon the profession at large. Every dock labourer understands the result upon the labour market of his individual act in accepting less than the standard wage and many a one will starve out of loyalty to his class rather than commit this crime against his brethren. The practice of medicine is raised above all commercial considerations by the fact that persons who are sick excite professional as well as public commiseration. But if we urge upon the governors of hospitals that it is not such true charity to throw medical relief broadcast to all comers as to inculcate habits of thrift by encouraging patients to become subscribers to provident institutions, should not medical practitioners remember that their duty to their profession may make it necessary sometimes to forego the satisfaction of placing their services without remuneration at the disposal of any charitable institution that asks for them? These considerations involve large questions of professional policy to which medical men have in the past paid too little attention. It is by their proper study and solution that every class of the community can secure the services of a strong, independent, and generous profession. For the development of our great voluntary hospital system on right lines careful coördination with other agencies having similar aims must be secured, the charitable public must learn to exercise its charity with the wise discretion which regards the interests of the medical man as well as of the sick patient, whilst members of the profession must recognise their obligations not only to themselves and to each other but to the medical profession as a whole and to its various branches.

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Specialism.

The question of the proper uses and limitations of what is commonly called specialism is one which is intimately bound up alike with the progress of medical science and with the improvement of medical practice and one which therefore deserves the earnest consideration of the profession. It is obvious, on the one hand, that specialism may be conducive to real advancement in certain directions; and it is at least equally obvious that the great majority of mankind must always be dependent upon the ministrations of physicians and surgeons who regard the whole of the human body as falling within the sphere of their contemplation. If specialism were even now as pronounced as certain sections of the public desire to make it, it would be almost necessary to establish a class of practitioners whose specialism it should be to advise patients as to the specialist whom they should consult and thus to save them from the calamities which might be incidental to seeking the advice of a "liver" man when the stomach was the organ primarily at fault or the advice of a "skin" man when cutaneous troubles were merely consequences of neuritis. The good to be accomplished by specialism is always liable to be counterbalanced by the evils which may arise from comparative neglect of the "special" branch by the general practitioner, who may thus fail to be properly prepared for duties which he may reasonably be expected to discharge. He is in danger of feeling when a few men have possessed themselves, so to speak, of some particular branch of the art of healing that their studies in that direction have been carried beyond his depth and that it is useless for him to attempt to follow them. Even in the three specialisms which have long been regarded as legitimate—ophthalmology, otology, and dentistry—and which have a broad foundation in forms of knowledge or in methods of treatment which are not required in other departments, ill consequences of this description are unfortunately not unknown. Hundreds of cases of glaucoma have been suffered to pass into incurable blindness; hundreds of cases of defective hearing in childhood have been suffered to go from bad to worse, and hundreds of cases of gastric sepsis arising from dental caries have defied all medical treatment simply because the practitioners originally consulted have never thought it their duty to be acquainted with the respective specialisms concerned. To this picture, it need hardly be said, there has been a reverse and specialists consulted for manifest defects of the organs which they were supposed to have appropriated have been known to overlook the fact that these defects were merely symptomatic of grave changes in other portions of the body. The advantages of specialism, whatever they may be, are sensibly diminished when those who follow it are tempted to neglect general medicine and surgery and when physicians and surgeons are tempted to regard the so called special branches of the profession as matters of which they may contentedly remain in comparative ignorance.

Considerations of this kind are becoming more important now than they have been at any earlier period in the history of the healing art, by reason of the vast extension which has recently been given to the applications of physical science to medicine and of the ever increasing amount and complexity of the knowledge which practitioners are called upon to possess. In the middle of the last century a natural philosopher was regarded as a person from whom a fair acquaintance with "science" as a whole might reasonably be anticipated and even at a still later date the President of the British Association for the Advancement of Science was expected to review the progress of the year in almost every department of inquiry. To-day it is commonly admitted that he has enough to do in reviewing the progress in which he himself has been more immediately concerned, and the consequent division of labour has undoubtedly been contributory to a more rapid general advancement. In medicine the conditions have been to some extent the same but the results do not promise to be equally advantageous. The fact that the science as a whole is passing beyond the grasp of individual acquirements, in whatever degree it may be true, must to some extent be a source of danger rather than of advantage to the public, and with possible exceptions in favour of the specialisms which are based upon some extraneous branch of knowledge, as ophthalmology upon optics or otology upon acoustics, the benefit to be derived from specialism in the future is likely to be proportionate to the degree in which its researches are made to enrich medicine in its entirety and to be contributory to the increased efficiency of the general practitioner. In order to secure the attainment of this end its developments and its claims will alike require to be watched with considerable care and to be encouraged or recognised almost in proportion to the degree in which they are calculated to promote the attainment of the end proposed. The professors of subordinate branches of science have always displayed some tendency to lose themselves in over refinements, in verbal distinctions, and in obscure nomenclature, and they have seldom been free from a proneness to exaggerate the value and the importance of the studies to which their own lives have been devoted. In so far as these characteristics attach themselves to so called special branches of medicine or of surgery it should be the business of the profession as a whole to endeavour to arrive at a just estimate of their actual importance and to treat and to recognise them accordingly.

The foregoing observations have to some extent been suggested by the position which certain practitioners have recently assumed in relation to the *diseases of children*. Children under 15 years of age form rather more than a third of the populations of civilised countries and they are not only the immediate causes of far more than a third of the demands which are made every day upon medical practitioners but the whole of their future lives, and even the lives of their offspring and of future generations, may depend upon the way in which the demands thus arising are met. No division of medical science can be more important than that which deals with the differences, in relation to disease and treatment, which exist between children and adults; nor, on the other hand, can there be any which it is more important for the profession as a whole to master. We publish this week a paper by Dr. FRANCIS WARNER which indicates with how much promise the principles of physiology may be applied for the elucidation of the natural development of the functions of the nervous system and *a fortiori* for the prevention or cure of their derangements; and we have before us two reprints from the numbers of *American Medicine* for November and January last respectively on the History of Pediatrics and its Relation to other Sciences and Arts and on the Foundations and Aims of Modern Pediatrics, which may perhaps serve to illustrate some of the dangers of over specialising. Our American friends have seen fit to adopt styles of language and of orthography which seem to us to indicate a very defective appreciation of the value as a national possession of the language of MILTON and of ADDISON, and we are not prepared to condone the neglect of etymology which is displayed in 'fetal', while against "pediatrics" or "pediatrist" we must enter the most energetic protest of which we are capable. If we must have either word at all, especially the latter, it should surely be "pædiatrist," should show that it is derived from *παῖς* and not from *pes*, and that it is intended to mean a child's physician or surgeon and not, as it appears to do, a corn cutter or a bunion curer. But these objections seem comparatively trivial when compared with the manifest tendency of the writers of the articles referred to, one of which is by an American and the other by a Viennese physician and both of which were read at the great exhibition of last year at St. Louis, to separate the consideration of the diseases of children from the domain of general practice and to regard it as a "special" branch of study. In this country, at least, the general practitioner must emphatically be a child's medical attendant and must be prepared to place the most useful means of diagnosis and the most approved methods of treatment at the disposal of those who both numerically and in relation to the character and the significance of their ailments, are usually the most important section of his patients. We shall receive with nothing but gratitude any veritable contribution to a better understanding of children's diseases from whatever quarter it may come, but we are not prepared to welcome either an envelopment of old knowledge in new and somewhat illiterate jargon or a consecration to specialists of researches which should be rendered available for the service of mankind.

The Case of Miller v. Miller and Fowler.

THE President of the Divorce Court in dismissing Dr. CHARLES OWEN FOWLER, with costs, from the divorce suit of MILLER v. MILLER and FOWLER, said that he was about to use a common form of expression, but that he thought it was due to Dr. FOWLER to record that he left the court without a stain upon his character. Dr. FOWLER has, indeed, passed unscathed through one of the severest ordeals to which it is possible for a man to be submitted. The story has appeared at some length in many papers, but it contains lessons for medical men that may make its repetition useful. The petitioner sought to divorce his wife and in addition to evidence which might be regarded as formidable proceeding from himself, from servants, and from others, the wife went into the witness-box and swore that she had committed adultery with Dr. FOWLER, the medical man who for some time had constantly attended herself and her children. Dr. FOWLER had but one protection against the combination of flat perjury, gross exaggeration, prurient suggestion, and stupid error which for a time threatened to destroy his professional career and to ruin his life. He had carried on the profession of a medical man honourably and in the business-like manner which is a necessary element of success in the conduct of a general practice of any dimensions. It was the business-like methods of his life that served as his safeguard. The self-accusing wife and others proved that many letters or notes had passed from her to her medical man, followed by visits on his part to her at her house. The medical man's professional records showed that these visits were of a strictly professional nature, while his wife (who never wavered in her confidence in her husband), his partner, and his dispenser showed conclusively that the written communications were only requests for Dr. FOWLER'S attendance. They were as free to open these notes as Dr. FOWLER himself, and his partner responded to them when the member of the firm to whom they were addressed was unable to do so. Dr. FOWLER, in his own evidence, admitted frankly that he had been in the MILLERS' house perhaps half a dozen times in a non-professional capacity and he took an obviously honest course in dealing with the statements of Mrs. MILLER as to his relations with her. He suggested no delusions, hysterical or otherwise, on her part. He refused to speculate as to the psychological causes which might have induced her to enter the witness box in order to declare herself an adulteress and him her paramour. He denied the truth of her story absolutely and entirely, and if it could only follow that it was due to "pure wickedness" on her part, as her counsel put it to him, he was content to leave the [illegible] his [illegible] To alleged details of his conduct, which if [illegible] corroborated her tale, he was able to gi[illegible]ly unequivocal answer. He was invited to [illegible] was merely a coincidence that the petitioner returning earlier than usual upon a particular occasion had found him in the house, but his answer was a direct denial that any such incident had ever taken place. And even his carefully kept register of professional services rendered and the testimony of colleagues, friends, and wife were almost insignificant in effect compared with the fearless manner in which Dr. FOWLER gave his evidence, without suppression or exaggeration. It is such evidence as this that no cross-examination can seriously affect.

We have used the word business-like in reference to the manner in which Dr. FOWLER'S practice was carried on, and we would call attention to the important bearing which this had, not because his written records would be evidence in his favour—for this they were not—but because they enabled him, and those with him, to refresh their memories as to incidents which might otherwise have been forgotten. Owing to the orderly manner in which Dr. FOWLER'S diary was kept he and his witnesses were able to speak with confidence and accuracy as to the date, hour, and cause of every attendance that he rendered. Accusations by women against men are easy to make but hard to refute. In the case of medical men they are for obvious reasons infinitely easier to make than where members of other professions are concerned and to dispel them is even more difficult. The evil-minded are ever ready to believe that what seem to them opportunities for misconduct are not unlikely to be taken advantage of. The danger to the medical man is always present so long as he follows his calling; no prudence on his part can enable him to escape it altogether. He can only do his best to avoid everything that can give the smallest cause for calumny, and endeavour to secure esteem by the unostentatious and industrious performance of his professional duty and by living at all times the life of an honourable citizen. Then, if he should have the terrible misfortune to find himself in the position of Dr. FOWLER, he will be able to face the trial with manly confidence in the experience and in the upright impartiality of his country's judges, as well as with faith in the desire of a British jury to do justice between man and man. We heartily congratulate Dr. FOWLER upon the complete exoneration which he has been able to obtain from the foul charges brought against him.

Annotations.

"Ne quid nimis."

THE DISPOSAL OF THE SLAIN IN BATTLE.

THE appalling carnage in the Far East raises the very serious question as to what will be done as regards the disposal of the many thousands slain. Some thousands of tons of human flesh must be lying strewn round the ancient capital of Mukden and it would seem almost incredible that natural agencies could be trusted to remove this enormous pile of dead and to render it inoffensive, not to say harmless, to the living. Fortunately intense cold prevails which will stay the putrefactive process for a time, but sooner or later the opposite extreme of temperature must come and then this awful waste of human life will become a disgusting menace to health. Presumably there is an unlimited area in which the corpses may be interred but it will be a vast cemetery and the task of burying will take a long time to complete. Still, it is well known that the soil possesses a very remarkable power of disintegrating and purifying animal material through its countless microscopic agencies; these, however, it may be noted, are only found to operate at a very small depth. The cremation of thousands of tons of human flesh would be a gruesome and ghastly undertaking and we imagine that it would be hardly possible on such a dreadful scale. The Japanese, who are so well advanced not only in methods of warfare but in medical science also, will no doubt apply their common sense and wonderful intelligence to this unpleasant problem in a manner worthy of their best traditions.

DO BUILDING BY-LAWS IN RURAL DISTRICTS INHIBIT BUILDING OPERATIONS?

IN a leading article in THE LANCET of Feb. 11th we referred to the circumstance that there were no building by-laws in force in something like 40 per cent. of the rural districts in England and Wales and we used this fact as tending to controvert the contention of those who urge that the enforcement of such by-laws is largely responsible for the rural depopulation which all those interested in the physical well-being of the people deplore. As we stated, it had never to our knowledge been shown that in rural districts without building by-laws the population was increasing whereas in districts with by-laws it was decreasing. The problem of depopulation was, we urged, a highly complex one and the influence of by-laws upon it was not great. It is interesting, therefore, to turn to the last annual report of Dr. R. W. C. Pierce, the medical officer of health of the Guildford rural district, which shows in tabular form the number of new houses built during the last four years in the four parishes with by-laws as compared with the number built in the 14 parishes without such by-laws. The combined area of the first group of parishes is 15,609 acres and the population is 8419, whereas the corresponding figures for the latter (non-by-law) group are 39,716 acres and 12,507 people. During 1901–04 there were 159 houses built in the *four* parishes with by-laws as against 172 in the *fourteen* parishes without by-laws. These figures are instructive as also are some observations made by Dr. Pierce with respect to the erection of wooden cottages. It is a common contention that if the erection of wooden houses were permitted such structures would spring up like fungi all over the country. The experience of the Guildford rural district is as follows: "In all but four of the [18] parishes of the district ...... builders are at liberty to put up cottages of wood or other material than bricks as they please, but no one has yet done so." As Dr. Pierce adds, "the chief objection to wooden structures would be their short life. This could possibly be overcome by sanctioning their occupation for a definite period." Finally, Dr. Pierce shows by another table the number and the situation of new houses for which water certificates were granted during 1904 and such list, as he remarks, suggests that "the proximity of water mains has more to do with the encouragement of building than the absence of by-laws." There is one point in Dr. Pierce's interesting report upon which we cannot quite follow him. He remarks that "the difference in the cost of erection of an average brick cottage in the parishes with and without by-laws probably does not amount to more than a difference of 6*d.* a week in the rent at the most." We doubt, however, whether the capital expenditure necessary to carry out the health provisions of the new rural by-laws of the Local Government Board would be such as to necessitate an interest of 26*s.* per annum; indeed, it is difficult to understand how any modern builder could in these days be persuaded as a commercial undertaking to build a house without some regard to the essentials of health, and the difference between his maximum and the very small requirements of the new model series of by-laws would not, we think, be so great as the estimate given by Dr. Pierce. We are very glad to see that the suggestion which we made in our leading article to the effect that another deputation, consisting this time of those who see the necessity for reasonable building by-laws, should wait upon the President of the Local Government Board has since been acted upon. On Feb. 23rd Mr. Long received a deputation consisting of representatives of rural district councils, trade councils, working men's societies, and democratic federations, and his reply was an admirable exposition of statesmanship. In effect he gave the deputation to understand that he would hear both sides and would act as he thought best in the interests of the public health. Obviously, unnecessary restrictions upon building in rural districts should not be imposed and we are quite in favour of any modifications which will not detract from the essentials of health. We think, however, that a somewhat distorted aspect has been given to the controversy in the lay press and that it is important for the real facts to be made known. One of these facts is that wooden cottages can be erected under the new rural by-laws and the other is that the difference in cost between a cottage erected under those by-laws and a *habitable* cottage erected without such by-laws is very small.

CONDIMENTS.

WHILE it cannot be said that the use of condiments in the daily dietary has found a complete chemical or physiological explanation yet it is, of course, broadly known that in many cases they are essential constituents, for they improve the flavour of more or less tasteless foods and, indeed, promote digestion by exciting the flow of the various digestive secretions. Flavour is undoubtedly a great promoter of digestive success. It is not quite clear, however, why, for example, a person takes mustard with ham, pork, or beef and not with mutton; vinegar with salad or lobster and not with ham or other foods. In generalising, however, it would appear that condiments are chosen to accompany those foods which are less digestible or which are richer than others. Mutton, for example, is more digestible than beef, pork, or duck and it is to these three that mustard is generally added. Vinegar, again, is known to soften the hard fibre of both meat and vegetables; hence it probably renders such foods as crab, lobster, salmon, salads, red cabbage, and walnuts less tough and more digestible. Vinegar in dressing and sauces probably has a similar action. As a rule the increased amount of soluble or extractive matters in a food is in direct relation to its digestibility and nourishing value, not that the extractive principles are in themselves nourishing but because they are appetising and promote the flow of digestive juices. To the man with robust appetite the presence of tasty extractives or the use of condiments is probably superfluous. Bread and cheese and beer form a most enjoyable meal after brisk exercise in the open country air but during sedentary occupation very little relish is experienced for such a simple repast. Hunger is the best sauce but failing hunger the appetite must be coaxed and herein lies the true uses of sauces, condiments, and other aids. The abuse of condiments has its attendant evils. The excessive use of vinegar is calculated to lead to an anæmic condition, while it has an unfavourable influence on gout. Some silly women take vinegar to produce a pale complexion. Similarly, a free indulgence in pepper or mustard, which are both *irritants*, is likely to have an irritating effect upon the organs of secretion. On the other hand, their moderate indulgence promotes digestion for they act as carminatives.

Highly savoury dishes are incompatible with good digestion and the prevailing preference for liberally garnished "messes" instead of plain, simple food is to be deplored. The habit of partaking of highly seasoned food accounts very largely for the decline in the consumption of light elegant wines of the claret type. The bouquet and flavour of a delicate wine are completely spoiled by rich-tasting sauces or spices. Salt is perhaps the commonest condiment of all and yet man practically stands alone amongst animals as a regular consumer of it in the more or less pure state and as a definite adjunct to his food. Salt is present in most foods but the amount in the majority of cases would not appear to satisfy man's needs or he would not instinctively add more. Moreover, salt may not necessarily exist in the free state in foods of natural origin but may be loosely combined with organic constituents. There can be little doubt that salt plays a greater part than that of a mere condiment in the body, for it possesses solvent powers which, besides "drawing out" the flavour of food, facilitate the absorption more particularly of proteid and thus increase tissue metabolism. The pleasures of feeding would be very decidedly diminished if salt and condiments were banished from our tables. It is noteworthy, moreover, that amongst condiments most of them, whilst favouring the digestive processes, are antiseptic, so that their action tends to counteract any disposition to undesirable fermentation.

CONGESTION OF THE BRAIN IN A CASE OF GENERAL PARALYSIS FORCING THE CEREBELLUM INTO THE FORAMEN MAGNUM.

AT the meeting of the Société Médicale des Hôpitaux de Paris on Dec. 23rd, 1904, M. Faure-Beaulieu reported a case of general paralysis in which a remarkable condition was found post mortem—great congestion of the brain forcing the cerebellum into the foramen magnum of the occipital bone. A man, aged 35 years, was admitted into hospital on Oct. 18th, 1904. He denied having had any venereal disease but he showed signs of old iritis. In 1900 he contracted malarial fever on the Congo. In May, 1904, after a severe financial loss, he took to drink. Instead of being as formerly, calm and well balanced, he rapidly became emotional, irascible, and subject to violent attacks of anger. Soon his power of walking became defective and his legs bent under him. Then his upper limbs became weak. At the end of June he had a slight apoplectiform stroke which was followed by two others in July and by a more severe one in September. On admission he was wasted and cachectic and had an air of hebetude, answering with difficulty questions which were repeated several times before he understood them. His memory was little affected except for recent events. His emotional qualities were considerably altered and he took little interest in his only child who was born a short time before his admission. His muscular power was much enfeebled. He could scarcely stand without support; his gait was staggering but not ataxic; he could not lift an object of any weight and on making an effort he trembled. The tendon reflexes were present. The right knee-jerk was a little stronger than the left and Babinski's sign was present on the right side. Speech was hesitating and accompanied by slight tremor of the lips and the tongue. The Argyll-Robertson sign was not present. While in hospital he twice lost consciousness for a short time. Lumbar puncture was performed on Nov. 20th and did not show any lymphocytosis. His mental condition rapidly deteriorated and the emaciation and the cachexia quickly progressed. Early in December a sacral bedsore formed and on the 11th of the month he died. The necropsy was performed after the injection of formol into the cranial cavity in order to harden the central nervous system. The cerebral hemispheres were abnormally large and the brain weighed 1575 grammes. The meninges were not thickened or adherent. On incising the cerebral hemispheres a large quantity of blood in the form of big drops, which were almost confluent, issued both from the centrum ovale and the central grey matter. The cerebellum was of normal size; its upper surface was flattened but the most striking deformity was shown on its lower surface. The amygdalar lobes formed two elongated projections almost two centimetres long on each side of the medulla and there was a deep groove due to the imprint of the foramen magnum. The spinal meninges were thickened and opaque posteriorly and there was sclerosis of the posterior and lateral columns of the cord. It is noteworthy that the condition of the brain was quite different from that usually described in general paralysis; the meninges were neither thickened nor adherent; instead of being diminished in volume the hemispheres were, in consequence of great congestion, much increased. The condition found in the cerebellum is exactly that described by M. Pierre Marie in cases of abundant cerebral hæmorrhage.[1] He explains the condition as an engagement of the amygdalar lobes of the cerebellum in the foramen magnum as the result of pressure of the cerebrum increased in volume by the hæmorrhage. He attributes the symptoms of apoplexy partly to the consequent compression of the medulla. The present case shows that intense cerebral congestion may produce the same result. In this connexion a case recently published by M. Faure-Beaulieu[2] is of interest. As the result of a large meningeal hæmorrhage on the left side not only was the cerebellum driven into the foramen magnum but by the same mechanism the hippocampal convolution was driven into the aperture in the tentorium cerebelli.

FEBRUARY AT HOME AND ABROAD.

THE search for the sun on the Mediterranean littoral and in Italy becomes yearly more unreasonable. Although February was less rigorous than January on the shores of the Mediterranean and in the south of Europe generally, it was a most disappointing month for all who expected either dry or warm weather. The temperature was continuously below the normal, while about the middle of the month there were several days of strong and bleak winds, with snow or sleety rain, and a frost that was only a little less severe than that which prevailed during the early days of January. The remainder of the month was wet in Italy and most often cloudy or dull in the Riviera. February of 1904 was very rainy and was also considered cold but the mean temperature for the month at Naples was 50·5°, at Rome 50·3°, at Biarritz 48·4°, and at the Nice Observatory 47·0°. The coast resorts of Portugal and Algeria were much milder last month than were the other southern regions. The coasts of Portugal were also dry, as is seen by the exceptionally small rainfall at Lisbon, but Algeria was decidedly wet, rain falling on almost every day after the 12th. As is nearly always the case, the resorts of Sicily had a higher temperature than had those in Italy and the Riviera; the general character of the weather, however, was extremely variable and frost was in evidence upon several occasions. The most frosty places were naturally those situated inland: thus at Florence there were as many as 11 nights on which the thermometer fell below 32°. On the 13th it sank to 21°, a lower point than at any station in the English midlands. Even Rome, much farther south and nearer the sea, had nine frosts—just the same number as central England—and Naples had more than any place in the southern counties of England. At the Nice observatory there was but little rain or snow and the sky was often clear. The nights and early mornings, however, were more frequently frosty than was the case in London. The only places quite free from frost were *Algiers*, *Lisbon*, *Scilly*, and *Jersey*, but at Torquay, London, and Biarritz the screened thermometer only just touched 32°. The warmth of the days at Torquay and Scilly was just equal to that experienced at Biarritz and Naples. The thermometrical values at Torquay and Naples were strikingly alike, the chief difference being in the absolute minimum, in which respect the English resort was far superior. With regard to the equability of temperature it is seen that none of the foreign resorts can compare with Jersey and the Scilly Isles and that, excepting Naples, not one of them was so equable as Nottingham and Bath. In England the month was extremely dry and sunny, the number of hours of bright sunshine recorded at Torquay being 35·6 more than during the corresponding month of 1904.

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[1] Sur la Compression du Cervelet par les Foyers d'Hémorrhagie *Cérébrale*, Société de Biologie, July, 1899.

[2] Société de Neurologie, Dec. 1st, 1904.

Temperature, Rainfall, and Sunshine during February, 1905.

Stations.	Highest temperature.	Lowest temperature.	Mean maximum.	Mean minimum.	Mean temperature.	Total rainfall in inches.	Number of hours of bright sunshine.
	Degs.	Degs	Degs	Degs	Degs.		
Nice	57	27	52	36	44·0	0·48	—
Biarritz	59	32	50	38	44·0	2·57	—
Florence	57	21	49	35	42·0	1·83	—
Rome	60	28	51	37	44·0	3·51	—
Naples	56	24	50	40	45·0	4·89	—
Palermo	64	31	56	39	47·5	3·05	—
Algiers	66	37	60	46	53·0	3·30	—
Lisbon	63	39	56	44	50·0	0·12	—
Paris	53	27	46	34	40·0	0·80	—
London	54	32	48	38	43·0	0·70	60·5
Scilly Isles	54	35	50	42	46·0	1·35	82·0
Jersey	54	33	49	41	45·0	2·18	74·0
Torquay	57	32	50	40	45·0	0·84	93·3
Bath	55	22	48	37	42·5	0·84	71·5
Nottingham ...	56	28	46	35	40·5	0·69	60·0

EYE DISEASE AND BLINDNESS IN THE PROVINCE OF PERM.

THE Ekaterinburg correspondent of the *Novoe Vremya* says that of the 3,100,000 inhabitants of the province of Perm there were in the year 1897 as many as 48,331 patients suffering from eye disease registered in the public hospitals. This, of course, does not show the total sufferings from this class of disease as many do not have recourse to medical aid. Most of the cases come from the foreign elements of the population, who live in the most revolting conditions of primitive filth. Ignorance, superstition, sorcery, and the belief in evil spirits prevail. Most of the foreign settlers live in smoke-blackened huts which are sometimes brushed out but never washed. To wash their faces they take water into their mouths and with the thus augmented saliva they rub their cheeks and eyes, the whole family using the same old rag to wipe it off. The population suffers mostly from scabies and eye disease. The Mahomedans do their regular appointed ablutions but the Baschkirs do not wash at all. Professor Adamyuk and Professor Evetski of the University of Kazan visited several villages of the immigrants and became satisfied as to the prevalence of trachoma. The inspection of some of the Krasno-Uphim schools revealed that 5½ per cent. of the Russian scholars were suffering from trachoma, whilst 21 per cent. of the Baschkir children and 39 per cent. of the Tcheremis children likewise suffered from it. On examination of the eyes of the pupils in the Perm women's gymnasium 10 per cent. of them were found to be affected with trachoma, whilst in the second class alone 20 per cent. were so afflicted. The most deplorable result of these eye troubles is, of course, blindness and here it reaches 4½ per cent., says the correspondent, whilst absolute blindness of both eyes reaches 1 per cent. of all the patients suffering from eye troubles. From these figures it appears that of all the 3,100,000 population of Perm the absolutely blind amount to 7500, or 25 blind to every 10,000 of the population. The Ural Medical Society, on the initiative of its president, Dr. A. Russkich, has built a free eye infirmary in Ekaterinburg called after an ophthalmic surgeon of the Urals, Dr. A. A. Misslaff. The society sought to interest every stratum of the population—towns, villages, manufacturers, and private persons, whose willing help made it possible to raise in two years without the slightest aid from the Government a hospital costing from 50,000 to 60,000 roubles. Some gave money, others land, and so on. The hospital is to be opened in the spring of this year.

MEDICAL SERVICE IN BASUTOLAND.

ATTACHED to the annual report for 1903–04 of the Government secretary of Basutoland just presented to Parliament is a report by the principal medical officer, Mr. Edward C. Long. He says that the general scope and efficiency of the medical work promise to be increased greatly by the completion of the new hospital at Maseru. This hospital, which was opened on May 28th, 1904, contains 28 beds and both its construction and equipment are all that could be desired. There is a growing need for hospital accommodation in the territory, for apart from the diseases ordinarily occurring in the country there is an increasing number of cases of acute disease amongst men returning from the labour centres. Such men often arrive at the camps in an exhausted condition and quite unfit to proceed to their homes. It is therefore highly desirable to have well-equipped hospitals at all the stations. Such a course would undoubtedly entail a considerable outlay both for construction and maintenance but it ought to be remembered that the Government hospitals and dispensaries are partly self-supporting. During the year under review the amount collected in out-patient fees, vaccination certificates, and so on, realised £1930 10*s*. This sum more than covered the cost of drugs and maintenance of patients (£1680 16*s*. 1*d*.). During the year the medical staff has responded to the request of the Cancer Research Committee for specimens of new growths and a considerable number of sections of tumours has been forwarded to the director. A short pamphlet on hygiene has been prepared and translated into Sesuto for use in the native schools. A conference of medical representatives, deputed by the Governments of Cape Colony, Natal, Transvaal, and Orange River Colony, was recently held in Maritzburg. At this conference certain recommendations were made with a view to a common action being taken by the South African Governments for the control of medicine, dentistry, and pharmacy. The support of the Basutoland Government was solicited towards that object and Mr. Long considers that some such control is desirable both as regards the present condition and the future development of the country. Besides the Government medical officers, who are mainly concerned in the administration of the Government dispensaries and hospitals, a few medical men have settled in the country and practise their profession among the natives. No evidence of proper qualifications is required from such medical men nor are their methods of practice subject to the control of any authority analogous to the medical councils in other colonies. As medical practice by duly qualified Europeans has an undoubted civilising influence, apart from the alleviation of suffering and the treatment and prevention of disease, it seems to Mr. Long to be desirable to guard, so far as possible, against any method in the practice of medicine which might hinder that civilising influence. There is also a very considerable trade in drugs carried on by Europeans who have had no medical training and in some instances large fees are received from natives for advice and medicine.

THE LONDON SCHOOL OF TROPICAL MEDICINE.

It is announced that Mr. Joseph Chamberlain will preside at a banquet to be held at the Hotel Cecil on May 10th in support of the London School of Tropical Medicine. The Duke of Marlborough is chairman of the dinner committee and Sir Nevile Lubbock and Sir Henry K. Davson, the chairman and vice-chairman of the West India Committee, will act as stewards. An important work is done by the schools of tropical medicine in training practitioners to recognise and to treat the special diseases of warm climates.

CURRENT THEORIES OF THE HEREDITARY PROCESS.

The seventh lecture of the series[1] was delivered by Professor W. F. R. Weldon at University College, London, on Feb. 7th, the main topics discussed being the Mendelian doctrine of gametic purity, dominance, and reversal of dominance in the inheritance of characters. It is one thing, he said, to admit that the experimental results on the crossing of races of peas, referred to in the previous lecture, are as described, and another to assume that Mendel's hypothesis is the sole hypothesis which adequately formulates the facts. The doctrine of pure gametes cannot be reconciled with the vast body of facts and data of heredity in human families and races collected and published by Francis Galton and Karl Pearson. The more we know of the ancestry of man, of domestic animals such as dogs, and of cultivated plants the more accurate will be our prediction of what the progeny will be. Probably both views, the Galtonian and the Mendelian, will be reconciled in time in a wider generalisation of the facts of inheritance and descent—a larger theory of heredity. Yellow is the dominant factor in the first generation of hybrids obtained by the crossing of "pure" green and yellow seeded peas. This character of "dominance," said Professor Weldon, is comparable to that exhibited by each of a pair of separated blastomeres, which grows into a perfect but small larva in echinoderms and other animals mentioned in an earlier lecture. Whereas in two-celled union each blastomere gives rise to one-half (right and left sides) of the entire larval organism without dominance of one side or the other, the mechanical separation of the two blastomeres arouses the latent dominance in each and thus each is able to produce a complete larva. When hydra or a planarian worm is cut a quantitative restoration (regeneration) takes place of the missing parts, the power of reproduction becomes dominant locally about and at the site of lesion, and the lost organs or limbs are regenerated. Similarly cells changed by the removal of their normal connexions—e.g., the choroid cells of the frog's eye when the lens has been excised—regenerate and form a new lens. The power of regeneration in lower animals is so dominant that it can pass by inheritance from one generation to another for hundreds of generations. Reversal of dominance when it occurred does not always follow Mendel's formula. Thus Czermak of Vienna, who during the past few years has extensively investigated peas of various races, has obtained in his experiments results irreconcileable with Mendel's formula. Professor Weldon said that going over the same series of experiments he obtained results identical with those of Czermak. Thus when two well-marked races of peas were used—viz., (*a*) a smooth type of seed of nearly round or slightly oval contour and (*b*) a wrinkled type of seed of somewhat angular and irregular contour—the shape of the hybrid offspring of these varied according as to whether the pollen of (*a*) was employed to fertilise the flowers of (*b*) or *vice versâ*. The shape of the seeds varied in the hybrid progeny but not the colour. Again, whatever way the crossing was made these two separate types of hybrid issue (round and smooth or wrinkled and angular) each when self-fertilised reproduced "true." In other words, the segregation of allelomorphic characters (characters of colour which differed and were antagonistic) *did not occur in the first generation* of hybrid progeny on crossing and dominance showed itself —i.e., the occurrence of pure types—later. These facts, determined by both sets of observations, are contrary to Mendel's law. Czermak also crossed other peas of English and Austrian "races," both races being characterised, however, by yellow-coloured and rounded smooth seeds. The hybrids were round-seeded but the issue of these latter were uniformly wrinkled, a thing impossible, Professor Weldon remarked, on any Mendelian theory. They had in the foregoing instance a case of what Darwin called atavism, the reappearance of an ancestral character which long latent in both the races (English and Austrian) was roused into "dominance" by the shock of crossing and emerged into prominence, showing the "wrinkled" form. Many other experiments of Czermak confirmed the same conclusion as to atavism or reversion to the ancestral type. Such ancestry, says Professor Weldon, to which reversion takes place is not a very distant one. White mice marked with patches of purplish colour on the neck and rump when crossed with grey mice showed changes of colour and marking in the offspring which were exceedingly difficult to explain on any theory of gametic purity. When peas of a light or white-flowered "fancy" stock, the genealogical history of which showed descent from a long and distinctive purple ancestry, were crossed with another variety of similar colour the offspring reverted, sometimes very strongly, to the purple-coloured character of the ancestors. This ancestral dominance or reversion, concluded Professor Weldon, appears owing to the "shock" of crossing, and Czermak states that it is true that a very large number of ancestral characters are latent in every species and that any of them ma occasionally reappear.

ARE COLLIERY WARNINGS OBSERVED?

Colliery warnings are usually issued when the atmospheric pressure reaches a high mark on the barometer—that is, when anticyclonic conditions prevail. These warnings are commonly published in the newspapers but we have never been able to trace their source. Presumably they are issued by the Meteorological Office authorities. Nor have we been able to find out whether these warnings are seriously regarded. Last week a terrible explosion occurred in a Welsh colliery in which over 30 lives were lost. The disaster happened on Friday evening, March 10th. Now if the meteorological readings (published regularly in The Lancet) of last and this week be consulted it will be found that on March 8th the barometer stood at 30·08, on the 9th it fell to 29·5, on the 10th to 29·3, and on the 11th to 29·0. On the 10th the disaster took place. There was a fall, therefore, in the barometer of about one inch from March 8th to 11th, which amounts to a reduction of pressure equal to about half a pound to the square inch. As is well known combustible gas, chiefly marsh gas, occurs occluded in coal which is ready to issue into the workings of a mine as soon as a fall of the barometric column takes place. Hence colliery warnings are issued when the pressure is abnormally high in order to prepare the miners against the consequences of a sudden fall. The same liberation of gas takes place in the coal bunkers of a ship when the atmospheric pressure relaxes or when the temperature increases. In order to prevent the accumulation of this gas the bunkers are thoroughly ventilated. In the case of mines, similarly, ventilation is employed, *not only for the sake of the respiratory organs* of the colliers but also for removing combustible gases. It is an interesting fact that the fall of the barometer last week exactly preceded the explosion in the Welsh colliery which, so far as can be gathered, was due to gas and not to dust. It would be interesting to know: (1) whether these colliery warnings are regularly issued and, if so, by whom; and (2) whether they are heeded and the condition of the mine is ascertained in accordance with the warning.

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[1] Abstracts of the first, second, third, fourth, fifth, and sixth lectures were published in The Lancet of Jan. 7th (p. 42) and 21st (p. 181), Feb. 4th (p. 307) and 25th (p. 512), and March 4th (p. 534) and 11th (p. 657), 1905, respectively.

PLAGUE IN SYDNEY IN 1903.

THE report drawn up by Dr. J. Ashburton Thompson, chief medical officer of the Government of New South Wales, on the third outbreak of plague at Sydney—i.e., that of 1903—has just reached us. The final case of the preceding outbreak occurred on June 12th, 1902, and the last plague-infected rat was taken on July 14th of the same year. In the outbreak of 1903 the first plague-infected rat was captured on May 12th and the last on August 15th. Two cases also occurred in man, the date of attack of Case 1 being June 17th and that of Case 2 July 2nd. Both these patients recovered. The report now before us deals with three periods—namely, the plague-free period from July 15th, 1902, to April 30th, 1903; the plague period from May 1st, 1903, to August 15th, 1903[1]; and finally a portion of the ensuing plague-free period from August 16th to Dec. 31st, 1903. During the first period systematic rat catching was carried on by the official municipal rat catching staff and 31,075 rodents were taken, of which 17,160 were bacteriologically examined. Not one of these was affected with plague, so that on April 30th, 1903, it appeared that for eight and a half months Sydney had been free from plague in its rats as it undoubtedly was from plague in man. Special measures were also taken during this period by the municipal health authorities to insure the protection of warehouses, food stores, and produce stores by making them less accessible to rats by means of stopping runs, substituting concrete flooring for wooden flooring, and the like. During the second period the same measures were undertaken but in addition a capitation fee was offered for rodents. The total number delivered was 14,671, and of these, which were all examined, 111 rats and 50 mice were found to be plague-infected. Of the two cases of plague which occurred during this period in man the source of infection in Case 1 remained undiscovered. In Case 2 infection was presumably due to rats. During this period plague rats were also discovered on a ship which had come from Buenos Ayrés. The general trend of the report shows that in this oubreak, as in the two former, the rat was the sole source of infection for man, but the relation of the rat to epidemic plague must still be generally considered as obscure. However, as Dr. Thompson points out, intelligent action as regards destruction of rats, their examination and identification of any illness from which they may suffer, together with careful cleansing of premises, are, as shown by the history of this outbreak, measures of the greatest use in limiting and in checking an *epizootic*.

PRESENTATION TO DR. WILLIAM W. IRELAND.

ON March 4th, in the Royal College of Physicians of Edinburgh, Dr. William W. Ireland was presented with an illuminated address and a cheque on the occasion of the fiftieth anniversary of his medical graduation. Dr. John Playfair, the President of the College, occupied the chair and a considerable proportion of the company consisted of alienists, including the Scottish Commissioners in Lunacy and a number of asylum superintendents from various parts of the country. Dr. Ireland commenced his professional life in 1855 by graduating as M.D. at the University of Edinburgh and then entered the medical service of the Honourable East India Company. During the Mutiny of 1857 he received a wound which prevented him from undertaking active work during the next ten years. Eventually, however, he joined the Scottish National Institution for the Education of Imbecile Children situated at Larbert in Stirlingshire, where he made excellent use of his opportunities for studying the mental diseases of children and accomplished much literary work, both original productions and translations from the writings of continental authorities. Dr. T. S. Clouston, of the Royal Lunatic Asylum, Edinburgh, in making the presentation, said that Dr. Ireland had opened up a new path in biography by his application of medico-psychology and the effects of heredity in the elucidation of the lives of men historically eminent. Some of his publications, such as "The Blot upon the Brain" and "Through the Ivory Gate," were not only scientific but were also vivid and interesting to all intelligent readers, whilst his treatise on "The Mental Affections of Children" was the standard work on developmental defects of the mind. After Dr. Ireland had suitably acknowledged the presentation Dr. David Yellowlees, formerly superintendent of the Royal Lunatic Asylum, Glasgow, in proposing a vote of thanks to the presentation committee, of which Dr. John Thomson was the secretary, also paid a high tribute to the value of Dr. Ireland's work.

ACUTE ASCENDING PARALYSIS IN CASES OF CHRONIC CYSTITIS.

THE theories as to the etiology of many affections of the spinal cord were *until comparatively recently very unsatisfactory* but when it began to be recognised that some of these morbid conditions were the direct effect of such a definite chemical poison as lead it was difficult to avoid the very natural inference that other lesions of the spinal cord were the result of more obscure toxic agents. Thus some of these spinal paralyses appear to be produced by the toxins of the acute specific fevers and others are believed to be connected with the toxins of syphilis. Dr. T. J. Walker of Peterborough contributed a paper to THE LANCET of March 11th, p 636, in which he recounted the essential particulars of three cases under his care. In each of the three there was a history of long-continued cystitis, not improbably accompanied by septic changes in the higher urinary tract; suddenly paralysis commenced in the lower limbs, rapidly spread upwards, and death occurred, in two cases 18 hours, and in one case 48 hours, after the onset of the paralysis. These acute ascending paralyses appear to be examples of Landry's paralysis but chronic cystitis has never been given as an etiological factor in that disease and all the text-books are silent on the matter. Hence the importance of Dr. Walker's observations. It is true that Stanley in 1833 described a paraplegia arising in a patient suffering from distension of the urinary bladder, yet the case he reported is by no means on all fours with those which Dr. Walker has described, for at the time of death the paralysis had not gone above the waist. It is indubitable that in chronic septic processes of the urinary passages many toxins are formed and we can easily understand that the sudden absorption of some such toxin might produce an acute ascending paraplegia. Now that attention has been drawn to the association of these two conditions many cases will probably be noted and it may well be that such a causal nexus will be found to be far from rare. One of the most important factors in scientific progress is the recognition of hitherto unsuspected associations of phenomena.

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[1] This period is taken from May 1st, although the first plague-infected rat was taken on May 12th, "for simplification of the analysis in view of the probability that the epizootic had begun some unascertainable number of days before the date of its discovery."

A SALE OF WHISKY BILL.

WE understand that Sir Herbert Maxwell has presented a new Sale of Whisky Bill to the House of Commons. We believe the Bill seeks to obtain the same protection for purchasers of whisky as did the previous Bill, the clauses of which were dealt with about a year ago in a leading article in THE LANCET.[1] The Bill provides chiefly that a clear statement shall be made to purchasers as to the materials from which whisky has been made. It formerly applied to Great Britain but Ireland is now included and the measure will probably receive the support of the Irish Members.

THE SOUTH AFRICAN MEDICAL CONGRESS.

OUR readers may be again reminded that the South African Medical Congress will be held at Pietermaritzburg, Natal, from June 12th to 17th next inclusive, under the auspices of the Natal branch of the British Medical Association. Dr. James Hyslop, D.S.O., of Pietermaritzburg is the president and Dr. Samuel G. Campbell of Durban is the vice-president, while the honorary joint general secretaries are Dr. D. Campbell Watt, Pietermaritzburg, and Dr. W. Watkins-Pitchford, Pietermaritzburg. The names of the various sections and their secretaries were detailed in THE LANCET of August 27th, 1904, p. 625. The following dates have been assigned to the proceedings of the various sections—viz., Section (1), subjects of general interest, Monday, June 12th; (2) medical section, June 13th; (3) surgical section and (4) gynæcology and obstetrics, June 14th; (5) public health, June 15th; and (6) special subjects section, June 16th. On Saturday, June 17th, excursions will be made to the battle-fields, Ladysmith, to Durban and its harbour, and to the waterworks, Henley. On June 12th the Congress will be officially opened by His Excellency the Governor and in the afternoon of the following day there will be a demonstration at the Government Bacteriological Laboratory. On June 14th, in the evening, the Mayor will hold a reception and on the afternoon of June 15th there will be a garden party at Government House and in the evening the President will hold an "at home" at the Natal Government Asylum, of which he is the medical superintendent. On the afternoon of the following day a visit will be paid to Nel's Rust creamery and in the evening the Congress banquet will take place. A list of hotels is given the tariff of which ranges from 8*s.* 6*d.* to 12*s.* 6*d.* per day. The Natal Government has arranged that members of the Congress may travel by rail at reduced fares and the Union Castle Mail Steamship Company has consented to grant a reduction of 20 per cent. on the usual fares to *bonâ-fide* members of the Congress embarking at Cape Town, Algoa Bay, and East London. The Union Castle Steamship Company states in "The Guide to South Africa" that the distance in nautical miles from London to Durban is 6993 miles. Pietermaritzburg is about 70 miles north-west by west of Durban. The journey thither from London occupies from three to four weeks.

SEÑOR MANUEL GARCIA'S CENTENARY.

AS announced in THE LANCET of Jan. 28th, the celebration of Señor Manuel Garcia's centenary will take place to-day (Friday, March 17th). The programme has now been definitely arranged as follows. A meeting will be held at noon at 20, Hanover-square, at which congratulatory addresses and messages will be delivered in the following order: messages from the King of Spain and the German Emperor, address from the Royal Society of London, message from the Prussian Academy of Sciences, addresses from the Universities of Königsberg, Manchester, and Heidelberg, address from old pupils, addresses from the Royal Academy of Music and the Royal College of Music, and addresses and messages from the following laryngological societies: American Laryngological Association, Belgian Society of Oto-Rhino-Laryngology, Berlin Laryngological Society, British Laryngo-Oto-Rhinological Association, Danish Laryngological Society, French and Italian Laryngo-Rhino-Otological Societies, London Laryngological Society, Netherlands Laryngo-Oto-Rhinological Society, the Paris, Rhenish-Westphalian, St. Petersburg, and South German Laryngological Societies, Spanish Laryngo-Oto-Rhinological Society, and the Vienna, Warsaw, and West German Laryngological Societies. In conclusion, the centenarian's portrait, painted by Mr. John Sargent, R.A., and subscribed for by international contributions, will be handed to him. In the afternoon, at 3 P.M., there will be a special meeting of the London Laryngological Society at which the foreign visitors will have the opportunity of seeing a number of interesting cases and specimens. In the evening, at 7.30, a banquet will take place at the Hotel Cecil at which Señor Garcia is expected to be present. The toasts will be but three, namely—"The King," "Señor Garcia," and "The Foreign Visitors." It is hoped that Señor Garcia will reply to the toast of his health. After the dinner a selection of music will be given by a number of eminent artists who have kindly offered their services.

THE medical officer of health of the Cape Colony states that for the week ending Feb. 18th the condition of the colony as regards plague was as follows. No case of plague in man or other animal was discovered in any district of the colony during the week. As regards the Mauritius, a telegram from the Governor received at the Colonial Office on March 10th states that for the week ending March 9th there were 3 cases of plague reported and 1 death occurred from the disease.

The Duchess of Albany has intimated her intention of attending the annual meeting of the governors of the National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury, W.C., to be held at the hospital on March 21st, at 3 P.M.

AT a meeting of the Hunterian Society to be held at the London Institution, Finsbury-circus, E.C., on March 22nd, a discussion upon Influenza will be opened by Professor T. C. Allbutt, F.R.S. The discussion, which is open to all members of the medical profession, will be continued on April 26th, and amongst those who have promised to take a part in it are Dr. H. Franklin Parsons, Dr. F. J. Smith, Dr. I. Burney Yeo, and Dr. T. Glover Lyon.

THE Education Committee of the London County Council submitted an important report to the Council at the meeting on Tuesday last in respect of the *medical supervision* of the Council's board schools. The report which provided for more complete medical inspection involved an increased expenditure of over £2000 per annum and consideration of it was postponed.

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[1] THE LANCET, March 19th, 1904, p. 816.

THE King has sanctioned the following promotion in the Order of the Hospital of St. John of Jerusalem in England—viz., Joseph Dallas Pratt, M.D. Dub., F.R.C.S. Irel. (from *Honorary Associate*), to be Knight of Grace.

Mr. G. H. Makins, C.B., F.R.C.S. Eng., and Mr. Charters J. Symonds, M.S. Lond., F.R.C.S. Eng., have joined the consulting staff of the Bolingbroke Hospital, Wandsworth Common, S.W.

MEDICINE AND THE LAW.

The Storage of Flour.

THE Paddington borough council appeared in answer to a summons at the Marylebone police court on March 3rd, the complainant being a baker whose underground bakehouse the council had refused to license because he would not use a kitchen exclusively as a store for his flour. Mr. Plowden acceded to the complainant's application and granted him a licence on the ground that the lighting, ventilation, and construction of the bakehouse only were the concern of the public authority in the matter. It might have been expected that if the learned magistrate felt himself constrained to take this view of the law he would have done so with some regret but Mr. Plowden, on the contrary, regarded the conduct of the council as an act of officious interference with the baker's liberty of action. "What could it matter to the council," he asked, "where a poor baker kept his flour?" To this the medical officer of health replied by pointing out that flour not kept in a proper place will go sour. He might have added that it mattered nothing at all to the council but that it made a great deal of difference to the poor people whose circumstances compelled them to buy and to eat the bread. In giving his decision Mr. Plowden is reported as having said further: "You cannot determine where he shall put his flour any more than you can determine where I put my drawing-room furniture. I call it most meddlesome and officious interference and it seems to me it is pressing the whole purport of the section of the Act extravagantly. Where he keeps his flour matters nothing." The 101st section of the Factory and Workshops Act, 1901, provides that "an underground bakehouse shall not be certified as suitable unless the district council is satisfied that it is suitable as regards construction, light, ventilation, and in all other respects." Upon what section of an Act of Parliament or upon what other authority Mr. Plowden relied when he gave the remarkable and unfortunate decision quoted above does not appear in the reports published in the daily newspapers. It is not easy to believe that the legislature intended to confine the regulation of the bakehouse to the ventilation and construction of the actual baking room (a term specifically used where the baking room only is meant), and that it viewed with indifference the fact that the baking room might be suitable while the flour might be kept in a place swarming with vermin or serving the purposes of a latrine.

Antivaccinationists in the Educated Classes.

At Bow-street Sir Walter John Grove was summoned recently and fined 20*s.* with 23*s.* costs for refusing to comply with an order previously obtained that he should have his child vaccinated. The solicitor for the prosecution mentioned that he had received a letter from the defendant, who was not present, in which he said that personally he had no objection to having his child vaccinated and, indeed, wished it to be done, but that Lady Grove, being an antivaccinationist, absolutely declined. Sir Walter Grove was accordingly fined, as being the parent legally if not morally responsible in the matter. It is to be hoped that the children of Lady Grove will not at some future period learn to regret bitterly the attitude of their mother in needlessly exposing them to the ravages of a dangerous and disfiguring disease or the want of authority of their father in his own household.

The Coroner, the Medical Man, and the Pathologist.

A typical instance of the attitude adopted by the coroner in the South-Western district of London towards the medical men practising within his jurisdiction is to be found in a case which occurred recently. A local medical practitioner was hurriedly summoned to attend "a woman in a fit." He found a stout woman lying on the floor on her back with a cushion under her head. He thought that he could detect slight movements of the chest wall but he could feel no pulse and could not with the aid of the stethoscope discover either heart beat or respiration. Her conjunctivæ had become insensible to touch. He at once took the trouble to notify the police and to suggest that the coroner should be informed, giving his name and address. Nevertheless, strange as it may seem, he received no summons to attend the inquest as a witness and when he voluntarily attended and offered to give evidence was told by the deputy-coroner that his "worthy chief," Mr. Troutbeck, had settled the matter. The post-mortem examination was made by Dr. L. Freyberger. Presumably Mr. Troutbeck will continue to follow the policy which he has adopted until the step recommended frequently in THE LANCET is taken and objection is made to the auditor of the County Council's accounts in respect of fees paid for medical evidence at inquests which are not sanctioned by the Coroners Act.

Limited Liability Companies and Medical or Dental Practice.

An excellent method has apparently been discovered by the Irish branch of the British Dental Association for dealing with the offence of dental practice by unqualified persons under the cloak of a limited company with a title implying qualification to practise dentistry. The difficulty of convicting criminally in such cases lies in this, that a company cannot be registered as a dentist, so that it cannot logically and legally be said to commit the offence of pretending so to be registered. Further, the individual performing the operation is not the company so that he often persuades the easily misled local magistrate that it is not he who has used titles implying registration and the non liability of the company is used by the advocate to befog the issues generally. The Irish branch of the British Dental Association has accordingly tried a new plan and, invoking the aid of the Attorney-General, has asked for, and obtained, an injunction against one of these bogus companies in the Chancery Division at Dublin. The defendants selected practised under the audacious title, "Mr Appleton, Surgeon Dentist, Limited." The ground of the application was that the whole matter constituted a dangerous fraud upon the public and upon the dental branch of the medical profession. The whole of the facts connected with the registration of such companies in general and with that of the company before the court [illegible]

K.C., in applying for the injunction had been in no way too strongly worded; he had spoken of an audacious fraud and the facts constituted an audacious fraud. It was a matter affecting the whole public and it was no answer to an application for an injunction to say that the offence was an indictable misdemeanour. The Attorney-General was entitled to apply to stop the misdemeanour and he was entitled to succeed. It is hardly necessary to point out that the course thus adopted may mark an epoch in the efforts of the medical and the dental professions to deal with quackery and that the invoking of the aid of the Court of Chancery, if somewhat cumbersome and costly, may prove a more efficient method than the *police-court summons* in other cases besides those where the bogus limited company is used as a stalking horse for the unwary public.

The Midwives Act.

The actual meaning of that part of the Midwives Act [illegible] March 31st, 1905, should not [illegible] no woman will be allowed to call herself a midwife or to use any other name to make people believe she is specially qualified to practise as a midwife unless her name is on the midwives roll kept by the Central Midwives Board. Under the Act any woman who has been for one year in *bonâ fide* practice as a midwife before the date on which the Act was passed (that is to say, before July, 1902) and who can give satisfactory references to character, may, before March 31st, 1905, claim to have her name put on the roll.

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS.

CHAPTER IV.[1]

THE GRIEVANCES OF THE MEDICAL PROFESSION.

The Diversity of the Grievances.—The Consulting Physician and Surgeon.—The Growth of Specialism.—The Grievances of the General Practitioner.—Medical Aid Associations.

WHEN we survey the present state of the medical profession in detail, so as to seek out the advantages enjoyed by some classes and the grievances endured by others, we are at once struck with the varied opportunities that the profession holds out to men of different bents of mind. The consulting physician, the operating surgeon, the general practitioner, the holder of purely scientific appointments, the holder of sanitary and municipal appointments, the medical officer in the navy, in the army, in the Indian army, and in the colonial service—the careers of all these differ entirely. For some life will be essentially adventurous; for others it will be spent in two or three wards, an operating theatre, and a consulting room. Some will be the trusted friends of the great and the wise, so that the most exclusive doors will be open to them; others will serve under authorities and municipalities composed of men whose education and position are not equal to their own; and some must live the life of the poor with the poor. The sportsman can indulge his proclivities in moderation while discharging his professional duties with zeal, and small will be his chances of success if he interchanges the zeal and the moderation. The man who loves the study of his fellows has social and psychological problems unrolled before him from hour to hour—he sees naked souls as well as naked bodies and has to take the treatment of both into his consideration; while he whose sympathies are rather with the theory than with the practice of his art can exert his energies in the class room or laboratory without coming into collision with the public. All sorts of persons in all sorts of methods and under all sorts of skies can carry on the profession of medicine, so that there need not be many to whom the medical life is irksome. There will be an unfortunate few, who, being by nature designed for work of one kind, have by stress of circumstances been forced into a different groove. Probably they did not discover their own tastes until it was too late to work in the necessary direction and this error is a very difficult one to rectify, whatever calling in life a man may adopt. But, speaking generally, the profession of medicine has this first advantage for its British disciples; it offers a career that can be varied to suit all tastes. A high percentage of the followers of medicine attain to a fair degree of success and the total failures are comparatively infrequent, and no man need follow a thoroughly uncongenial employment as a medical man because of the great diversity of careers that is open to him.

These three things must always be remembered, for while many circumstances may be held to detract from the medical life, these three things, whatever those circumstances, establish it as a good life offering chances to a man with brains and energies to take advantage of them—chances of choosing a proper sphere of labour and of remaining to some extent master of his own career, while obeying the conventions and the restrictions entailed by modern civilisation. And to these must be added as the supreme pleasure of the practice of medicine, counteracting numberless disadvantages and annulling the greatest trials, the sense of being a member of a high and noble calling. Though many causes are at work, as we know too well, such as the prevalence of quackery, the abuse of hospitals, the commercial societies sweating the medical man, which all tend to make the medical life a hard one, this sense abides with us and supports us. And though busy days are followed by busy nights, there are rewards of infinite sweetness. What though the medical man occasionally meets with meanness, rudeness, and ingratitude. These things are not the rule and to no other body of men is it given so often to deserve the heartfelt thanks of their fellows, to be brothers to the weak and helpers to the fallen. The feeling that merely to do the duty of the day is to discharge functions of the greatest gravity and to cope with situations of the most delicate responsibility is ennobling. No other pursuit can equal ours in variety and interest and when followed conscientiously none will bring to the mind so unalloyed a sense of pleasure.

But none the less the grievances of the medical profession are very real, as are the various circumstances which militate against the progress of medicine and which by depressing the scientific, material, and social status of the practitioner make him a less useful instrument for the safeguarding of the public. That these grievances are of many kinds is assured by the fact that there are many kinds of medical practice. And if some of them seem common to all sections of medical practice while others seem peculiar to one section or another, it must be remembered that the subdivisions upon which a little insistence has just been placed are subdivisions of practice only; the broad aims of every member of the medical profession are the same, his ideals are the same, and his responsibilities to the public are the same; and whatever interferes with the due development of the utility of one branch of the profession affects the whole professional body.

THE POSITION OF THE MODERN CONSULTANT.

The consulting physician and the consulting surgeon represent the fine flower of success in the medical profession. They are the class in Sir James Paget's classification for whom the designation of "very distinguished success" is reserved, so that not much time need be occupied in detailing their chances of ill-success. These are largely comparative and are expressed by saying that times have altered much of late and that here competition has become severer. When the class from which hospital physicians are drawn was a very small one, and when the "pure" surgeon was followed in his appointment and practice by favoured pupils, the lack of rivalry among the consulting class was conspicuous. It was insured by an early line of demarcation being drawn between those who might and those who might not hope to attain to leadership in the profession, and we do not suppose that there exists anyone sufficiently illiberal to regret the ancient order. But with the multiplication of universities, the growth of provincial medical schools, and the complete abolition of direct and indirect traffic in hospital appointments there has come a marked increase in the number of candidates for the highest professional honours. Round every general hospital to which a medical school is attached a band of young men await the opening for which they have fully equipped themselves. But to obtain their hope does not necessarily mean success. For those who gain staff appointments or hospital appointments soon find that the struggle upon which they have embarked is a severe one and that the trials of competition are not over because they have succeeded in getting on the bottom rung of the ladder that leads up to distinguished success. There are so many others in the same position and the number continues to grow as the number of hospital appointments, whether at general or special hospitals, grows. The young general consulting physician, in England, Scotland, or Ireland alike, finds it very hard, as a rule, to earn enough money to live until the public are aware of his existence, while the teaching appointments upon which he would have relied in days gone by are at many of the best centres of medical education no longer lucrative. If the plight of the young consulting surgeon is better, because in the matter of operations the public is not so loth to trust a young man as where medicine is concerned, still he also feels the strain of competition and the loss of emolument for his educational labours. When the science of medicine was much simpler, and when the education of the medical student was a much less costly thing, the fees paid to a medical school were in excess of the cost to the school of supplying the student with the necessary facilities for education. The surplus was divided among such of the medical staff of the hospital as held teaching appointments. And although it is now some time since lectureships at the medical schools have been worth substantial sums, it is only in comparatively recent years that the position has been established that a large part of the education of the medical student has to be carried on by gratuitous effort. This plight has, of course, been reached mainly on account of the great increase in the expense to the medical schools that results from the developments of physiology and bacteriology. Expensive practical courses have to be arranged, expensive laboratories have been built, and the result is that medical schools, which in many instances draw on the funds of their hospitals, cannot pay any of their lecturers adequately, and often do not attempt to pay them at all.

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[1] Chapters I., II., and III. were published in THE LANCET of Feb. 18th (p. 447), Feb. 25th (p. 517), and March 4th (p. 593), 1905, respectively.

The loss of valuable income obtained by tuition during the critical early time of professional life falls now upon the consultant when he has to bear the strain of a new and increasing class of competition—the competition of the special hospitals. The growth of special hospitals has created a large increase in consultants of the specialist type, and the public believe implicitly that the medical man ought to be a specialist. There is some reason in the view, just as there are powerful arguments against it. The developments of medicine and surgery, and the opportunities for interchange of knowledge afforded by the multiplication of medical societies and medical journals, have made it impossible for any medical man to keep level with the ramifications of our science in special directions, and as a consequence it is now quite usual for a consultant to make choice of a line along which he proposes to work. If he is at a general hospital he becomes associated in the minds of his colleagues and of his pupils with cases of a certain sort, the wards of his hospital give him scope for clinical research, and its records enable him to interpret the lessons of the past by the knowledge of the present. If he is at a special hospital, though he has not the same opportunity of keeping in his memory the general rules by which special problems must often be solved, still he has probably more valuable material, material which more immediately and more frequently illustrates the recurring difficulties of treatment. All this implies that along any groove of medicine competition among the consulting authorities is more than doubled, while this does not tell the complete tale. There are special hospitals which foster hospital abuse by having no adequate regulations to prevent the well-to-do public from obtaining advice at their out-patient departments in return for small sums of money. These institutions undoubtedly deprive the consulting physicians and surgeons of much professional work for which they should receive remuneration and it is regrettable to think that in many cases the evil has arisen through the direct action of medical men. Hospital abuse is a subject to which further reference is about to be made but it is well to point out here that it weighs sometimes as heavily against the consultant as against the general practitioner, for this aspect of the matter is frequently missed.

Through competition, fair and unfair, and through the spendthrift policy entailed upon the medical schools by the educational conditions of to-day the consulting physician and the consulting surgeon at the beginning of their careers have often a severe struggle. Yet when we have said this the fact remains that they form the really successful members of our profession. And so far from succeeding to that position by the favour of extrinsic circumstances, as would have been their lucky lot in days not long gone by, every step has to be won by competition. Every post is wrested from men apparently of equal merit and hard on the heels of every holder of a post treads another ready to take his place. And the posts so striven for are practically unpaid ones, while the public save in exceptional circumstances are apt to be many years before they are prepared to remedy the pecuniary deficiency. Success is only won by incessant hard work, self-denial, and courage, for the number of cases of genuine and abiding success that follow upon irregular methods, such as self-advertisement, is, we are proud to know, small.

THE POSITION OF THE GENERAL PRACTITIONER.

The grievances of the general practitioner are much more numerous than those of the consulting physician or surgeon. So much prominence has been given to them in the pages of the medical journals that in the opinion of some people—those people who are not themselves sufferers—they have been made to wear an unduly important face. As a matter of fact, the measure of the hardships which surround and impede the life of the general practitioner has never been realised properly either by the public or by the medical profession as a whole. This want of appreciation by the public of the troubles affecting those who live more than any other section of the community by the alleviation of the troubles of others has been brought about in an obvious manner. Medical men have rarely made a common cause against abuses which threaten or assail them and those who have done so have acted generally in a half-hearted manner, feeling that they are without the material or moral support of their natural leaders, the great figureheads of medicine, and sore at being termed trade unionists. The public are not conspicuously in agreement with the aims of medicine and have not the trust in their medical advisers that they had a generation ago. The public are educated to the point of distrust in what they cannot understand, but no further; and a certain section of the press, having a mental endowment not much superior to its *clientèle*, makes a business of fostering the inevitable misunderstandings. It is not to be regretted that the public have lost blind faith, but it is unfortunate that they have not acquired, with their wider mental horizon, a more reasonable grounding in scientific facts. The general practitioner has to meet his adverse circumstances with a proportion of the public ready to regard him distrustfully, with no effective methods of combination, and without influential leadership. The grievances under which he suffers to which special allusion is now to be made—namely, the evil of contract practice and the prevalence of hospital abuse—are of a material kind. Primarily, that is to say, they affect the purse of the medical man and his status in society. They are the things that directly or indirectly cause him to be underpaid; and from them the situation arises that either he puts up with imposition, which gives him a constant sense of soreness and never wins him the least appreciation from the public, or he resists it, in which case he is made to appear a grasping and extortionate person. Also he soon discovers that in the majority of cases he is quite unable, through lack of combination with his fellows, to gain anything substantial by resistance.

Medical Aid Associations.

It is constantly assumed by medical men, when stung into writing or speaking of their social or professional grievances, that the medical professional is overcrowded but the figures which have been given in the previous chapter do not bear out this view. The overcrowding is only partial and arises from the facts that too many medical men want to do the same thing and that too few are trained in the proper way to do anything different. So that in certain places competition becomes over-acute with an inevitable cheapening of medical service. Undoubtedly there are too many young medical men in England who desire to start in independent practice, preferably in a town, immediately they have placed their names on the Medical Register. They are not willing to act as assistants; the various services have no great attraction for them; they are without capital. In this section of the medical profession there is overcrowding and the public have taken advantage of the fact. For of late years a movement among laymen has introduced into medical practice a new and disagreeable feature. The public, through so-called medical aid associations, have attempted by means of strong organisations to capture and to exploit medical service. It is about 10 or 12 years since certain members of the medical profession, mostly in possession of middle-class practices in large towns, began to be aware of the danger that was threatening them, through such bodies as the Manchester Unity of Oddfellows, the Foresters, the Druids, the Temperance Society of the Rechabites, the Industrial Assurance Company, Limited, the National Medical Aid Society, and many local associations. Complaints were made now from this town and now from that and a few persons well versed in medical politics knew that serious general trouble was arising. Local medical societies and branch meetings of the British Medical Association were addressed by aggrieved members and a few out spoken letters made their appearance in the press. But for the most part the injured persons contented themselves with grumbling; but little attempt was made to diagnose the exact condition and to treat the cause, and no leader arose to formulate any policy of defence or reprisal. The medical profession as a whole hardly realised the extent to which they were being exploited until "The Battle of the Clubs" (as the struggle has been called) was started at Cork. The issues at Cork were exceedingly simple. The medical men of the city found that their private practices were falling off and those of them who were medical officers to clubs had no difficulty in appreciating the reason. An undue proportion of the substantial citizens, large tradesmen, employers of labour, and salaried clerks were joining the medical clubs and were demanding to be treated on the same terms as artisans and labourers, and even sought that a small yearly fee should cover attendance upon every member of the subscriber's family. The medical officers to the clubs protested. They required that persons in a proper position to pay fees for medical service should pay them and should not accept unwilling charity at the hands of medical men often in poorer circumstances than themselves. The clubs paid no attention to the protests and the medical men resigned their appointments and formed themselves into an association. They refused to work again for the clubs save at enhanced rates and with proper opportunities of deciding who were and who were *not* fitting objects for medical charity. The clubs imported persons whom the Cork medical men refused to meet as professional brethren. Upon this position being reached THE LANCET instituted an inquiry into the position of the medical profession in regard to the societies which in an increasing number of districts are now providing medical aid for the sick poor. Many complaints of divers sorts had been uttered but the struggle at Cork presented definite issues upon which the battle might be fought elsewhere. At Cork the medical men won the day, the imported practitioners making little headway in the city and the patients in large quantities deserting the clubs, which showed that effective resistance could be made. THE LANCET despatched a special commissioner to various medical centres in the kingdom who made reports of great interest and convincing frankness.[2] He showed in how many ways the evils of contract practice had grown up. Medical men, who already knew from personal experience something of the matter, were reinforced in their sense of the reality of their grievances by finding them shared with so many of their professional brethren, while medical men into whose ken such matters had never entered became acquainted with the troubles of a large section of their colleagues and so were prepared with valuable sympathy.

The articles showed the organisations to vary greatly in their scope and design. Some of the societies have as their primary objects schemes for life assurance and only add to these their project for medical aid as an inducement to the public to enter their fold. They form an example of the way in which a bad influence may spread, for certain life assurance offices, not over careful in their methods, having commenced touting for custom among the poor in this fashion, other and better offices have declared themselves compelled to follow suit. Some of the schemes to secure for the public medical attendance at low rates—a very worthy programme if it can be carried through without the oppression of other people—are devised, as far as the medical officer is concerned, with cynical callousness. The medical officer's salary is small, his work immense, and the conditions under which it has to be done preclude him from exercising his calling scientifically. Some of the associations are well managed in that an effective attempt is made to insure that only the truly necessitous shall be the recipients of medical charity. Some are uncommonly ill-managed in that all persons, no matter what their condition of health or their means, are invited to enrol themselves that they may be treated medically for *1d.* a week, drugs included. In certain of these institutions the management of the association having been, and remaining, entirely in lay hands the interests of the medical officers suffer particularly severely. The patients who might reasonably have been expected to pay *them* as private clients are not ashamed to join the charitable associations—charitable to all save the medical men—and often want to have their wives, children, immediate relations, and occasionally the stranger within their gates treated in return for one payment. Many a medical man has found his private practice drifting into the hands of these bodies. The associations take his humbler patients and place this issue before him—will he attend *their* members in *their* way at *their* time under *their* rules for *their* fees, or will he have a salaried rival brought in against him? Some medical men have surrendered, others, particularly where there was a chance of combination against oppression, have held out. Where the middle-class patients, pauperising themselves, listen to the blandishments of the agents of the association and join the clubs in spite of their ability to pay their medical men proper fees, the contest has gone at first against the medical men. On the other hand, where the medical men by presenting an organised resistance have been able to keep the sympathy of the public on their side, the imported medical men have failed to fulfil their tasks and the clubs have suffered badly.

The ethical side of the situation must not be lost sight of. The manifest impropriety of medical men taking service under lay masters has led to an important development. It was, and is, the habit of certain medical aid associations to employ canvassers who by vaunting the talent of their salaried medical officers press the claims of their institution on the patients of other medical men. When this became known it was immediately seen that such a proceeding constituted a professional offence, inasmuch as a medical man was doing, or permitting to be done for him through the agency of another, a thing which could be construed as advertisement, and advertisement is an "infamous" act in a professional sense. The General Medical Council took this view when it decided that the use of agents and canvassing to secure patients must be condemned. This support from the disciplinary tribunal of the profession put heart into the resistance to the exploiting tactics of the medical aid associations, with the result that many local organisations of medical men now exist for the purpose of taking combined action in support of claims for fair remuneration. There is no need to say more upon a subject which has been so much discussed, but it is well to point out that the General Medical Council remains unchanged in opinion as to the undesirability—to use no stronger word—of medical men serving lay associations upon unprofessional conditions.

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[2] The Battle of the Clubs, by the Special Commissioner of THE LANCET. London: Offices of THE LANCET, 423, Strand. 1s

(To be continued.)

ALCOHOL AND COMMERCIAL EFFICIENCY.

AT a conference of business men held at the Mansion House on March 8th, the LORD MAYOR presiding, Sir VICTOR HORSLEY made the following remarks:—

"When Mr. Ray first told me of the proposed title of this gathering this afternoon I was at some loss, from the scientific point of view, as to how to present the case before you. We have no experiments in our records of so many commercial men who are abstainers on the one hand and so many who are non-abstainers on the other to show what is the efficiency of those two classes of men respectively. But, my Lord, I take it that what we mean by commercial efficiency is economical expenditure to obtain a profitable return. Now, from the scientific standpoint it is very possible for me to make such a statement to you as shall be applicable to the everyday life of a commercial man. Alcohol is peculiar; there is something extraordinarily special about it because it is not essential to life. And there is no other substance, there is no other thing that we have to do with in this world upon which there is such an enormous national expenditure which is not an essential to life. Now the medical profession hold that it is one of the greatest evils to the nation, this non-essential. I suggest to you that socially and commercially it is a far greater evil than anything that the medical profession have considered it to be. It is useless to [illegible] eminent man to a meeting of thi [illegible] the Ex [illegible] ith un [illegible] the commonest cause of poverty and crime. If here we have a substance which is non-essential to life, is the commonest cause of poverty and of crime and one of the commonest causes of disease and of vice, then surely the time has come for this great city to review the situation from a commercial or economic standpoint. It is an ordinary idea that it is only the inefficient, the social failures, who find their way into the workhouse and the gaol. It is not only the persons who fail at the outset who drift that way. But I would like to say that the reason why people pass to the workhouse and the gaol is because of a common everyday belief that this non-essential to life is a beneficial substance, the common everyday belief that to the well-balanced mind there is no harm but that there is actually some profit in taking alcohol. If we speak to the ordinary man in the street he tells us at once, 'I do not drink, I take a little at my meals.' But in his answer, I submit to you that he is not considering the question of the nation at large, he is simply considering whether this substance does him any harm. And again, I submit to you that from an economic standpoint we have no moral right to support the continued use of something which, on the average and on the whole, is a source of loss and not profit to the nation at large. Of the annual expenditure, the direct outlay—that for which we are given to understand by popular belief there is some return—the annual expenditure of from £160,000,000 to £180,000,000 I have very little to say, it is all thrown clean away. But I want to impress upon you that that is only one part of the bill. Take Mr. Ritchie's statement in the House. We have to add to that the cost of most of the crime, the cost of most of the poverty, most of the premature death of bread-winners, and we have to add, from the medical point of view, that great tax which the nation is always paying but which it never realises, which Sir James Paget drew attention to many years ago at the first Health Exhibition in this city, the cost to the nation of preventable disease. And that cost, which means commercial inefficiency, is very largely due to alcohol. I wish now to show to this meeting, from the medical point of view, that for all this great cost, all this great expenditure, there is no profitable return. I am not speaking, of course, of those occasions on which a man, owing to a degraded custom, takes drink when he does business—everyone condemns that; but I want to speak to you of the occasions on which, as I have said just now, a man says, 'I take a little with my meals.' I want to point out to you that from the so called dietetic use of alcohol there is no profit. If we take alcohol into the stomach, a small quantity—and I shall speak to day of small quantities of alcohol, this quantity—20 grammes of absolute alcohol—and I shall have presently to refer to scientific experiments the whole bearing of which depends upon this amount of alcohol that we are going to [illegible] We often hear it [illegible] loes it do? In [illegible] stomach. In the second place, its immediate effect is a stimulant and irritative effect upon the mucous membrane of the stomach, and therefore it causes a little more secretion of gastric juice even during the short time it is in the stomach. But it has another effect, which is the ordinary effect of alcohol upon all fermentative processes, that is to say, it retards digestion. If you balance these two things together where is the profit? There is no profit as the net result of the effect of alcohol in the stomach. After the alcohol has left the stomach it is passed into the blood and carried to the nervous system and it is carried all over the body. While it is circulating in the body is there any profit from its action on all our tissues? It has been suggested, and again and again repeated, that alcohol is a food. What is meant by that? That when the alcohol is circulating all over the body it is oxidised in the body, it is utilised in the body, or some of it, a small portion of it, some people say more, others less. But take it that a small part is oxidised in the body. If it is oxidised in the body it should contribute to the temperature of the body—it should warm it. But all the temperature observations in connexion with alcohol show that the temperature of the body in the net result is lowered, so that even if this oxidation does occur in the body there is no profit from the point of view of temperature. And I may say in passing that the reason why the temperature of the body is lowered and not raised is that what might have been a beneficial effect is negatived by the selective action which alcohol has upon the nervous system. All drugs have a selective action on different organs of the body—that is to say, they pick out the tissue they can attack. Alcohol picks out the nervous system. And when it gets to the nervous system we recognise at once scientifically that alcohol, like chloroform and like ether and like all substances of that kind, has apparently a two-fold action. In reality it has a paralysing action throughout. But the first action that it appears to have is what we call in the case of chloroform the stage of excitation. It is a good word, because it does not convey an idea that the excitation is any good to the individual, therefore why not use it for alcohol? We will call it the excitation stage. Now, during this excitation stage people say 'I feel better, I can talk more.' Whether they talk better is another question, but they say, 'I am more sociable,' and so on. Well, now, let us put aside ordinary impressions of that sort and let us submit the question to the rigid test of experiment. When you come down to actual experiment you find that the sense of well-being which the person experiences is in itself a delusion, that so far from thinking quickly he is really thinking more slowly, so far from calculating better he is calculating worse, and so on, at the very time when he has this sense of elation and exaltation. And what is true of the effect of alcohol on the thinking part of the brain is equally true of that part of the brain which governs the finer movements of our hands and other fine movements. And when a person thinks he is executing a movement more accurately and with less tremor

action the work of the inspector would be much facilitated." But the special report relative to housing furnishes several instances of the difficulty of enforcing the nuisance sections of the Public Health Act in certain poor rural districts. At times the houses are in bad repair, the thatching being defective, the windows dilapidated, and the floors damp and uneven. For this accommodation the tenants pay 2*s.* 6*d.* per week and there are no other better cottages to which they can go save by paying a rent perhaps double that which they now pay. Moreover, if the tenants complain the landlord may take an early opportunity of getting rid of them. Instances of this nature are familiar to every medical officer of health and the only remedy, and this, we fear, is in practice but a partial one, is to insist upon systematic inspection of the houses of the poor in order that the occupiers may be relieved of the onus of complaining themselves. But generally the result of the survey to which Dr. Thresh refers was to show the necessity for more cottages at a low rental and with three bedrooms. For instance, at one of the villages it was stated that several engaged couples were being prevented from marriage owing to the scarcity of cottage accommodation. Dr. Thresh recommends [illegible] endeavour to erect houses in c[illegible] he thinks that it is quite impr[illegible] will cover the annual instalments of capital and interest. He does not, however, regard it as equitable that the rent should entirely cover these payments as, were it to do so, the tenant would, he urges, "be paying for property which would ultimately become the property of the parish or of your council." Assuming, he continues, "that each cottage left a burden of £2 per annum to be paid from the rates 50 such cottages would only increase the rates by £100 per annum and for £1000 per annum we could provide no less than 500 cottages" and, he adds, that he would rather see this sum spent annually in providing cottages than in supporting an isolation hospital. A point which is not referred to in the report before us but which is obviously one of economic importance is, What would be the value of the cottages in question when, as is anticipated by Dr. Thresh, they would become the property of the council? The answer to this depends upon two things—the character of the cottages and the time allowed for the repayment of the money borrowed to defray the cost of erection. Dr. Thresh refers to one interesting outcome of a threat on the part of the district council to put in force the Housing of the Working Classes Act in Ingatestone and Fryerning, where formerly there was great difficulty in obtaining housing accommodation. After the inquiries which took place in the village land was sold for building purposes and many cottages were erected. This is a very instructive case and we should like to see the experiment tried in several places where no cottages can be procured and no land can be obtained for building purposes. There are numerous places of this description within a short distance of the metropolis. Turning to the subject of water-supply we are glad to learn that in the case of new houses erected in this district no water certificates are given under the Public Health (Water) Act unless the wells are properly constructed, and leaflets setting forth the proper means are sent to the builders. This is a measure which should do much good and it might with profit be generally adopted throughout the country. It is extremely rare to find properly constructed wells and for some reason or other few well-sinkers appear to have any idea of well construction beyond that necessary to procure water of some nature. Attention is also being paid in the Chelmsford rural district to the important subject of the water-supply of dairies and cowsheds and some of the samples analysed during 1904 were found to be very impure. It is, however, refreshing to read that one of the cowkeepers sold his cows when he learned that the water-supply was polluted. In our own view there is no more pressing need at the present day than the improvement of the conditions under which the milk supplied to the public is procured and stored. If the public could be shown some of these conditions they would themselves agitate for reform.

Maldon Rural District.—Six cottages are [illegible] in one of the villages in this district under the [illegible] the Working Classes Act. Each house has [illegible] and the cost per cottage is estimated [illegible]

which an ordinary agricultural labourer with a family—even a small one—could afford. Many of the existing cottages in this district have, it is stated, been built on damp sites without any damp-proof courses and few have any paved area behind—an instructive reminiscence of the days when no by-laws were enforced.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8513 births and 5145 deaths were registered during the week ending March 11th. The annual rate of mortality in these towns, which had been 17·3, 15·7, and 17·1 per 1000 in the three preceding weeks, further rose to 17·2 per 1000 last week. In London the death-rate was 17·2 per 1000, which was also the average rate in the 75 other large towns. The lowest death-rates in these towns were 7·5 in Wallasey, 8·1 in Birkenhead, 9·3 in Hornsey and in East Ham, 9·6 in Northampton, 10·5 in Leyton, and 11 3 in Rotherham; the highest rates were 23·2 in Portsmouth, 23·4 in Hanley and in Nottingham, 23·5 in Reading, 24·9 in Middlesbrough, 27·7 in Wigan, and 28·9 in Merthyr Tydfil. The 5145 deaths in these towns last week included 471 which were referred to the principal infectious diseases, against 410, 365, and 486 in the three preceding weeks; of these 471 deaths, 178 resulted from measles, 132 from whooping-cough, 58 from diphtheria, 44 from diarrhœa, 37 from scarlet fever, and 22 from "fever" (principally enteric), but none from small-pox. No death from any of these diseases was registered last week in Brighton, Aston Manor, Stockport, Bury, South Shields, Tynemouth, or Newport (Mon.); [illegible] Nottingham, Wigan, Bolton, West Hartlepool, and Merthyr Tydfil; from scarlet fever in Handsworth (Staffs.); from diphtheria in Barrow-in-Furness; from whooping-cough in Willesden, Tottenham, Hastings, Hanley, Smethwick, and Rhondda; and from diarrhœa in Devonport and Hanley. The mortality from "fever" showed no marked excess in any of the 76 towns, and no death from small-pox was recorded during the week. The Metropolitan Asylums Hospitals contained 16 small-pox patients at the end of last week, against eight, 15, and 15 at the end of the three preceding weeks; three new cases were admitted during the week, against three, seven, and four in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 2017, 1987, and 2002 at the end of the three preceding weeks, had further risen to 2036 at the end of last week; 303 new cases were admitted during the week, against 241, 224, and 290 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 378, 335, and 353 in the three preceding weeks, further increased to 361 last week, but were 53 below the number in the corresponding period of last year. The causes of 59, or 1·1 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leicester, Salford, Leeds, and in 45 other smaller towns; the largest proportions of uncertified deaths were registered in Portsmouth, Birmingham, Liverpool, Warrington, Blackburn, Bradford, Sheffield, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 16·9, 18·3, and 17·4 per 1000 in the three preceding weeks, rose again to 18·6 per 1000 during the week ending March 11th, and was 1·4 per 1000 in excess of the mean rate during the same period [illegible] 76 large English towns. The rates in the eight [illegible] towns ranged from 14·4 in Edin- [illegible] Glasgow to 23·8 in Greenock and [illegible] 625 deaths in these towns included 31 [illegible] to whooping-cough, 17 to diarrhœa, [illegible] diphtheria, one to scarlet fever, and [illegible] 58 deaths resulted from these [illegible] last week, against 52, 63, and

60 in the three preceding weeks. These 58 deaths were equal to an annual rate of 1·7 per 1000, which was slightly above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 27 in each of the two preceding weeks, increased last week to 31, of which 22 occurred in Glasgow, two in Edinburgh, two in Greenock, and two in Perth. The fatal cases of diarrhœa, which had been 13, 13, and 16 in the three preceding weeks, further rose to 17 last week, and included ten in Glasgow, three in Edinburgh, and two in Aberdeen. The deaths from measles, which had been seven and eight in the two preceding weeks, declined again last week to six, all of which were recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 119, 116, and 114 in the three preceding weeks, rose again last week to 153, but were slightly below the number in the corresponding period of last year. The causes of 19, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·5, 25·5, and 30·7 per 1000 in the three preceding weeks, declined again to 25·2 per 1000 during the week ending March 11th During the past four weeks the death-rate has averaged 26·2 per 1000, the rates during the same period being 16·8 in London and 15·4 in Edinburgh. The 183 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 40 from the number in the preceding week and included two which were referred to the principal infectious diseases, against eight, five, and eight in the three preceding weeks; of these, one resulted from measles and one from "fever." These two deaths were equal to an annual rate of 0·3 per 1000, the death-rates last week from the principal infectious diseases being 1·6 in London and 0·8 in Edinburgh. The 183 deaths in Dublin last week included 37 among children under one year of age and 55 among persons aged 60 years and upwards; the deaths both of infants and of elderly persons showed a marked decline from the respective numbers recorded in the preceding week. Three inquest cases and two deaths from violence were registered; and 65, or more than a third, of the deaths occurred in public institutions. The causes of 18, or more than 5 per cent., of the deaths in Dublin last week were not certified.

THE SERVICES.

Royal Navy Medical Service.

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet-Surgeon William Robert Minchin Young has been placed on the Retired List at his own request (dated March 1st, 1905).

The following appointments are notified:—Surgeons: C. J. Boucher to the *Fire Queen*, for disposal; A. F. Fleming to the *Vivid*, for disposal; C. B. Fairbank to the *President*, for three months' hospital study; and J. Verdon to the *Vernon*.

Royal Army Medical Corps.

Major C. W. R. Healey and Major J. H. Daly are posted to Dublin and Queenstown respectively. Lieutenant-Colonel S. Westcott, C.M.G., is appointed Medical Inspector of Recruits to the Northern Command, at York, and Lieutenant-Colonel A. F. Russell, C.M.G., to the Eastern Command, at London. Surgeon-General W. Donovan, C.B., left England on March 4th for South Africa to take up his duties as Principal Medical Officer on the Staff of Lieutenant-General Sir Henry Hildyard at Pretoria. Lieutenant-Colonel H. O. Trevor is appointed Medical Inspector of Recruits in the Aldershot Army Corps. Colonel J. F. Routh, who has been serving on the strength of the Aldershot Command, has left England for India to take over administrative charge of a district on promotion. Colonel J. Magill, C.B., has left England for Egypt to take up the duties of Principal Medical Officer of the army of occupation, on appointment, in succession to Colonel W. A. May, C.B.

Lieutenant-Colonel G. F. A. Smythe retires on retired pay (dated March 11th, 1905). Major F. J. W. Porter, D.S.O., from the Seconded List, to be Major (dated March 1st, 1905). Lieutenant R. L. V. Foster is seconded for service with the Egyptian Army (dated Jan. 17th, 1905). Major R. H. Penton, D.S.O., from the Seconded List, to be Major (dated March 1st, 1905).

Army Medical Reserve of Officers.

Surgeon-Major A. A. Watson to be Surgeon-Lieutenant-Colonel (dated Feb. 28th, 1905).

A Russian Appreciation of Japanese Medicine.

At a sitting of the Vladivostock Medical Society on Jan. 20th last Dr. N. V. Kiriloff and Dr. Rontchevski spoke very highly of Japanese medicine and hygiene. The former rapidly traced the meteoric emancipation of Japan (where even in 1876 there were still 30,000 Chinese medical men) from Chinese medical tutelage up to 1901 when no trace of Chinese medicine, except in museums or in a few proprietary articles, could be found over the whole land. In addition to the two existing Japanese universities there are eight medical schools the students of which, though not equal in education to those from the universities, are in no way inferior to the average European medical man. "It must be recognised," he said, "that the sanitary aspect of medicine in Japan is not the best, although perhaps in respect to ordinary life nowhere do we meet with such cleanliness. Quarantine prevails in all Japanese ports." The *Vladivostok Listok* adds that Dr. Rontchevski confirmed the statements as to the efficiency of Japanese surgery and defective sanitation in the hospitals.

Army Recruiting for 1904.

The annual report on army and militia recruiting has just been issued and in existing circumstances will no doubt be closely scrutinised. It shows that of the numbers submitted to medical inspection 34·39 per cent. were rejected for various ailments and want of physical development. The report for the year ended Sept. 30th last. During the 12 months the number of recruits who joined the regular army, excluding Colonial corps, amounted to 41,279, and for the militia 35,264. The number of men medically inspected amounted to 71,699. In addition 20,075 who offered themselves were rejected by the recruiters or recruiting officers on physical grounds. The regulation that all recruits shall produce characters before being accepted for the regular army or militia has had satisfactory results. The question of defective teeth among recruits is stated to be a matter which becomes of greater importance every year. While the recruiting for the Foot Guards, although showing a slight increase, has been unsatisfactory that for the infantry of the line has been satisfactory, but this is probably largely attributable to the fact that the other arms of the service, owing to their surplus, were closed to recruiting.

The Army Estimates.

An explanatory memorandum of the Secretary of State for War has just been issued with the army estimates for the coming financial year. It will be closely examined by those who do not altogether share Mr. Arnold-Forster's enthusiasm regarding his new scheme.

The War in the Far East.

There is no need to dwell here upon the recent events of this terrible war; all our readers have been fully informed of them by official statements from both belligerents. The pursuit of the routed Russians, which threatens to break up what was recently the vast army in Manchuria into disorganised and scattered fragments, has been relentlessly followed up by the Japanese and the sum-total of military disaster is now unparalleled in history. Nor has an end yet come, but the imagination, dismayed at the extent of the losses and at the terrible misery and sufferings entailed on the sick and wounded in such circumstances, naturally shrinks from any attempt to forecast further horrors. It prefers to dwell upon the hope and the belief that the aim and the object of war being the disablement of the enemy the more speedily and completely this can be attained the sooner will peace be secured. Although it does not come within the purview of the medical journalist to deal with military history of an epoch-making kind the fact must be recognised that the Japanese strategical plans have been admirably conceived and wonderfully executed.

A Harbin telegram states that the greater number of the surgeons and a large portion of the Red Cross material have remained at Mukden. The sanitary services are said to be completely disorganised. Chloroform and antiseptics are lacking. The sick are piled up on uncovered trucks and the mortality is frightful. All civilian medical men are being requisitioned. The state of confusion is indescribable and it is the same at Tieling.

The St. Petersburg correspondent of the *Petit Journal* says that Harbin has been turned into a vast hospital. "Numerous trains," he adds, "are arriving laden with wounded, mostly half frozen."

The Central Committee of the German Red Cross Society has advised the executive that in view of the war in Africa the committee is regretfully compelled to economise its expenditure and that as much money is required for Germany's needs the German Red Cross Society will be obliged either to withdraw its hospital from Kharbin in June or to ask the Russian Red Cross Society to bear a portion of the cost of its maintenance. The reply received is that everything possible would be done to meet the wishes of the German Committee.

Correspondence.

"Audi alteram partem."

THE MEDICAL MAN AS EXPERT WITNESS.

To the Editors of THE LANCET.

SIRS,—Dr. W. B. Ransom's address to the Nottingham Medico-Chirurgical Society, published in THE LANCET of March 4th, p. 591, is very interesting and instructive but the only remedy I can see available is in what he says in conclusion—namely: "The system of Crown referees was intended to avoid this state of things but for some mysterious reason judges have ignored their existence." These judges are lawyers and I suppose they think they can assess the medical evidence better than a medical man or a lay person. Lawyers are always great on the "law of evidence" and we find as much divergence of opinion amongst them as we do amongst medical men. Even the highest judges in the land differ amongst themselves in the interpretation of the law—laws which have been drawn up by lawyers themselves—so that I do not think there is any more "temperament"—if this is the word—amongst medical men than we find amongst barristers and solicitors. It is sometimes said we are all more or less mad because of our peculiarities or idiosyncrasies, or I suppose we may now consider ourselves more or less akin to Ananias and some as related to Thomas called Didymus.

It would, however, be well both for the masters and also the workmen under the Workmen's Compensation Act if the medical referee could be called in early in every case of dispute and act as arbitrator between the medical men on both sides. [illegible] a medical man to look after their intere[illegible] have the same privilege? [illegible] the workman just as mu[illegible] if a medical arbitrator having the confidence of both could act as assessor after hearing the evidence on both sides, and making the examination himself, much would be gained and we should hear little of the conflict of evidence or of the "rinderpest" cases. In many of these cases sufficient note is not taken of the history of the case and therefore conclusions are arrived at which are not always justified.

The medical expert witness can only give his *opinion* after he has inquired into all the circumstances, he cannot speak as to facts. If a man's life is shortened by one minute through an illegal act of someone then according to law the person guilty of the act is guilty of manslaughter. Some judges have held this to apply to the workmen's compensation cases and hence when an injury has been received by a workman suffering from organic disease it is not difficult to conclude that the injury has accelerated death.

There are, however, many cases which are not necessarily fatal and in these scrupulous care should be taken with the case of injury. One remarkable case out of many occurs to me just now and this case, if it had been decided by the judge against the applicant, might have cast serious reflection on the medical attendant. The case was this. A man, under 40 years of age, received a fall of dirt from the roof on his right leg. He was able to hobble home and his wife went for the pit surgeon; he saw the case within two hours and within five of the man receiving the injury. He continued to attend the man for some weeks. The skin broke down and ulcers appeared. There was no doubt about these ulcers being specific and the man had to admit having had syphilis some years before. After a time the employers' insurance company refused to pay owing to the report of their medical officer saying that these ulcers were entirely due to syphilis and not to injury, being broken-down gummata. Although the pit surgeon could testify to the injury there was also other evidence of an accident, yet the surgeon held he was not suffering from the effects of the accident. No doubt in a healthy man this would have been so and there would have been no case for prolonged compensation. The judge, however, held that (1) he had received an accident; (2) he had not recovered from the effects of the accident; and (3) although he might be suffering from specific disease he was entitled to his compensation.

Having occasionally to appear in such cases I could if it were necessary give numerous similar instances. I appeared in one case before a learned judge who had as a barrister had cases of "railway shock." I believe he had experienced a railway shock himself. My case was that of a collier who had a severe injury and a fracture of his leg at the junction of the upper with the middle third. He had been off work 15 months, had firm union, and was getting fat from idleness and beer. I was sure he could follow labouring work. When, however, the surgeon was cross-examined and asked really what was the matter with the man he said he was suffering from *shock;* this, of course, worked the oracle and I got a cross-examination from the judge himself, when I stated that a collier who had a broken leg 15 months ago could not be still suffering from shock. My definition of "shock" and its effects was too feeble for the judge who kindly informed me that Charles Dickens, who had been in a railway accident 25 years before his death, died from the effects of the shock. Well, this was too much for me; the fear of contempt of court kept my mouth closed but my thoughts told me that Charles Dickens must never have received his compensation from the railway company. Apologising for the length of this communication, ..."

THE CLASSIFICATION OF THE INSANITIES.

To the Editors of THE LANCET.

SIRS,—I can pretend to no more than a languishing interest in the subject of the classification of the insanities, believing that further disputation of this matter is largely labour lost and that our energies can now be far better employed in the investigation of the diseases in question. But I will ask permission to criticise a few points raised in the annotation in THE LANCET of Feb. 18th, p. 445, entitled "Kinds of Insanity," which deals with an article with the same title by Dr. C. A. Mercier in the *Journal of Mental Science* for January last. Dr. Mercier says: "Puerperal insanity is acute insanity occurring within an uncertain time of childbirth, and if the antecedent of childbirth is unknown or disregarded there is nothing whatever in the clinical picture of the disease that is different from other cases of acute insanity that have no connexion with the puerperium." In his "Text-book of Insanity" (1902) Dr. Mercier writes: "Puerperal insanity is always an acute insanity ...... in addition to the description that has already been given of acute insanity there are certain characters special to the puerperal variety." He then refers to the impulsive violence (also seen in acute insanity) which in the puerperal form is usually directed against the infant; also to the fact that there is often a septic element in the case. Dr. Mercier, in his article to which your annotation refers, says that the insanity of pregnancy has a much better right to be considered a disease than puerperal insanity, since "the fact of the pregnancy is a continuing feature in the clinical picture, a feature which at once marks off the case from all other ca[illegible] of insanity." To my mind the continuing feature of pregnancy in the one case has, to say the least, no greater demarcating significance than the association with the puerperium in the other. For the association with the puerperium connotes *infection* and I believe that is the important point to have in mind. Dr. Mercier says in his book referred to, "Often, but by no means always, there is a septic element in the case." This is a somewhat vague statement. He produces no figures, nor does he show that he has investigated the point with such means of determining the question of infection as are at present at command. It is not necessary that the lochia should be offensive and the uterus tender (two points in evidence of infection to which he alludes) in order that there should be septicæmia. The pathological problem requires finer and more difficult methods of investigation than those above implied in order to its solution. Even in 1892 we find in Griesinger's "Pathologie und Therapie der Psychischen Krankheiten" (Levinstein-Schlegel's enlarged edition) these words, "Puerperal psychoses always coincide with an infection," and according to Hansen, quoted in this work, 42 cases out of 49 of puerperal psychoses gave evidence of puerperal infection. Campbell Clark (quoted by Griesinger), investigating 40 cases, says that in all the cause for the psychosis was blood poisoning from a peripheral lesion. And by puerperal insanity he means those psychoses which are connected with puerperal infection. I believe that with more abundant and skilled bacteriological and pathological research the nexus between the two conditions will be more fairly established. I might add here that cases of puerperal insanity have been treated with antistreptococcic serum on the assumption of septicæmia, and I can at present remember such an instance reported by Mongeri from, I think, the Italian Hospital in Constantinople, in the *Zeitschrift fur Psychiatrie*, where gratifying results were obtained. I am at present treating a case similarly myself.

Of course, if we were merely to take the mental symptoms of puerperal insanity it might be said that there was nothing whatever to distinguish the case from other cases of insanity, though I find Savage states that "there are still some symptoms commoner here than in other cases of mania: sleeplessness, apprehension, dislikes of relatives, erotic tendencies, mistakes of identity, and hallucinations of smell and taste." But Dr. Mercier's observation is made about the clinical picture *of the disease* and the disease, as everyone knows, has *par excellence* (with paralytic dementia and acute delirious mania) an important somatic side. There is commonly fever with the usual symptoms of that state, often very grave ones. In deciding whether puerperal insanity has a right to be considered a disease we have to look at the whole clinical picture. I hold it to be important that in the puerperal psychoses the great probability of septicæmia should be well in view and I should much prefer to retain the present term "puerperal insanity" (or preferably the term "psychoses associated with puerperal infection") rather than classify the condition under two tables, or two columns of one table, the one stating the fact of the puerperium and the other that of the insanity. The preferable designation, as I regard it, and which I give above, appears to me as reasonable and legitimate and practically useful as the expressions "rheumatic iritis" and "gonorrhœal arthritis."

To revert once more to the distinction drawn by Dr. Mercier as to the respective claims of puerperal insanity and the insanity of pregnancy to the title of a disease, it appears to me that, *mutatis mutandis*, the description of puerperal insanity which I have at the outset of these remarks quoted from the article is equally true of the insanity of pregnancy, and Dr. Mercier himself on the same page as that on which the quotation appears says: "There is nothing in the insanity of a pregnant woman except the pregnancy which differentiates the case from other cases of acute insanity." Yet whilst puerperal insanity is excluded from the list he gives of varieties of insanity that have any claim to the title of distinct diseases, insanity in pregnant women is admitted; only, however, "some cases" thereof. But there is nothing in what went before to prepare the reader for this qualified form of admission. Notwithstanding the above we find on reference to Dr. Mercier's book that amongst the "Varieties of Insanity" (subdivision "Insanities of Reproduction") both the conditions referred to appear.

Passing next to the claims of senile insanity to be considered a distinct disease "in virtue of the uniform and specific clinical picture that it presents," Dr. Mercier admits that he had some doubt, but this, it would seem, was dissipated on reference to Clouston's account of the malady, where that author confesses himself astonished at the immense variety of symptoms present in different cases. "This dictum," says Dr. Mercier, "at once abolishes the right of senile insanity to a distinct place in nosology." On a parity of reasoning should not hysteria, and perhaps influenza and typhoid fever, be excluded from our nosology? And since Dr. Mercier finds that senile insanity presents a "uniform and specific clinical picture" why should he, in deference to a dictum, exclude it from his category of distinct diseases, the criterion for admission to which, he tells us, is the "distinctness of the clinical picture presented"? If questions of nosology are to be determined or influenced by chance reference to text-books (I should judge Dr. Mercier to be one of the last persons so to determine), well and good. I pick up that excellent manual, Weygandt's "Psychiatrie," where, under "Rückbildungsirresein," I find a full and orderly description of senile insanity. I find an attenuated description (under "Varieties of Insanity," however) in Dr. Mercier's own book. I agree with Weygandt that there are usually in so-called senile insanity (the prominent feature of which state I take to be dementia but various mental states may be superimposed) symptoms which unmistakeably recall the psychology of the senium. And from the point of view of pathological anatomy (which I cannot find that Dr. Mercier in his book considers at all) it has been shown by competent observers, such as Alzheimer and Binswanger, that the alterations of the blood-vessels and their surrounding tissues are particularly noteworthy in senile insanity. I am further of opinion that as regards distribution of the lepto-meningeal changes, degree and extent of brain atrophy, extent and nature of cell changes, the post-mortem appearances in senile insanity are especially noteworthy. These various changes make up, I consider, a fairly characteristic pathological picture. Taking the complex of mental symptoms (and not picking out for criticism this or that feature, such as mania or a delusional state) and the pathological findings I consider there is a very fair case for placing senile insanity amongst the distinct diseases; a better case, in my opinion, than there is for insanity of pregnancy, and as good a case as there is for insanity of the climacteric, both of which are regarded by Dr. Mercier as having claim to be so called.

Dr. Mercier states, according to your annotation, that cases of insanity associated with bodily diseases, whether the latter be regarded as a cause or not, in no case present a clinical picture of sufficient distinctness to entitle them to separate rank as diseases and he excludes such from his list. But later he admits that the insanity of myxœdema is entitled to separate consideration as a specific disease and in his book he describes under "Insanity of Bodily Disease" the insanity of myxœdema, just like other authors do. Even for the purpose of collecting statistics I should prefer to collect cases under the heading "Myxœdematous Insanity" rather than under two headings in which the myxœdema is noted in one column and the insanity in another, as appears to be done in Table IV. of Dr. Mercier's article on the statistical tables in the October number of the *Journal of Mental Science*.

Your annotation states that Dr. Mercier would admit the claims of hebephrenia and katatonia to separate rank as diseases, but he says, on the contrary, that their individuality is destroyed for purposes of classification by the fact that they shade off by insensible degrees into the mass of insanity, and he does not mention them amongst his varieties of insanity with claims to the title of distinct diseases. The peculiar motor symptoms constitute the specific feature of the katatonic form of dementia præcox, whereas stupor is present, it is stated by those who classify this disorder, in not quite half the cases. If, as Dr. Mercier says, a specific clinical picture is essential to our notions of disease, I think it may well be doubted if various conditions recognised in the domain of general medicine have any more claim to the title than katatonia. Since the days of Kahlbaum and his school katatonia has been classed as a distinct variety of disorder by a large number of alienists. Whilst not disposed to class it thus myself I think it has as much claim to be so treated as certain of the varieties of insanity the claims of which are recognised in the article to which your annotation refers.

I am, Sirs, yours faithfully,
E. GOODALL.

Carmarthen.

THE CARBON FACTOR IN THE GENESIS OF GOUT.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Feb. 11th (p. 348) Dr. D. F. Shearer contributed an article entitled "Carbonic Acid as a Factor in the Genesis of the Gouty State." This article is noteworthy in that it directs attention—for the first time, so far as I know—to a retardation of carbonaceous excretion as the fundamental factor in gout. The writer argues that in the gouty the intake and absorption of carbonaceous material are excessive as regards the amount of physical exercise; that consequently the arterial blood is flooded with carbonic acid; that this excess of carbonic acid is responsible for the retention in the blood of uric acid which is known to occur in gout; and that the salutary influence of physical exercise in the gouty depends upon the increased exhalation of carbonic acid from the blood. A weak point in this hypothesis is that exercise increases, not only the exhalation, but the production, of carbonic acid.

Further than this, the argument rests upon the assumption—widespread but premature in my opinion—that carbonaceous material absorbed from the alimentary canal is of necessity katabolised or anabolised. Normally the blood is relieved of its carbonaceous material mainly by the capacities of the nitrogenous tissues for katabolism and anabolism; but we have no warrant for assuming that these capacities are invariably adequate for the task. Indeed, it seems a larger assumption to postulate an invariable adequacy than an occasional inadequacy.

Now an inadequacy of carbonaceous metabolism, even though slight, would lead to an accumulation of carbonaceous material of some kind in the blood. And if this be granted a large number of observations (experimental and others) could be adduced to show that such an accumulation leads to deficient renal excretion of uric acid. The result would be the progressively increasing uricæmia which is known to antecede the paroxysm of articular gout. Such would eventually involve extravascular deposition of a portion of the uratic load; and should this occur, as commonly happens, in some structure such as a joint which is capable of responding by acute inflammation to the irritation of the urate then we should have a paroxysm of acute articular gout. On this view the mechanism and influence, not less than the causation, of [illegible] Acute arthritis involves pyrexia; [illegible] combustion and so disperses the [illegible] the dispersion of the carbonaceous accumulation releases the uric acid accumulation and permits of free renal elimination; through renal elimination the blood recovers its solvent power and reabsorbs the extravascular deposits of uric acid. Thus is established convalescence not only from the arthritis but also from the condition of depraved general health which so commonly antecedes the arthritis and which is concurrent with the double progressive accumulation referred to. As Mead long ago said, "Gout is the cure of gout."

I believe that a progressive carbonaceous accumulation is *a common humoral factor of disease* and leads under varying conditions to various paroxysmal affections (amongst them acute articular gout), most of which result in relief from the carbonaceous accumulation.

I am, Sirs, yours faithfully,
FRANCIS HART.

Feb. 27th, 1905.

OLD EPSOMIANS AND THE JUBILEE OF EPSOM COLLEGE.

To the Editors of THE LANCET.

SIRS,—May I through your columns make known to old Epsomians generally (a very large percentage of whom enter the medical profession) that the Epsomian Club, in conjunction with the present head master, Dr. Hart Smith-Pearse, are arranging to commemorate the jubilee year of the school (1905) by [illegible] a register of old boys and their various professio[illegible]her with a brief sketch of the hist[illegible] and other items of interest?

Some dozen or so of us have undertaken the task of collecting the necessary statistics and circulars have been sent to all those whose addresses we can find. There are many hundreds of old boys, especially those who joined the College in its earlier years, whom we cannot trace and therefore I venture to ask, through your columns, any old Epsomians who have not received any intimation and who know the addresses of any old school fellows, especially those who have not entered the medical profession, to be kind enough to send me a postcard so that we may get into communication with them.

I am, Sirs, yours faithfully,
PERCIVAL TURNER.

4, Adam street, Adelphi, London, W.C.,
March 13th, 1905.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

To the Editors of THE LANCET.

[illegible] authorised him to send a report to your columns. He now writes to me expressing his regret that the substitution of the word "two" for "three" should have occurred as a purely accidental error in transcribing. I desire to be associated with his regret.

I am, Sirs, yours faithfully,
ROBERT JONES,
Honorary General Secretary of the Medico-Psychological Association of Great Britain and Ireland.

March 14th, 1905.

SHIFTING DULNESS IN PLEURAL EFFUSION.

To the Editors of THE LANCET.

SIRS,—Mr. Rickman J. Godlee's paper on Shifting Dulness, which appeared in THE LANCET of Feb. 25th, p. 480, though written primarily from the surgical point of view, invites comment from a physician. Mr. Godlee implies, and in your leading article upon his paper in the issue of March 4th you definitely assert, that "it is generally taught that the dulness due to a pleuritic effusion or to an empyema shifts with position under the influence of gravity." I should not have thought this to be the case but, on the contrary, I should have supposed it to be now generally accepted that the level of dulness in simple pleural effusion, whether serous or purulent, did not readily shift with position. I certainly have taught this for many years and in my book on "Diseases of the Respiratory Organs," p. 659, I write as follows:—

> *Alteration of percussion lines with position.*—In cases of hydropneumothorax, i.e., where air and fluid are present together in the pleura, it is very easy to [illegible] place quickly as the patie[illegible] to the sitting posture; b[illegible] strate this change when [illegible] indeed does take place, b[illegible] tion is to be found in t[illegible] forms although the lung [illegible] its own elasticity, still t[illegible] plete in those portions of [illegible] the fluid, while the rest [illegible] held up, as it were, against the action of the fluid is to some extent [illegible] the lung will not float as readily or change its [illegible]

[illegible] does not shift in front or [illegible]o do so behind, for it is at [illegible] lapse of the lungs is most marked. If these facts are not yet generally recognised they have, at any rate, been long enough known, as the following quotation from Fagge[1] shows:

> A circumstance which has long attracted the attention of clinical physicians is that temporary changes of posture of the patient often fail to alter the position of the liquid within the chest so far as one can test by percussion.

The answers sometimes given by students in examination, if they may be taken as any indication of the views of their teachers, seem to justify the conclusion drawn by Mr. Godlee that the teaching on this point is in some quarters not by percussion remain the same both in the erect and recumbent position. No doubt this is in part due to the comparative flatness of the arch of the diaphragm in front, but it is chiefly the effect of the action of the abdominal muscles which in the erect position contract and thus support the weight of the liver and the heart and prevent them from falling. Where the abdominal muscles are greatly relaxed or very weak it is probable that these organs may fall in the erect position and the upper limit then descend.

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[1] [illegible]es of Medicine, 1889, p. 916.

It is, as Mr. Godlee says, useless to percuss out the abdominal viscera when the patient is standing up, but I do not agree with the explanation which he gives—viz., that there is in the young and healthy adult not much gas in the small intestines and only a moderate amount in the stomach and large intestine. The true explanation is to be also found, I believe, in the contraction of the abdominal muscles, which is of itself sufficient to give an impaired or even a dull note. I remember an excellent illustration of this being given by an acrobat who exhibited himself in the theatre at St. Bartholomew's Hospital. He was able to dislocate most of his joints by muscular action and could wriggle through a hoop only just large enough to go over his head. He was able also to produce a phantom tumour in the abdomen as large as his head. Percussion over this was quite dull and the dulness was evidently due to contraction of the abdominal muscles. When the abdominal muscles are large and well nourished, as in the young healthy adult, their contraction in the erect position would rob abdominal percussion of any value. In overfed dyspeptic persons with pendulous belly and ill-nourished muscles the difficulties of percussion in the upright position though decreased by the want of tone in the muscles would be increased by the amount of fat in the abdominal walls. So that in any case abdominal percussion in the erect position would be misleading.

I am, Sirs, yours faithfully,

Wimpole-street, W., March 6th, 1905. SAMUEL WEST.

THE GOUTY DIATHESIS.

To the Editors of THE LANCET.

SIRS,—As it appears from Dr. S. A. Arany's letter published in THE LANCET of March 4th that he has misunderstood the aim of the experimental investigations recorded in my paper in your issue of Feb. 11th, and also my estimate of the significance of their results, perhaps you will kindly allow me to make these points clear. It is generally admitted that an excessive meat dietary is prejudicial to gouty individuals, the reason usually assigned being the large amount of uric-acid-forming bodies in this diet. As a result of a long series of laboratory investigations I was led to conclude that uric acid does not play the important etiological rôle in the production of gout that is commonly supposed and in this connexion it is of interest to note that this teaching of the laboratory is in harmony with the views expressed by some leading clinicians of wide experience in this disease. In a recent paper[1] I submitted a summary of the facts obtained in these investigations and I suggested that the present position of our knowledge of gout made it advisable to prosecute inquiry along the following lines: (1) to ascertain the effects of a special dietary—e.g., an excessive meat diet—on the economy; and (2) to test the validity of the view that there is an infective element in the disease. In pursuance of this inquiry I fed a number of fowls on a diet of meat and water. Fowls were selected as being subjects relatively prone to over-production of uric acid in the tissues. I later made a series of similar observations on rats, whose normal diet more closely resembles that of the human subject. In neither series was there any deposit of urate of soda; in both very striking changes were induced in the thyroid glands. Dr. Arany states that this result proves nothing regarding gout. I quite agree with him. My point is that the facts are most suggestive and it appears to me that they justify the suggestion that in people who persistently take an excessive amount of meat or whose forbears have over-indulged in this direction there may be present a condition of thyroid gland which is different from that of healthy individuals and, further, that this difference may have something to do with the gouty diathesis. Dr. Arany lays stress on the facts that gout is found in subjects who have never been large consumers of meat and may even be met with in patients who are practically abstainers from a meat diet. These may be regarded as well-established facts in the disease but I submit that a deeper insight into the significance of these facts may lead to their being correctly regarded as important evidence in favour of my theory. No definite statement on this point can be made until we ascertain the condition of the thyroid and the forms of its functional activity in the cases referred to by Dr. Arany.

Your correspondent states that in a series of almost 400 cases of gout he "did not observe in a single case any symptoms which could have related to changes in the thyroid gland." This statement implies two assumptions which call for comment. It presumes a precise knowledge of the functions of the thyroid gland and also a comprehensive grasp of the changes induced in the economy by a diminished secretion (hypothyroidism), excessive secretion (hyperthyroidism), and perverted secretion of the gland. With regard to the first assumption, I would point out that recent works (Jeandelize, Swale Vincent and Jolly, and others) have shown that our knowledge of the physiology of the gland is very incomplete. With regard to the second assumption, it is probably not too much to say that all clinicians who have devoted special attention to the subject of the thyroid gland in its clinical and therapeutic aspects are of opinion that a knowledge of the changes induced in the system by alterations in the character of the thyroid secretion still remains one of the most important desiderata in our medical knowledge. In these circumstances one is perhaps justified in hesitating to attach much scientific value to Dr. Arany's pronouncement on the results of his clinical experience regarding a relation between gout and the thyroid gland, and it may not be unreasonable to hope that a record of fresh and important facts, which show the possibility of such a relation, may lead clinicians who have shared his experience to extend the area of their observation, and closely to scrutinise the facts that lie within their purview, in order to obtain positive evidence for or against the existence of the suggested relation.

I am, Sirs, yours faithfully,

Edinburgh, March 6th, 1905. CHALMERS WATSON.

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[1] Brit. Med. Jour., Jan. 21st, 1905.

THE INTRUSION OF THE LAYMAN INTO MEDICAL PRACTICE.

To the Editors of THE LANCET.

SIRS,—May I be allowed to draw attention to some points raised by the letter in THE LANCET of March 4th from Messrs. Allen and Hanbury? The particular case mentioned can no doubt be dealt with by the gentleman whose letter called forth their reply but in the latter half of their letter Messrs. Allen and Hanbury write as if thereby they dispose of the whole question. I venture to think that there is more to be said. No one can blame Messrs. Allen and Hanbury for opening "a department of business" at the request of leading members of the medical profession. That they should carry it on—with a costly plant requiring constant expense to keep it up to date and an assistant paid we hope an adequate living wage, and all this at "an entirely insignificant profit"—seems worthy of commendation from all but shareholders. This "department of business" is described as an endeavour to assist the profession in "mere mechanical and subsidiary matters." It is admitted that it includes not only the taking of x ray negatives but also exposures for treatment. The assistant who does the work has no medical qualification. The necessity for medical training in the making, and especially in the interpretation, of x ray negatives is obvious enough to all who are conversant with the subject. The therapeutic use of x rays should certainly be in the hands of medical men who have given time and study to the subject. It is beside the mark to say "under the direction of the medical man," for unless himself well versed in the detail of the work he is entirely in the hands of the person to whom he intrusts it. As to the "presence of" the same, it would be interesting to know how often the medical man attends the numerous sittings necessary. Then as to the establishment of such a "department of business" by a commercial firm. Why should it be called for at all—even if conducted on the almost philanthropic lines of Messrs. Allen and Hanbury? It is open to the profession, as they kindly point out, to "take patients to professional brethren who practise radiography," "but several have told us that they object to do this." They might have said "many" object—it is a matter of common knowledge; but I have never heard an explanation from anyone whose opinion was valuable from the side of those who prefer to take their x ray work to non-medical people rather than to their "professional brethren who have made a study of the subject."

I am, Sirs, yours faithfully,
F. HARRISON LOW, M.B. Aberd.
Henrietta-street, W., March 7th, 1905.

IRRIGATION IN PERFORATED GASTRIC AND DUODENAL ULCERS.

To the Editors of THE LANCET.

SIRS,—In the recent correspondence upon duodenal ulcer marked difference of opinion has been expressed as to the advisability of irrigation in operations for ruptured ulcers. The same difference of opinion was evident in the discussion which followed a paper on 50 Consecutive Cases of Perforated Gastric and Duodenal Ulcer which I read before the Royal Medical and Chirurgical Society in November, 1903. Since that time I have carefully studied the question of irrigation in cases upon which I have operated personally or have seen others operate and I have come to the conclusion that irrigation is advisable in all cases of acute perforation, whether operated upon early or late, and for the following reasons. Firstly, the mortality has been lower in those cases treated by general irrigation at St. George's Hospital during the last two years than in those treated without irrigation. Mr. G. R. Turner has already referred to a series of 12 cases of ruptured gastric and duodenal ulcer with nine recoveries; in these cases thorough irrigation of the peritoneal cavity was a prominent feature in the treatment. Secondly, complications have been far less frequent in cases in which irrigation has been employed and this is a very trustworthy test of the extent to which the peritoneal cavity has been cleansed. Thus in three cases upon which I have operated recently three and a half, five, and seven hours respectively after perforation, and in which I flushed out the peritoneal cavity with some 10 to 20 pints of saline solution, convalescence was absolutely uninterrupted. Thirdly, I have not yet seen a case in which the abdomen was opened above the pubes without a large quantity of turbid fluid being found in the pelvis even in the earliest cases. It seems to me that the thorough removal of this fluid, which can only be effected by sponging and irrigation, must greatly assist in the patient's recovery. Further, this proceeding will lead to the formation of far fewer adhesions in the pelvic cavity—a matter of especial importance in females. In two instances I have met with severe dysmenorrhœa and sterility following directly upon perforation of a gastric ulcer in which no attempt was made to cleanse the pelvic peritoneum. In each case the pelvic organs were felt bimanually to be firmly matted together.

These facts appear to me to form a strong argument in favour of thorough irrigation in these cases.

I am, Sirs, yours faithfully,
Grosvenor-street, W., March 7th, 1905. T. CRISP ENGLISH.

CHLORÆTHOFORM.

To the Editors of THE LANCET.

SIRS,—It is not in our province to express any opinion of our own on a therapeutic or pharmacological question, but we may be permitted to point out that the statement that chloroform prepared from alcohol is superior as an anæsthetic to chloroform prepared from acetone is by no means generally accepted by medical authorities. Some eminent surgeons use regularly the chloroform prepared from acetone and a vast number of general practitioners find [illegible] have been told [illegible] ed chlor- æt[illegible] the pure ace[illegible] can be detected in the behaviour of a mixture containing 0·25 per cent. of ethyl chloride from that of pure chloroform, it seems highly improbable that a mixture containing only 0·05 per cent. can comport itself differently from pure chloroform. Yet 0·05 per cent. is all that is alleged to be present in chloroform prepared from alcohol. It may further be noted that Mr. H. Finnemore and Dr. J. Wade in their communication to the Chemical Society[1] do not describe how their chloroform was prepared or give evidence that chloroform formed from ethyl alcohol must necessarily contain ethyl chloride. In some samples of alcoholic chloroform we have not been able by the usual analytical methods to detect ethyl chlori[illegible] present at all, in ver[illegible] up to the present t[illegible] adduced to establish the views favoured by Mr. Finnemore and Dr. Wade.—We are, Sirs, yours faithfully,

Edinburgh, March 6th, 1905. J. F. MACFARLAN AND CO.

ANTHRAX AT NÜRNBERG.

(FROM A SPECIAL CORRESPONDENT.)

A VISIT to Nürnberg on the way through from Geneva to Berlin has given a good opportunity of studying on the spot the method of steam disinfection as a preventive against anthrax, on which Dr. T. M. Legge will be giving full information in the Milroy lectures this month. Nürnberg is a town of 285,000 inhabitants, including amongst others many brush and bristle factories. By far the largest concern in this line is the "Vereinigte Pinsel Fabriken," which has combined the chief brush factories, and in one of these is a complete steam disinfecting apparatus through which all the raw material used in this company's works is passed before undergoing any other treatment. The apparatus is to all intents and purposes a Washington-Lyons disinfector, built into a wall so as to divide the infected in-take room from the non-infected out-take room in our ordinary disinfecting installations. It is made by Rietschel and Henneberg of Berlin and Dresden. The disinfecting house is a small separate building, surrounded by air on all sides and fed by steam at a pressure of two atmospheres from the same boilers which supply steam for treatment of the material at a later stage at a pressure of eight atmospheres. The disinfecting house is well ventilated directly by doors and windows as well as by more elaborate inlets and outlets, the air entering by inlets near the floor being warmed by the radiators which maintain the general warmth of the two rooms. The door of the apparatus, which is eight feet high and fastened by eight strong screw bolts, is opened on its hinges and the cage is run out on wheels. The bundles of bristle are loaded on the transverse trays, which slide in one above the other, the material likely to afford resistance to the penetration of the steam being opened out, while some packets wrapped up in paper are slashed with a knife. In the midst of one of the lightest bundles is stowed away an *electric contact thermometer, in which the contact of* two halves of a sphere, one half fitting into the other, is prevented by an axial cylinder inside them composed of fusible metal which melts at 103° C. and then allows contact, notifying the fact by the ringing of a bell outside the apparatus. The caged bales are protected from moisture condensing out of the steam by a metal roof and between this metal roof to the cage and the outside metal of the disinfector the steam is eventually let in, being thus well distributed through the chamber. Two maximum thermometers are hung in the interior to record for trade purposes the highest temperature reached during the process. While the cage is wheeled out on metal runners a glimpse into the air-jacketed chamber shows its lower part occupied by horizontal radiators which warm up the chamber by dry heat so as to prevent condensation of moisture when the steam is admitted, for moisture and a high temperature are both alike injurious to the bristles. The cage, fully loaded, is now run in, the door is closed and bolted, and after any time from one to three hours, as may be convenient to the staff, steam, sent across from the boilers at a pressure of two atmospheres, is admitted to the disinfector. An outside manometer shows when the pressure inside reaches the limit of 0·15 atmospheres required by imperial regulations and the ringing of the bell records the fact that a temperature of 103° C. has been attained in the interior of the bundles inside. Not until both these records have been obtained, after a period varying between 17 and 27 minutes from the start, is the electric circuit broken by hand so as to stop the bell ringing, and the actual time is recorded in a book as the time at which disinfection began. A current of superheated steam is now flowing through the apparatus, guarded by a safety valve, and at the end of half an hour the time is again recorded in the book and the steam is turned off from the chamber and on again through the pipes which keep the chamber warm. The disinfected material is thus allowed to cool down gradually for from two to seven hours, while steam is replaced by warm air; and, finally, the further door is opened, the cage is run out into the non-disinfected room and unloaded in safety by the workmen who have cast off the washable overalls in which they loaded the infected material and washed their hands and faces in soap-and-water and disinfectant. The overalls are sterilised each time. This process is repeated with fresh material every morning; two workmen are sufficient for the work, and the average cost comes only to four marks per 100 kilos, about 2*s.* per hundredweight—a quite insignificant amount. Small factories in the city disinfect their material in the disinfectors erected by the city authorities to serve both this purpose and also that of disinfection in cases of other infectious diseases. Here the cost to the owner is five marks per 100 kilos. Full and detailed investigation by the Imperial Health Office in Berlin is said to have proved the complete efficacy of this procedure in killing even anthrax spores. The procedure has been in vogue in these factories owing in some degree to demands from the workmen, since the promulgation of rules to this effect by the city in 1895. It was not, however, till 1902 that the Imperial Government issued an order on the subject; and in this Imperial order only foreign material is subjected to disinfection.

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[1] Journal of the Chemical Society, July, 1904.

But the proof of the pudding is in the eating, of the spore in the pathology. Have these regulations diminished the number of cases of anthrax? To determine this question it was necessary to consult the Statistical Bureau, which referred to annual reports for its tables of mortality, and the police-office which turned up a memorandum in MS. as to the cases notified. The results thus obtained are the following:—

—	Cases.		Deaths.	
	Men.	Women.	Men.	Women.
1888...	1	—	1	—
1889...	—	—	—	—
1890...	3	—	1	—
1891...	1	1	1	—
1892...	1	—	1	—
1893...	4	1	—	—
1894	4	1	1	—
City Regulations introduced.				
1895...	1	3	—	2
1896	3	2	1	1
1897...	1	1	1	1
1898...	12		—	—
1899				
1900...	?		—	—
1901...	?		—	1
Imperial Order issued.				
1902	?		—	—
1903...	?		—	—
1904...	?		1 ?	—

All cases are notifiable by all medical men diagnosing the condition, but unfortunately these notifications for the last seven years have simply been filed and never compiled, still less published, and the office will have very great trouble in sorting them out, which, however, the staff hope to be able to do as a result of to-day's visit, although it may mean a fortnight's work. It is incredible that in a town of such size and importance the wider value of notification should be absolutely squandered on an office file. But problems of public health are not dealt with on far-seeing lines in most continental towns of my acquaintance.

The police secretary was of the opinion that a certain number of cases had been notified during the past few years and the 12 cases in 1898–99 do not look as if the number had been decreased by disinfection. Moreover, he was inclined to believe that many cases had passed unnotified. It appears that in the early "nineties" only two medical men in the town interested themselves in the disease and many cases may have passed unnotified. Since then the disease is well recognised, even by workmen; but it is also well treated in an early stage by every practitioner and when a local pustule has been simply excised without any general symptoms or unfavourable circumstance the case will not improbably escape notification, especially seeing that the duty of notification is not so generally recognised on the continent as with us, even by many of the medical profession who openly plead the interests of the patient as opposed to those of the State. It is quite likely, therefore, that the total number of cases has not diminished since the introduction of steam disinfection. But there is no gainsaying the mortality figures, which show only one certain and one doubtful death during the last seven years. In addition to this may be added the statement of the director of the large factory already referred to that they have not had a single case of infection since the introduction of their steam apparatus and the general statement of the superintendent of the hospital, who till last year was also Stadt-arzt with many of the functions of a medical officer of health, that there had been no case notified or under treatment in the hospital in recent years.

THE EPIDEMIC OF SCARLET FEVER AT NORTHAMPTON.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

Northampton, March, 1905.

THERE has been an epidemic of scarlet fever at Northampton which presents some peculiar features. The population of the town must now amount to a little over 90,000. This is equal to a very small fraction under five persons in each house and 26 inhabitants per acre. Thus, except it be in certain localities, the town cannot be said to suffer from overcrowding. Indeed, the death-rate is very low and in the last report published, which is for 1903, it is estimated that though the average death-rate for the previous ten years was 15·6 per 1000 the death-rate for 1903 was only 13·5 per 1000. At the same time it must be noted that the birth-rate did not exceed 24·4 per 1000. This is the lowest birth-rate on record. In 1893 the birth-rate was 30 per 1000; in 1895, 31·5 per 1000; and since then it has steadily decreased. The cause of this fall in the birth-rate is not to be ascribed to a decrease in the frequency of marriages; it is wholly due to a reduction in the fertility of marriage. In 1891 100 families produced on an average 26 children and ten years later the average was 22 children. Though such reduction in the birth-rate accounts in a measure for the low death-rate there has also been a reduction in the proportion of deaths of the infants born—namely, 137·2 deaths per 1000 infants under one year of age, and this is a low rate for Northampton. Thus, and taken altogether, it may be said that the vital statistics testify to satisfactory and to improving conditions. Nevertheless there has been an extraordinary prevalence of scarlet fever. The epidemic has slowly developed itself and has now entered upon its third year, though it is showing evident signs of abatement.

During the first quarter of 1903 there were 129 cases of scarlet fever notified, resulting in a case mortality of 2·3 per cent. During the second quarter the number of notifications —127—was almost the same but there were 5·5 per cent. of deaths, and in the third quarter 139 cases resulted in 4·3 per cent. of deaths. This is in all 395 cases for the first nine months of the year; and now the more serious development of the epidemic began, for there were 269 cases notified during the last quarter of the year. On the other hand, the proportionate mortality fell to 2·9 per cent. of the cases. Evidently matters were not likely to improve in 1904 and, indeed, there ensued a much more serious epidemic. But, and before dealing with this, it is instructive to look back for ten years so as to realise the hold which this disease has on Northampton. The only two years that can be compared with 1903 are 1897 and 1898, when there were 866 and 731 cases of scarlet fever notified. This was equal to an attack rate of 14·2 and 11·9 per 1000 of the population. In consequence of the increase of the number of inhabitants the attack rate for 1903 is only equal to 7·36 per 1000 These were the three worst years during the decade from 1894 to 1903 It is true that the attack rate was nearly as bad in 1894—namely, 7 03 per 1000 but in 1895 it amounted to only 4 4, in 1896 to 6 3 in 1899 to 5 5 in 1900 to only 1 5, in 1901 to 1 96 and in 1902 to 1 82

In 1904 there have been no less than 2224 notifications of scarlet fever or 24 3 cases per 1000 of the population It will be seen how very much this exceeds all previous records Fortunately the reduction in the proportion of deaths is as remarkable as the increase in the proportion of cases The deaths, which amounted to 4 7 per cent of the cases notified in 1897 and to 5 5 and 4 3 per cent of the cases notified so recently as the second and the third quarters of the year 1903 were only equal to 1 8 per cent of the cases notified in 1904 The argument that the proportionate mortality is less because the notifications are more rigorously enforced and more complete hardly applies in the present instance Within the last ten years or so there has been no particular alteration in this respect The practice of notifying such a disease as scarlet fever was fully established more than ten years ago and had become quite a habitual custom

The first great difficulty that arose as the fever spread was to find room for the isolation of so many patients In 1902 when only 161 cases of scarlet fever were notified, 73 2 per cent of the patients were removed to the isolation hospital In 1903 however when 662 cases were notified the proportion removed to the isolation hospital fell to 60 1 per cent Finally, in 1904 out of the 2224 cases notified only 746 patients could be taken in at the fever hospital This great discrepancy between the number of cases and the number of patients isolated raises *the question as to the rules or principle adopted in deciding* as to who should be allowed to remain at home and who should be taken to the isolation hospital The conditions governing such choice were laid down in 1903 and the following are [illegible] e the patient if [illegible] The proximity [illegible] finement it is well known, is most dangerous to the mother The patients are also removed when a part of their dwelling is used as a shop a workshop, or a domestic workshop Again if there [illegible] more necessary [illegible] he rooms are [illegible] patient from [illegible] n institutions such as a workhouse or barracks are at once removed Moreover the patient is taken to the fever hospital if the adults of *the family are engaged in trades likely to spread* the infection, such as laundry work tailoring, millinery the making of *underclothing*, &c Finally the children of charwomen and others are removed when the parent has to go out to work and therefore might convey the infection else [illegible]

[illegible] to t [illegible] school of the closing of schools It [illegible] ever, that the disease was not localised that it did not affect any one particular school To do any good by dealing with schools nearly every school would *have had to be closed* and some 8000 to 10 000 pupils sent home This was too serious an undertaking and as the disease was of an exceptionally mild form such rigour did not seem justifiable Of the cases recorded among school children it was noticed that the *proportion* was a little higher among those who attended the non provided schools when compared with those who attended the provided schools It would seem therefore, that the schools built by the old School Board are in a better sanitary condition or are more satisfactorily managed than those that were built by the various religious denominations The difference was very slight but very general Thus in October last out of 351 cases notified 89 4 per cent attended the provided and 90 per cent the non provided schools In November the proportion was 88 4 as against 86 3 per cent in favour of the provided schools

During the epidemic there were very many cases of so mild a character that some of them not only escaped the notice of the parents but in one or two cases even medical men in attendance did not feel themselves justified in sending a notification till the period of desquamation had been reached In other instances the desquamation was noticed at school and the pupils had been in regular attendance, no one being aware that there was anything serious the matter The probability *is that* this explains the widespread nature of the epidemic With more severe cases better care would have been taken to separate the sick from the healthy and there would have been less danger of direct infection But though such negligence may be excusable where the symptoms are very slight and obscure there were many other cases where culpable negligence occurred In a good many instances the patient though suffering unmistakeably from the fever was found lying in the living room with all the members of the family and visitors constantly going in and out The medical officer of health of Northampton Dr James Beatty seeing the immense difficulty of removing many hundred cases to the fever hospital suggested that arrangements might be made for isolation at home by boarding out the other children If houses could be *found where there were no children* the adult inhabitants might be willing to take in unaffected children from a house where a case of scarlet fever had occurred Of course the question of payment is the principal difficulty In many cases the parents would not be able to pay or at least to pay enough and it is questionable whether the sanitary authority has a legal right to employ public funds for such a purpose Then again one or more of the children thus taken in might fall ill and who in that case would pay for disinfecting and re decorating the house? This question of compensation for disturbance incurred for the protection of the public health is a phase of sanitation which has still to be dealt with When a case of infectious disease occurs the interest of the individual undoubtedly often runs counter to that of the general public To stop the business of a laundry of a milk dealer or of a *tailor is often disastrous to the individual* concerned and as there is no compensation forthcoming it is not surprising that concealment should be attempted On the other hand where there is no concealment the individual finds his business stopped his customers scared and finally he has to incur considerable expense in redecorating his home after it has been more or less devastated by the disinfectors All this trouble he endures mainly for the sake of the public, for the danger at least the immediate danger so far as it affects himself or his family has already been incurred It does seem especially when the persons involved are poor, that some *compensation should* be allowed Illness naturally entails loss and sacrifice but in some cases the isolation of the patient and the subsequent disinfection may result not in a mere temporary loss but in something like absolute ruin In such circumstances the temptation to conceal is very great and such temptation constitutes a public danger These remarks of course apply to any town but in Northampton they acquire extra force because the hospital accommodation is not sufficient for an epidemic producing more than 2000 cases in the course of 12 months When the patient can at once be removed to the hospital the interference with the business need not last longer than a few days But if there should not be room at the hospital then a laundry a tailoring establishment or any similar business might have to be stopped for several weeks and such interference might well result in the loss of custom *which had been acquired* only after years of patient attention and work Nor are such considerations so far as Northampton is concerned of a merely retrospective interest During the course of the present year there have *been* signs of abatement in the prevalence of scarlet fever but nevertheless the number of cases notified is still far in excess of the normal A few days ago no less than 280 cases had been notified since Jan 1st 1905 It is therefore probable that the figures for the first quarter of the current year will exceed 300 This is still a very high case rate Fortunately, the proportion of deaths remains very low

MANCHESTER

(FROM OUR OWN CORRESPONDENT)

Poisoned in a Sewer

ONE of those tragic occurrences often called accidents the result of incautious descent into a sewer took place on March 6th at Warrington At the inquest on the man who died the evidence showed the ignorance or folly so often seen in these cases and also the self sacrificing courage that is equally conspicuous in the rescuers. The first to go down the manhole was so affected that he came up at once. He then staggered and became unconscious but revived after a time. Evidently his escape was a narrow one. Two other men then went down. In a few minutes one of them fell unconscious. The other went to his help but was obliged to come to the surface and he, too, quickly became unconscious. Two other men then went down to the rescue but both were overcome. When Bretherton, one who had previously been down, had recovered he went down again to look for his mate and found him with the two who had gone into the sewer last lying at the bottom of the manhole. A crowd had gathered by this time and one of those assembled, James Stockton, for his name deserves mention, at once went down to render help but had in a short time to come up. However, he went down again, taking a rope which he tied round one of the men who was pulled up. Then he roped a second who was also safely drawn up. He then went down for the other man, Baxter, who was dead when brought up. It is interesting to note that when medical aid arrived some of the spectators were already using artificial respiration. The evidence seemed to show that there was a sudden rush of noxious fumes and the borough surveyor alleged that a firm in the town turned hydrochloric acid into the sewer on the morning of the accident. The verdict was "Death from suffocation caused by gas." There was no blame attached to the corporation or its servants. Great admiration of the conduct of Stockton was expressed and the coroner was asked to recommend him to the Royal Humane Society for reward. The men Baxter and Mitchell, the former of whom lost his life, were eulogised for their bravery in attempting a rescue. Such "accidents" as this just related ought to occur much less frequently than they do. The dangers of the sewers are known but no care is usually taken to ascertain if they are free from noxious gas. But this ought to be ascertained and if foul air is shown to be present it should be driven out before workmen are allowed to go down. The sudden rush of fumes from hydrochloric acid being discharged into sewers could not so easily be guarded against. But is there no better way of disposing of hydrochloric acid than pouring it into the sewers? Mere dilution with water at any rate would prevent fumes arising. The Warrington corporation was declared free from blame and there is nothing more to be said, but the Warrington corporation shares with other corporations the grave responsibility of seeing that those whom they employ run no unnecessary risk.

Human Life a Commercial Asset.

Perhaps the value of human life will come home to the multitude more easily when its money's worth is shown than when it is considered only from the moral and sentimental standpoint. Dr. W. E. Barker, the medical officer of Clitheroe, thinks that "human lives from the commercial standpoint are too valuable to England as a nation to be needlessly frittered away." That they are thus frittered away results, he considers, from the bulk of the populace being "completely ignorant of the most elementary laws of hygiene" and from the prevalence of "the most gross superstitions" as to the causation and treatment of many of the most prevalent diseases. Thousands of lives, he says, and as we all know, are lost annually "from one simple cause alone—ignorance as to the proper feeding of an infant." This is of course an oft-told tale but it should be repeated till the understanding of those who regulate the teaching in our elementary schools is impressed with the terrible results of the present unpractical system. Dr. Barker thinks the teaching of hygiene in elementary schools "would obviate this deplorable state of things." What a commentary this is on the system of education that has been dominant for 30 odd years. Children who will have to work for their living are crammed with the sort of book knowledge which is generally useless as an aid to earning their bread, while practical teaching has been almost ignored. May we hope for better things when people have ceased to quarrel over the 1902 Act?

"*Beautiful Oldham.*"

Æstheticism can flourish even in these northern regions, for the idea of beauty as something worth cultivating seems to have established itself in a town that, without much exaggeration, might be considered as rivalling, if not surpassing, any of those in the manufacturing districts in point of ugliness. But an effort is being made to brighten some of Oldham's dull places with trees and shrubs. School gardens have been instituted at a number of the elementary schools and the "Beautiful Oldham Society" is always on the look out for desolate spots of vacant land which, with the permission of the owner, are planted with shrubs. Some of the railway embankments have been treated in the same way and attempts have been made to brighten slum courts. One court had an insanitary ashpit in the centre which was removed and a little garden made in its place. The boys of the court take care of it and have great pride in their garden. Numerous other instances might be given, for the society is always active. Smoke, as we know too well, is one of the greatest difficulties met with by those who seek to render the grimy northern towns less ugly and more wholesome and the society is doing valuable work in directly and indirectly lessening the smoke nuisance. Of course, the society has been ridiculed, for the idea of beautifying Oldham appeared too absurd for imagination, but the movement has received the flattery of imitation, similar organisations having been founded in several Lancashire and Yorkshire towns and "inquiries have come from places so remote as Newcastle." Something may be hoped for in the increasing use of gas for heating purposes and still more, perhaps, from the use of electricity for the diminution of smoke, but there is still a good deal of prejudice and a clinging to old methods which has gradually to be overcome.

A Child Hero.

It has not been told us by those who have studied the life of the child at what age altruistic courage begins to show itself. The following case, reported in the *Manchester Guardian* of March 9th, seems deserving of notice. At the Blackburn police-court on March 8th the Mayor handed to James Nield, aged five years, the testimonial on vellum of the Society for the Protection of Life from Fire "in recognition of his conspicuous bravery" in rescuing a younger brother (aged two years) when their home was burned down. They were sleeping together, no one else being in the house, when James awoke to find the bed in flames. He dragged his brother down to the kitchen below, where they stayed till the ceiling was burned through. The elder then unfastened the back door and took his brother into an outhouse, where they remained till found by the neighbours. The boy had his wits about him and remained cool in very trying circumstances and his whole conduct is remarkable in a child of five.

March 14th.

WALES AND WESTERN COUNTIES NOTES.

(From our own Correspondents.)

Cardiff Infirmary.

The energy displayed during the past few years by the board of management of the Cardiff Infirmary has resulted in placing that institution among the best managed and best equipped in the country. In an appeal made five years ago the board pointed out that certain improvements and extensions were absolutely necessary and the cost of each was set out in some detail. These have at length all been completed at a cost of £17,822, towards which sum about £12,000 have been contributed. There are now 178 beds available for patients, or 50 more than were in use in 1900. In spite, however, of this increased accommodation there are still usually about 200 patients, including 100 children, awaiting admission. At the annual meeting of the governors of the infirmary held on Feb. 28th it was stated that the expenditure in 1904 was £13,130 and the income £11,477. The average daily cost per bed in 1904 was 9·4*d*., compared with 9·65*d*. in 1903. The number of patients treated in the wards in 1903 was 1919 and in 1904 it was 2144. Of the latter number 1164 were in the surgical wards, 303 in the medical wards, 428 in the ophthalmic wards, and 249 in the gynæcological wards. Owing to the increased and increasing work of the infirmary it has been found necessary to appoint an additional house surgeon so that the resident medical officer is now assisted by a house physician and two house surgeons.

Public Mortuary for Cardiff.

It is nearly five years since the Cardiff corporation decided to build a public mortuary and obtained the sanction of the *Local Government Board to* borrow £1500 for the purpose. Delay occurred in obtaining land but the buildings have now been completed. They are situated in a street off the Penarth road and include one room with accommodation for seven bodies and another for three bodies. In the latter there is a large inspection window through which bodies can be viewed for the purpose of identification and by jurymen. There is in connexion with the buildings a well-arranged *post-mortem room* which is provided with a revolving post-mortem table made of Doulton ware.

Swansea General Hospital.

At the end of last year the board of management of the Swansea Hospital had seriously to consider the financial position of the institution. Compared with three years ago the indoor patients had increased by nearly one-third but the available income had not shown a corresponding expansion. There are 133 beds in the hospital and there are nearly always more than 100 occupied, in some weeks the daily number of patients averaging 125. The board decided to make an appeal for more support and to leave the governors to decide as to the propriety of closing one of the wards. The result of this decision has been that at a meeting held on March 1st the financial report was so satisfactory that it was resolved to keep all the wards open. The working men of the district have been approached and they are to be asked through their trade union lodges to contribute one penny weekly per man to the funds of the hospital. The management of the hospital is by no means extravagant for the average annual cost per bed is only £60. The only adverse criticism which the board of management has had to meet is the statement that patients are admitted for treatment who are well able to pay a general practitioner. This is a matter which might properly be inquired into by the medical men in the town.

A County Medical Officer of Health for Somerset.

The question of appointing a medical officer of health for the county of Somerset is again being discussed and at a meeting of representatives from rural district councils held at Taunton on March 2nd a motion was carried deprecating the appointment of such an official and expressing the opinion that "the present arrangement by which each of the rural and urban districts in the county is under the supervision of a qualified medical officer of health secures a sufficient oversight of the sanitary arrangements of the county from a medical point of view." As a commentary upon this proposition and to illustrate the manner in which some of the Somerset councillors desire to administer the Public Health Acts an account may be given of the proceedings at a special meeting of the Glastonbury town council held to consider the advisability of prosecuting in the case of a boy who, it was alleged, in spite of being warned by the sanitary officers and whilst in the infectious stage of scarlet fever, was delivering turf from house to house. One councillor said he was afraid that if the case was reported in the papers it would have a pre [illegible] the town and an alderman [illegible] keep these things the bett [illegible] prosecute but the medical officer of health was instructed to explain to the magistrates that the council did not desire to press the case.

Hospital Sunday Fund at Bristol.

Up to the present time £1957 have been received as the result of the collections on Hospital Sunday which was recently observed at Bristol. This amount is £221 in excess of the total for 1904 and is £178 beyond the highest previous collection. There have been 396 collections in various places of worship in Bristol and the neighbourhood for the fund this year.

March 13th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish Medical Association.

THE report of the gentleman who was employed by the Irish Medical Association to investigate the grievances of medical officers in Ireland has never appeared in full, while the portions of it which have appeared in the public journals have caused much adverse comment, inasmuch as it would appear that they referred to matters out of the range of the terms of reference. It *contained criticisms* on the Royal Colleges which were entirely uncalled for. Sir William Thomson and Sir Thomas Myles have both written and spoken strongly on the subject, and at *a meeting of the* council of the Irish Medical Association a motion was adopted dissociating from the council's *programme* "with no uncertain voice all the offensive statements in the report which refer t [illegible] Physicians and the [illegible]

Mr. R. M. Blake, m [illegible] dale district, Co. Louth, member of council of the Irish Medical Association and vice-president of the Poor-law *Association* of Ireland, has written to the Irish daily papers of March 13th *demanding the publication of Surgeon-*General G. J. H. Evatt's report on the best means of reorganising the Irish Medical Association. He points out that Surgeon-General Evatt was asked by the Irish Medical Association to prepare such a report, he on his side bargaining that it should be published in its entirety. Mr. Blake says that the ostrich policy will not do and in common with many other members of the association he demands the *publication of the full document.*

Dublin Sanitary Association.

The annual general meeting of the Dublin Sanitary Association was held on March 2nd in the hall of the Royal Dublin Society, Leinster House. The report which was read noted the fact that infant mortality in Dublin had shown no diminution, while the number of deaths in infants in whose case no cause of death had been certified was still very large. As regards tuberculosis it was stated that voluntary notification had not proved successful—"it must be no notification or compulsory notification" being the words of the report.

Health of Belfast.

Between Jan. 22nd and Feb. 18th 187 cases of zymotic disease have been notified—viz., 55 of scarlet fever, 38 of simple continued fever, 34 of diphtheria, 32 of erysipelas, 20 of typhoid fever, four of puerperal fever, and two each of small-pox and membranous croup. The cases of scarlet fever are very mild and typhoid fever is rapidly diminishing. Diphtheria is increasing and though measles is prevalent the deaths are not numerous. Only two cases of small-pox have occurred during the month. The number of cases of small-pox admitted to Purdysburn Isolation Hospital since the beginning of the outbreak has been 191; of these 168 have been *discharged convalescent, nine have died*, and 14 *remain* in hospital. In the reception house for "contacts" 672 persons were admitted during the same period and of these only 12 at present remain. This small-pox outbreak—a preventable disease—has cost the ratepayers of Belfast £5000. The annual death-rate for Belfast was 22 per 1000 for the past four weeks.

Poor-law Reform: the Tramp Nuisance.

Dr. J. S. Darling, medical officer of Lurgan workhouse, has drawn up a report which a committee recommended the *guardians to adopt and which stated that* tramps might be roughly divided into three classes:—1. The professional tramp who never was and never meant to be anything else, who cohabited with a woman of the same class, and whose children *necessarily grew up to the same class.* 2. Persons who, having formed drunken, lazy habits, would not remain in any employment and whose tendency was to fall more and more into the first class. 3. Those who were really seeking work and ought to be helped. The problem confronting the State was, he considered, that of compelling the idle class to cease to be parasites on the industrious, while preventing those who had not sunk to complete vice from going lower by providing them with some means of having their habits of inc [illegible] in [illegible] inc [illegible] mode of life."

March 14th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Fracture of the Superior Maxilla.

AT the meeting of the Surgical Society held on March 1st M. Sebileau showed a patient who had had his face smashed in by the passage of the wheel of a cart. He was admitted to hospital with a comminuted fracture of the malar bone and a very peculiar fracture of the superior maxilla consisting in a complete separation of the whole of the alveolar process. For the repair of the damage M. Delair, who is in charge of all matters involving the manufacture of prothetic appliances for M. Sebileau's patients, contrived a splint consisting of an aluminium plate which fitted inside the mouth. The plate was held in position outwardly by a three-branched arrangement taking its bearing from the forehead and the occiput. The result was altogether excellent. The process united firmly and the restoration of the palatine arch was so perfect that no one examining the patient would form any idea of the extent of the injury which he had sustained.

Syphilis and General Paralysis.

At two successive meetings of the Academy of Medicine, on Feb. 22nd and 28th, Professor Fournier read an important paper upon the relations between syphilis and general paralysis and treatment with a view to prevent the onset of the latter. According to Professor Fournier the great majority of cases of general paralysis occur in old cases of syphilis. Other observers, however, consider that syphilis is not the only cause of general paralysis and in view of the fact that cases of syphilis are extremely common they consider that general paralysis is not so common as it would be were it always due to syphilis. Anyway it is an indisputable fact that in nearly every patient affected with general paralysis there is a history of syphilis and, moreover, of syphilis which has been treated improperly. Professor Fournier gave some striking statistics. General paralysis is unknown in the first two or three years of syphilis, it is common between the sixth and the twelfth year, and most common of all about the tenth year. The predisposing cause is syphilis which has not been treated at all or more commonly that which has only been treated for two or three months—i.e., until the disappearance of the secondary symptoms. General paralysis most frequently occurs in patients who have had a slight attack of syphilis and who therefore have only been treated for a short time. Professor Fournier considered that the treatment of syphilis was far from being what it should be. The disease should be treated according to a definite system. For the first two years the treatment should be intensive, then the patient should have a year's rest, then there should be another year's treatment, then two years' rest, and finally another year's treatment. If any one organ appears particularly liable to the effects of the poison of syphilis special attention should be paid to it. No treatment is of any avail for general paralysis when once it is declared and the only thing to do is to prevent the syphilitic poison from bringing about that terrible affection. On March 7th the Academy resumed the discussion and M. Raymond who spoke first said that for his part he agreed with Professor Fournier as to the enormous frequency of syphilis in cases of general paralysis. Heredity, however, played a large part by giving rise to degenerations which prepared the soil, so to speak, for syphilis to bring about general paralysis. This latter complaint was common in emotional persons in whom reflex congestive conditions were rapidly and easily produced. General paralysis had been observed even in children. M. Joffroy, on the other hand, disagreed with Professor Fournier. In his opinion there was no such thing as syphilitic general paralysis. In many countries, for instance, in Bosnia, Tunisia, Ethiopia, India, and Japan, the reports of medical men showed that syphilis attacked an enormous proportion of the population, as much as 80 per cent. in Abyssinia, but general paralysis was unknown. General paralysis, said M. Joffroy, can appear in patients who have undergone a carefully carried out mercurial course and, moreover, he had seen cases in which the mercurial treatment only accelerated the onward march of the paralysis.

A New Sanitary Committee.

The Minister of the Interior has just nominated a new committee called, "Comité Consultatif d'Hygiène Pénitentiaire," to which will be referred all questions of prison hygiene, more particularly those concerning "light labour" (*travaux aux infirmeries*), and prophylactic or hygienic measures to be taken. The committee, which consists of 17 members, includes one inspector-general of the Sanitary Service, four medical men who have already served on committees nominated by the Minister of the Interior, and two medical men in the prison service.

ERRATUM.—In the fifth paragraph of the letter from our Paris correspondent which appeared in THE LANCET of March 11th occurs the phrase, "a solution of the venom is freed from all germs, being both microbicidal and antivenomous." After the word "germs," the words "the action of radium" should be inserted.

March 14th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Licence Fees of Medical Practitioners in Calcutta.

MEDICAL practitioners in Calcutta are the victims of a peculiar form of local taxation. By the Municipal Act they are divided into two classes: (1) practising surgeon, physician, and dentist, who pay 50 rupees as a licence fee annually; and (2) practising licentiate of medicine and practising apothecary who pay 25 rupees only. It has hitherto been the practice for M.B.'s of the University of Calcutta to pay at the lower rate but the question of their liability having been raised it has been decided that they belong to the first class and that the lower rate is for persons who hold a licence from any body or university to entitle him to practise medicine. As there is no registration and anybody can hold a presumed licence to practise from any self-constituted or other worthless college the legal decision can only be considered of value for the purposes of taxation. That the licentiates of the University should be classed with practitioners who only hold bogus or other unrecognised degrees is a distinct reflection upon their training; on the other hand the difference between M.B. and L.M.S. of the University is hardly sufficient to warrant the former being overtaxed for the whole of his practising life.

Accelerated Promotion in the Indian Medical Service.

It is notified that the promotion of an officer of the Indian Medical Service to the rank of major may be accelerated if he produces while in the rank of captain satisfactory evidence of progress in any branch of knowledge which is likely to increase his efficiency, such as obtaining a higher degree, or a special qualification of repute, or by furnishing proof of having pursued with diligence and advantage serious study of an approved subject. The period of acceleration that may be granted is fixed at six months provisionally.

The New Water Supply for Rangoon.

Rangoon may congratulate itself on having obtained a pure and abundant supply of water. The new Hlawga waterworks consists of a reservoir about seven miles long and from one and a quarter to two miles wide. It is estimated to provide for a population of 650,000, at an average consumption of 25 gallons per head daily. At the present time the consumption is about 40 gallons per head and at this rate the supply is sufficient for 400,000 persons The new reservoir can be even extended much further at a comparatively trifling cost so that there is no likelihood of continuance of the scares of scarcity of water to which Rangoon has been periodically subjected in the past.

The Plague Epidemic: its Mortality and Continued Extension.

The magnitude of the plague mortality which has been recorded for some weeks past has so come to be an annual occurrence that it seems almost as if familiarity with the terrible death roll had bred contempt for it. For the week ending Feb. 11th there were recorded throughout India 33,660 deaths, as against 36,117 for the week preceding. It is curious that a small decline has been noticed in Bengal, United Provinces, the Punjab, and some other places, but by comparing the course of the disease with that followed last year it is too much to hope that it is more than a temporary set back. The outbreak in Bombay city is growing rapidly, 511 deaths being recorded, as against 395 for the preceding seven days. In Calcutta also the recrudescence is unmistakeable. Other figures of importance are as follows: United Provinces 14,438, as against 15,367; the Punjab 8419, as against 9472; Bengal 4926, as against 5150; Bombay districts 2755, as against 3161; Rajputana 799, as against 603; Hyderabad State 550, as against 526; Central Provinces 438, as against 467; Mysore State 301, as against 346; Burmah 9, as against 1; and Calcutta 106, as against 84. The outbreak at Rangoon is unfortunately increasing. It has been decided to do away with the plague segregation camp and to let the cases be treated either at the contagious diseases hospital or in private houses. This plan has been adopted to prevent a scare. This is following the experience obtained elsewhere—viz., that it is the regulations which the ignorant people become alarmed at and not really the disease. In fact, the apathy shown when the people are being decimated by cholera, plague, or small-pox is extraordinary, while the mildest regulation which causes any restriction is met by active as well as by passive resistance. It is perhaps too early to describe the outbreak in Madras as recent because the city is by no means safe from a further development. The prompt measures taken are deserving of the highest praise because they were not only energetic and stringent but liberal. There have been from time to time some 60 imported cases of plague in Madras but they have been ferreted out and appropriately dealt with and the disease has not spread. In this instance, however, a small outbreak had actually become established before it was discovered. The patients were immediately removed and the whole village, consisting of 118 huts, was burnt down. The Mauritius emigration depôt close by was probably the source of the mischief, as dead rats showing plague bacilli were discovered close to it. This depôt receives coolies from all parts of the province. Every rat burrow was dug up and every rat found was killed, while a reward of 6 pies (=½d.) per head for every rodent brought in daily bags. The displaced villagers were liberally provided for and the old site has been abandoned. The success of Madras is probably due to the fact that in the neighbourhood of this emigration depôt the population was not thick and there were not many rats, but the thoroughness of the operations was equally necessary to stamp out the disease completely. Had the outbreak occurred in the city there is every likelihood that it would have spread.

Feb. 24th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Bubonic Plague.

BUBONIC plague continues in New South Wales and Queensland. At Ulmarra, near Grafton, six cases have proved fatal. Exception has been taken by the Sydney press to the action of the Board of Health in removing plague patients from Ulmarra to the Grafton Hospital. Grafton is a sea port and the usual shipping restrictions are being enforced, ships not being allowed to come to the wharves and no produce is allowed to go from infected districts. Several cases have occurred in Brisbane and it is believed that the infection of the Ulmarra cases can be traced to Brisbane. In Victoria the Board of Health has revised the regulations for the berthing of ships and urged the importance of continued vigorous destruction of rats.

Infectious Disease in Victoria.

The returns presented to the Board of Health of Victoria for the fortnight ending Jan. 14th showed that the number of typhoid fever cases reported was 98, four of which had resulted fatally. In the corresponding period of 1904 there had been eight deaths out of 133 cases. For the metropolitan area there had been 28 cases, resulting in two deaths, as against 4 [illegible] last year. [illegible] the fortnight ending [illegible] 45 cases, 4 deaths; 1905, 52 cases, 1 death; for the metropolitan area: 1904, 15 cases, 2 deaths; 1905, 22 cases, 1 death. For the fortnight ending Jan. 14th the comparison in regard to scarlet fever cases reported in 1904 and 1905 respectively was:—For the whole State: 1904, 36 cases, 1 death; 1905, 18 cases, 1 death; for the metropolitan area: 1904, 29 cases, 1 death; 1905, 7 cases, no deaths.

Vital Statistics of New South Wales.

The Government statistician of New South Wales has published the vital statistics of that State for the year 1904. He says:

> There has been a su [illegible] marriages and births and a substanti [illegible] year the births numb [illegible] the excess over the [illegible] number of births is [illegible] year, as will be seen from the following statement of the two years 1903 and 1904 —

Births.

Quarter ending—	1903.	1904.
March 31st	8827	8,876
June 30th	9009	9,635
Sept. 30th	9001	10,209
Dec. 31st	9129	9,977

The birth rate represents an average of 26·77 per 1000 of population [illegible] statement:—

Deaths.

Quarter ending—	1903.	1904.
March 31st	4539	3884
June 30th	4040	3917
Sept. 30th	3821	3935
Dec. 31st	4097	3674

> The number of marriages celebrated in the State during the year 1904 was 10,429, which [illegible] number than was regi [illegible] 1902 alone excepted. [illegible] or 14·42 persons mar [illegible] favourably with the [illegible] preceding ten years.

Preservatives in Milk.

Prosecutions of milk-vendors for selling milk containing preservatives continue in all the States. At the Glebe court on Jan. 18th a milk distributer doing a very large business was heavily fined for selling milk which contained three grains of formalin to the gallon and added water to 8½ per cent. In two other cases of a similar character fines were inflicted. At the Newtown court several almost identical cases were dealt with.

Hospital Affairs.

An interesting account of the work of all the Sydney hospitals for the year 1904 has just been published. At the five metropolitan hospitals 72,160 patients received treatment distributed as follows:—

> Sydney 32 188; Royal Prince Alfred Hospital, 15,846; St. Vincent's [illegible] follows in Sydney [illegible] 445; Children's [illegible] 2220; St. Vincent's [illegible] Hospital, 301.

—The annual meeting of the Sydney Hospital was held on Feb. 1st, the State Governor presiding. The report was highly satisfactory and the finances appear to be sound, the income sufficing to meet the expenditure. It was stated that—

> Perhaps the highest tribute that could be paid to the members of [illegible] the fact that the total number [illegible] those [illegible] ghest [illegible] results

—The Government of Victoria still declines to allow the Kronheimer wing at the Austin Hospital to be opened for the reception of advanced cases of consumption. Instead it proposes to erect a sanatorium at Broadmeadows on an area of 300 acres of Crown land, 500 feet above sea-level and three and a half miles from the Somerton railway station. The objections to this proposal are the want of a proper water-supply and the distance of the site (about 13 miles) from the metropolis. The Premier also proposes to establish an epileptic colony on the same site.—Trouble has occurred at the Ararat Hospital (Victoria) owing to a proposal of the committee to allow the resident medical officer private practice. The honorary medical officers objected and as the committee persisted the honorary staff resigned. The committee has now requested the Chief Secretary to permit the medical superintendent and medical officer of the Ararat Hospital for Insane to visit the hospital and to administer anæsthetics when requested by the resident medical officer.

Charge of Perjury against a Medical Man; Case withdrawn.

The case adjourned from last month in which Mr. Paris Nesbit, K.C., of Adelaide, proceeded against Dr. R. E. Schlesinger of St. Kilda for perjury in signing a lunacy certificate, was resumed at the St. Kilda court on Feb. 1st. After recalling a witness Mr. Nesbit said that he had decided to proceed no further with the case as he would inflict great pain on a lady whose name had been mentioned in the proceedings and that he had attained his object by the publicity given to the methods of medical men. The police magistrate said that the only evidence touching the matter was that given by Mr. Nesbit himself and that there was nothing in the evidence to justify a committal.

Obituary.

Dr. Thomas Harrison of Granville, New South Wales, died at the age of 53 years, from spinal meningitis. He had been practising in the district for 11 years and was very popular. He was medical officer to the various local friendly and benefit societies and was a prominent member of the Masonic fraternity.—Mr. Ralph Hodgson died very suddenly at Neutral Bay, at the age of 50 years. He was a son of the late Captain C. G. Hodgson of the Grenadier Guards. Besides his active practice Mr. Hodgson took a great interest in many outside affairs. He was a marine motorist, a great chess player, and president of the Sydney School of Arts Chess Club. He was also a politician and an active member of the Reform League. —Mr. J. Harris Lawrence of Port Arlington, Victoria, was found dead in his surgery on Jan. 16th and at the inquest was found to have committed suicide by narcotic poisoning. He was 49 years old and came to the district last November from Bath where he has left a widow and five children and where his father and brother are engaged in medical practice.

Feb. 7th.

Obituary.

EDWARD ATKINSON, M.R.C.S. ENG., L.S.A., F.L.S.

Mr. Edward Atkinson, one of the oldest and best esteemed members of the profession in Yorkshire, died at Harrogate on March 1st at the age of 75 years. His father was Mr. John Atkinson, solicitor, of Leeds; his mother was the daughter of the second William Hey and grand-daughter of the more famous William Hey, F.R.S. He was educated at Leeds Grammar School and in his "teens" went to sea for some time. He then became a medical student at King's College and enjoyed the great privilege of being "house pupil" to Sir William Bowman. Shortly after his appointment as house surgeon at King's College Hospital there was a demand for some young surgeons to go out to the Crimea in consequence of the lamentable breakdown of the Army Medical Service and he was one of the chosen band, together with Mr. Hulke, Sir Spencer Wells, Mr. Christopher Heath, and others. He was attached to the hospital at Scutari where Florence Nightingale was working. In 1855 he became assistant surgeon at the British Civil Hospital at Smyrna and in 1856 surgeon to the English Hospital and the Prussian Deaconesses' Hospital at Jerusalem. Returning to Leeds in 1860 he entered into partnership with his uncle William and his cousin Samuel Hey. Mr. Atkinson was an ardent naturalist and lectured for some years on botany at the Leeds School of Medicine, where he was subsequently one of the lecturers on surgery, such changes of subject being not uncommon in those days. He served on the staff of the Leeds Public Dispensary and was surgeon to the Leeds Infirmary from 1884 to 1894, when he became consulting surgeon. He was president of the Leeds and West Riding Medico-Chirurgical Society in 1887 and of the Leeds Philosophical and Literary Society in 1885-86, to which society he was also honorary curator in zoology, and was one of the original members of the Leeds Priestley Club. He also rendered 30 years of service to the St. John Ambulance Association in Leeds and district and he was an honorary associate of the Order of St. John of Jerusalem. He made various contributions to literature both on biological and medical subjects.

Mr. Atkinson's students, of whom the writer of this obituary notice is one, remember him with very kindly feelings. A gentleman of the old school, cultured and broad-minded, a courteous and genial teacher, friend, and colleague, always ready to talk of his eastern life and travels and of the natural sciences in which he took so much interest, his loss is mourned by many to-day. He was buried at Silverdale on Morecambe Bay by the side of one of his sons who was drowned at this place in 1872. He leaves a widow and eight sons, the eldest of whom is Mr. F. E. Atkinson, medical officer of health of the Craven combined district.

JOHN FRANCIS SCOTT FOWLER, M.B., C.M. ABERD.

THE death occurred on March 3rd, at Georgetown, British Guiana, of Dr. J. F. S. Fowler, surgeon at the Colonial Hospital there. Dr. Fowler was born in St. Helena 40 years ago. He received his professional training at the University of Aberdeen, where he graduated M.B., C.M. in 1885. He was married to a daughter of Mr. David Sinclair of Aultens.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.— The deaths of the following eminent foreign medical men are announced:—Dr. Adolf Bastian, professor of ethnology in the University of Berlin, at Trinidad, whither he had gone in pursuit of his anthropological studies. He was the founder of a great popular museum in Berlin and although nearly 80 years of age he never ceased to take the keenest interest in it. He was a man of marvellous industry and of encyclopædic knowledge.—Dr. Pasquale Penta, *privat-docent* of mental diseases in the University of Naples.—Professor Andrei Vassilyevitch Chodin, who occupied the chair of ophthalmology in the University of Kieff, and for 20 years edited the *Ophthalmological Gazette*.

Medical News.

TRINITY COLLEGE, DUBLIN.—At the final examination in medicine held in Hilary term the following candidates were successful:—

Eva J. Jellett, William J. Powell, Charles R. M. Morris, Robert Magill, William Hassard, William R. Galwey, William F. Samuels, John Murdoch, Henry E. M'Cready, and Cecil Scaife.

FOREIGN UNIVERSITY INTELLIGENCE.—*Bonn*: Dr. Grube has been recognised as *privat-docent* of Physiology. Dr. Ribbert of Göttingen has accepted the invitation to the chair of Pathological Anatomy, together with the direction of the Pathological Institute.—*Breslau*: Dr. Ulrich Gerhardt of Würzburg has been recognised as *privat-docent* of Zoology and Dr. Schroeder as *privat-docent* of Psychiatry.—*Budapest*: Dr. P. Kuzmik, *privat-docent* of Surgery, has been promoted to an Extraordinary Professorship.—*Giessen*: Dr. Brüning has been recognised as *privat-docent* of Surgery. —*Gottingen*: Dr. Max Borst of Cologne has been offered the chair of Pathological Anatomy in succession to Dr. Ribbert. —*Greifswald*: Dr. Wittmaak has been recognised as *privat-docent* of Otology.—*Marburg*: Dr. Schridde has been recognised as *privat-docent* of Medicine.—*Odessa*: Dr. Bukoiemski has been promoted to the chair of Gynæcology.—*Padua*: Dr. Domenico Taddei has been recognised as *privat-docent* of External Pathology.—*Pavia*: Dr. Rosario Traina of Bologna has been recognised as *privat-docent* of Pathological Anatomy.—*Prague* (*German University*): Dr. Rudolf Fick of Leipsic has been offered the chair of Anatomy in succession to Dr. Rabl who goes to Leipsic.—*Rome*: Dr. Alesso Nazari has been recognised as *privat-docent* of Pathological Anatomy.—*Tomsk*: Dr. S. Lobanoff of St. Petersburg has been appointed to the chair of Ophthalmology, in succession to Professor Erophêieff, resigned.—*Turin*: Dr. Romeo Mongardi has been recognised as *privat-docent* of Otology and Laryngology.—*Zurich*: A professorship of physical methods of treatment is being established; also an institute where baths, electro-therapy, massage, gymnastics, &c., will be carried on.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—Mr. R. T. Newstead, who for several years has acted as external examiner in entomology in the University of Edinburgh, having previously been assistant to the famous entomologist, the late Miss Eleanor Ormerod, has been appointed lecturer in economic entomology and parasitology in the Liverpool School of Tropical Medicine.

BRISTOL MEDICAL MISSION.—The annual meeting of the friends of this institution was held on Feb. 28th. The medical report stated that during 1904 about 9000 cases had been treated. 2154 visits had been paid to patients at their own homes and there were 26,728 attendances at the dispensary. The financial statement showed an unfavourable balance of £14.

CHORLEY AND DISTRICT MEDICAL SOCIETY.—A meeting of medical men was held in the Shepherds' Hall, Chorley, on March 2nd, at which the following motions were proposed and carried unanimously:—

(1) That a society be formed for the discussion of subjects interesting [illegible] hospital be an honorary member.

THE UNIVERSITY OF LONDON AND TROPICAL MEDICINE.—In response to petitions presented by the London School of Tropical Medicine in February, 1904, the Senate of the University of London has decided to institute a sixth branch of study—viz., tropical medicine—in which candidates may be examined for the M.D. degree and has admitted the London School of Tropical Medicine as a school of the University in the subject of tropical medicine. The University of the metropolis of the empire has thus recognised its imperial character and has brought itself into line with Cambridge and other universities in regard to the importance of the health of Europeans and natives in the great tropical dependencies of the nation. These facts will be emphasised at the banquet, over which Mr. Chamberlain will preside, on behalf of the London School of Tropical Medicine on May 10th.

PRUDENTIAL ASSURANCE COMPANY.—The fifty-sixth annual report of this company now lies before us. One of the first things noticeable is that in the industrial branch for the year ending Dec. 31st, 1904, the medical fees paid amounted to but £51,738 3s. 10*d*., against £55,875 1*s*. 9*d*. for the previous year. This looks as if the medical profession has not received so much this year by the sum of £4136 17*s*. 11*d*.; but wherefore we know not. Certainly in this branch the company has added 310 more agents and the number of policies in this branch has increased by 286,378. Taking the ordinary and the industrial branches together the number of deaths during the year was 240,154, against 217,450 in the previous year. The premiums received during the year amounted to £9,948,351—an increase of £286,941 over the year 1903, and the assets on Dec. 31st, 1904, were valued at £55,359,505, being an increase of £4,142,128 over those of 1903. Ten years ago the assets of the company in both branches amounted to but £21,213,805 and ten years before that the company was proud to advertise that "the invested assets exceed four and a half millions."

TRAINED NURSES' ANNUITY FUND.—The occupation of a nurse in many cases involves much hard work and anxiety, while those who attend private patients have in addition to reckon with occasional want of employment. Increasing years or any form of ill-health seriously interferes with a nurse's prospects and although there are a few excellent institutions which render aid in such circumstances many nurses are for various reasons unable to avail themselves of it. To meet such cases the Trained Nurses' Annuity Fund, of which H.R.H. Princess Christian is now president, was instituted in 1874 and at present grants annuities of £17 each to worn-out nurses. Candidates for election as annuitants must have had at least three years' training and 15 years' nursing, must have attained the age of 50 years, and must be more or less incapacitated for work. The council in appealing for public support claims that no other society meets the needs of the cases which this fund assists. The treasurers of the fund are Messrs. Coutts and Co., bankers, Strand, London, W.C., and the secretary's office is at 73, Cheapside, E.C.

UNIVERSITY OF CAMBRIDGE.—Mr. T. S. P. Strangeways of St. John's College has been appointed the first Huddersfield Lecturer in Special Pathology on the new foundation recently established in the University.

REPORT OF THE COMMITTEE ON VACCINATION EXPENSES.—The report of the Departmental Committee of the Local Government Board upon the question of vaccination expenses has just been presented to Parliament and we hope in a future issue to comment fully thereon.

HEALTH OF BARNSTAPLE.—Mr. J. R. Harper, the medical officer of health of Barnstaple (Devon), in his annual report for 1904, which has just been issued, states that the estimated population of the town was 14,258. The birth-rate and the death-rate were respectively 22·72 and 15·42 per 1000, the death-rate being the lowest for some years. The infantile mortality was at the high level of 160·49 per 1000 births.

ROYAL DENTAL HOSPITAL, LEICESTER-SQUARE.—The annual general meeting of governors was held at the hospital on March 14th, Mr. John Tweedy, President of the Royal College of Surgeons of England, being in the chair. [illegible] posed of [illegible] aid that [illegible] he hos- [illegible] 42,000 [illegible] l suffer- [illegible] ulated. [illegible] e mere avoidance of pain and shock. The knowledge that a patient was not suffering gave greater freedom of action to the surgeon and added to the thoroughness and efficiency of his endeavours. Exemption from physical suffering could not, howeve [illegible] risk. [illegible] to pai [illegible] safety. [illegible] anæsthetics and that was an unequivocal testimony to the care and skill of those who were intrusted with their administration. He was impressed by the special provision made at the hospital for the care and treatment of the teeth of children. It would be impossible to over-estimate the value and importance of that department. Last year an inter-departmental committee inquired into the alleged physical deterioration of the people of these islands. That inquiry had its inception in a memorandum drawn up by the then Director-General of the Army Medical Service on the physical unfitness for military service of a large proportion of those who offered themselves for enlistment. In the year 1902 no less than 40 per cent. of those who offered themselves as recruits were rejected on account of decay or loss of teeth. That fact had a grave significance; there was perhaps no single condition more inimical to physical well-being, especially in adolescence, than defect or disease of the teeth. And physical well-being was no small factor in moral well-being. It was certain that much of the loss and decay to which he had referred would have been prevented by the exercise of intelligent care and forethought. Institutions such as the Royal Dental Hospital did a great national service by impressing upon the community, and especially upon the poorer classes, the necessity of bestowing greater attention on the care and cleanliness of the mouth and the teeth. But such an institution was not only an agency for the dissemination of useful hygienic information and for the relief of actual suffering, it was also a centre for the improvement of dental skill and knowledge and a school for the training of practitioners may be as important as a hospital for the treatment of those who seek for relief. As hospitals the benefits they conferred, great though they might be, were limited to the patients themselves. But as schools their benefits were indefinitely multiplied and ultimately reached the whole community. For that reason such institutions were entitled to liberal support from every section of society. Hospitals, moreover, subserved a higher ethical purpose. Much of the work done within their walls was voluntary, and the spirit which prompted members of the medical and dental professions to undertake those self-imposed and often self-sacrificing labours reacted upon the character of those who rendered the services and those who received them. Medical charity engendered mutual trust between patient and practitioner and helped to establish between them relations of the best kind. Thanks to the voluntary principle a value was set upon work done in and for itself without any consideration of material recompense. The first and only consideration was the character of the service rendered and the virtue of the work performed; the only reward thought of or desired was the reward of a good conscience and the satisfaction which good work well done always afforded.

MILLER *v.* MILLER AND FOWLER: A CONGRATULATORY DINNER TO DR. C. O. FOWLER.—It is proposed to entertain Dr. Fowler at a dinner to be held in about a month's time in recognition of his complete exoneration from the disgraceful charges brought against him in recent divorce proceedings. A meeting of the medical profession of Croydon and district will be held at the Public Hall, George-street, Croydon, on Monday evening next, March 20th, at 8.30, to make all necessary arrangements. Communications should be addressed to Mr. C. M. Fegen, Town Hall, Croydon.

MEDICAL CONFERENCE ON THE TEACHING OF HYGIENE AND TEMPERANCE.—The medical conference which has been arranged to take place at the Examination Hall, Victoria Embankment, W.C., on Friday next, March 24th, at 5 P.M., will be an important meeting. It has for its main purpose the consideration of the value and the desirability of the teaching of hygiene and temperance in the schools of the country. The medical profession has been taking keen interest in the subject, as is evidenced by the fact that no less than 14,718 of its members last year signed the petition in favour of such teaching being made compulsory. It is desirable that all advance on this line should be on thoroughly sound principles and it is therefore opportune that such a conference has been arranged in order that the profession in London may have a further consideration of the matter. Sir William H. Broadbent will occupy the chair and Sir Victor Horsley will state the present position of the scheme in reference to the teaching of hygiene and temperance in schools. He will be followed by Dr. Robert Jones who will draw attention to the report of the Inter-departmental Committee on Physical Deterioration in so far as it deals with the matter. Sir Thomas Barlow will indicate the present position of the profession in relation to alcohol, and Mr. W. McAdam Eccles will introduce the question of the pharmacological and toxic properties of alcohol and how they might be more fully taught in the medical schools with advantage to the nation. At 5.45 discussion will be invited and we understand that Dr. William Collier, Dr. F. W. Mott, Mr. A. Pearce Gould, and others may take part in it. The meeting is to terminate at 6.30 P.M.

UNIVERSITY OF LEEDS.—A meeting of the court was held on March 8th when it was decided that the medical degrees shall be Bachelor of Medicine and Bachelor of Surgery (M.B. and Ch.B.), Doctor of Medicine (M.D.), and Master of Surgery (Ch.M.). Provision was made for the exemption from examinations and courses of study of students of the Yorkshire College or the Victoria University of Manchester, in order that students may be at no disadvantage in consequence of the changes which have recently taken place. The following recommendations of the Senate as to *ad eundem* degrees were adopted:—

> I. As to conferment of *ad eundem* degrees on students who have attended full courses of study at the Yorkshire College and have graduated at various universities but who have not been admitted to the College Associateship: (*a*) That graduates of the Victoria University be offered the same degrees in the University of Leeds as those which they have received from the Victoria University; (*b*) that graduates in medicine of other universities be admissible on application to the M.B. degree of the University of Leeds; (*c*) that applications from other university graduates who have been students of the Yorkshire College be considered on their merits.
>
> II. As to Associates of the Yorkshire College: (*a*) That graduates of the Victoria University be offered the same degrees in the University of Leeds as those which they have received from the Victoria University; (*b*) that graduates of other universities be offered the degree of Bachelor in this University in the faculties in which they graduated elsewhere; (*c*) that the question of the admission to degrees of Associates *honoris causâ* be deferred.

It was also decided that all persons admitted to degrees of the University of Leeds under the foregoing conditions shall be admissible as life members of convocation and also that no graduate so admitted to a degree shall be precluded from proceeding in the University of Leeds to a higher degree in his particular faculty. It was also decided to confer the honorary degree of M.Sc. upon members of the staff of the Leeds Infirmary who are also members of the Faculty of Medicine in the University. The Council was authorised to grant to any professor of the University or to any lecturer who is the head of any department in the University a degree not higher than that of Master of the Faculty in which he has graduated, or in the case of a professor or lecturer holding no degree, such degree not higher than that of Master as the Council may determine. The Council was also authorised, if it thought fit, to grant to any other officer of the University such degree not higher than that of Master as it might determine, but no such degree shall be conferred until a report thereon has been received from the Senate.

UNIVERSITY OF LONDON: FACULTY OF MEDICINE.—A meeting of the Faculty will be held at 5 P.M. on Friday, March 24th, at the University. The Faculty will elect a Senator in place of Sir Cooper Perry who is unwilling to accept nomination for re-election. The Dean will make a statement as to the progress of the Institute of Medical Sciences scheme and also on a matter connected with the visit of British physicians and surgeons to Paris in May next. Dr. Cabert has given notice of motion for a committee to consider a plan of retirement for members of the boards of studies.

THE SOCIETY OF ANÆSTHETISTS.—The following officers have been selected for next session:—President: Mr. Edgar Willett. Vice-President: Mr. W. Tyrrell. Treasurer: Dr. R. J. Probyn-Williams. Secretaries: Mr. H. C. Crouch and Dr. J. Blumfeld. Auditors: Dr. N. W. Bourns and Dr. G. A. H. Barton. Council: The officers and Mrs. F. M. D. Berry, Mr. C. Carter Braine, and Dr. W. J. McCardie.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Vaccination.

THE vaccination question has been unusually prominent in these last few days. Both the Lords and the Commons have had their attention directed to different aspects of the matter and in addition there has been presented at last the report of the Departmental Committee on Vaccination Expenses. This committee was appointed in 1903 by the Local Government Board to consider whether any alteration should be made with regard to the remuneration, costs, and expenses of public vaccinators. In its report the view is expressed that the fees paid for primary vaccination might be reduced without any diminution in the efficiency which has been attained under the present system and without any injustice to the public vaccinators if the provisions of the Vaccination Orders were made more elastic so as to facilitate the adoption of special arrangements and to admit of certain modifications in the duties and status of the public vaccinators. The extent of a parent's power to require the attendance at his home of a public vaccinator to vaccinate his child might, the committee thinks, without hardship be considerably curtailed. The committee also states that in its opinion the maximum fees may be fairly and reasonably fixed at the following amounts: 2s. 6d. for every case of successful primary vaccination performed elsewhere than at the home of the child or person vaccinated, 3s. for every case of primary vaccination performed at the home of the child within one mile from the public vaccinator's residence, 4s for every case of successful primary vaccination performed at the home of the child over one mile and under two miles from the public vaccinator's residence, and 5s. for every case of successful primary vaccination performed at the home of the child over two miles from such residence. Where journeys of over three miles have to be made a special fee should be arranged between the authorities. No change is recommended in the mode of remuneration of vaccination officers or in the minimum fees to be paid to them in districts where there is no serious opposition to the enforcement of the Vaccination Act, but where there is such opposition it is proposed that the fees of these officers should be fixed at such an amount as would give them approximately the same remuneration as they would receive in a similar district where opposition to vaccination did not prevail.

Smoking among Juveniles.

Dr. Macnamara is promoting a Bill founded on the recommendation of the Committee on Physical Deterioration that legislation should be introduced to prohibit the sale of tobacco and cigarettes to children under a certain age. Briefly stated, the Bill provides that no person shall sell, give, or supply tobacco in any form to, or for the use of, any person under the age of 16 years, and the penalty for a first offence is a fine of 20s. and for any subsequent offence 40s., but after a third conviction the offending tobacconist may lose his licence. Among the supporters of the proposal are Mr. Lloyd-George, Dr. J. G. Shipman, Mr. Churchill, Sir John Gorst, Mr. Burns, Mr. Cathcart Wason, Major Seely, and Mr. Lambert.

Underfed School Children.

When the second reading of the Scotch Education Bill is reached Mr. Henderson will move as an amendment: "That this House declines to give its approval to the Bill on the ground that it contains no provision whereby the education authorities shall insure that every child under compulsory attendance at the schools in its area shall receive proper nourishment before being subjected to mental or physical instruction."

Sanitary Inspection of Schools.

It is of some interest to note that in the new Scotch Education Bill the Government proposes to put the sanitary inspection of the schools under the ordinary local sanitary authorities—the medical officer of health and the sanitary inspector.

HOUSE OF LORDS.

FRIDAY, MARCH 10TH.

The Revaccination of School Children.

[illegible] eived some strong criticism [illegible] Lord Lister in particular [illegible] nd. Lord Harris then told [illegible] luce the principle that year [illegible]

[illegible] expense for hospitals which might not be used for years, great incon[illegible] *The local authority* [illegible] l of course the sur- [illegible] All the difficulties and all the cost arose simply and solely [illegible] Parliament had not [illegible]

Lord KENYON, in reply, said that Lord Lansdowne last year spoke in favour of the Bill which the Duke of Northumberland proposed and gave no opposition to it. The Government was in favour of encouraging revaccination as far as it could, but it relied on the report of the Commission which sat in 1896 and said it conceived that compulsory revaccination was not practicable. In the first place it thought there were practical difficulties in the way. [illegible] en overcome in Germany, but it di[illegible] hem in this country and further it [illegible] hostility to vaccination throughout [illegible] ubt did say [illegible]

[illegible] negative.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 8TH.

Free Meals for Destitute Children.

[illegible] might be drawn upon for this purpose. The Lord Mayor's fund for free meals to children at Leeds was raised to meet exceptional distress. [illegible]

[illegible] ommendation of the Committee [illegible] that local education authorities [illegible] nds at their disposal to provide [illegible]

Vaccination Exemption Certificates.

Mr. WEIR asked the Home Secretary whether he was aware that on April 5th last Mr. Philip J. Cook applied before Mr. Fordham at the North London police court for a certificate of exemption from vaccination for his infant child and that although he explained that a certificate had been granted to him at that court on a former occasion for another child the magistrate declined to [illegible]

Vaccination Fees.

[illegible] n to some of the [illegible]

THURSDAY, MARCH 9TH.

The Case of Nurse Holland.

[illegible] *Ireland whether he could* [illegible] nto the case of Nurse [illegible] f Lunacy as entirely [illegible] *hlessness in the dis-* [illegible] of her statements — [illegible] lered this case. The [illegible] s vested solely in the [illegible]

An Irish Complaint.

[illegible] matter was not one in which [illegible] was nothing to show that the reverend gentleman had done anything illegal or actionable rendering him liable to a penalty under 21 & 22 Vict., Cap. 90, Sec. 40.

FRIDAY, MARCH 10TH.

The Inspection of Meat.

Lord **GEORGE HAMILTON** asked the Member for North Hunts, as representing the Board c[illegible] his attention had been directed to the absence [illegible] ious systems of meat inspection now in local [illegible] nd whether he would consider the advisabilit[illegible] ystem of branding or certificate such as exist [illegible] which butchers and other vendors of meat who have purchased their supplies from Smithfield or some other central market under scientific inspection might be able to associate with the meat so purchased the certificate which passed the meat as sound and free from disease.—Mr. **LONG** said: My attention has been drawn to the alleged absence of uniformity as regards meat inspection by local authorities in England and I have instructed one of the medical inspectors of my department to make inquiry on the subject. I will give consideration to the suggestion of my noble friend in connexion with the report of the inspector when it is received.

MONDAY, MARCH 13TH.

The Higher Education of Nurses.

Mr. **HEALY** asked the President of the Board of Trade whether the Board had received an application for a licence to incorporate a society for the [illegible] es from gentlemen unconnected with medicir[illegible] whether the Board still adhered to the view ex[illegible] by the Board on August 6th, 1891, to Dr. Bedford Fenwick, in which it was stated that it appeared to the Board of Trade that *it was not competent to determine the very important question connected with the establishment of a register of nurses, which should be settled before the register can be effectively established*; and that, in the circumstances, the Board of Trade was unable to grant the desired licence to the Royal British Nurses Association; and that the Board was convinced that full inquiry (by competent authorities) into all the facts and circumstances of the case, and into the objections that had been raised, should precede any further steps on the part of the Government; and whether, if any change had since taken place in the policy of the Board in dealing with the question of the registration of nurses, he could indicate the nature and grounds of such change.—Mr. **GERALD BALFOUR** replied: An application has been received by the Board of Trade for a licence to incorporate under Section 23 of the Companies Act, 1867, without the word "limited," a society for the higher education of nurses. The proposed memorandum and articles of association which have been submitted to the Board of Trade are subscribed by seven gentlemen, none of whom are members of the medical or surgical professions, although one is the chairman of a London hospital. The Board of Trade proposes to hear both the applicants and the objectors to the grant of a licence and until after such hearing it is not proposed to come to any decision.

Enteric Fever in Fermanagh.

Mr. **EDWARD MITCHELL** asked the Attorney-General for Ireland whether he would say what steps, if any, the Local Government Board had taken to insist up[illegible] ng with the insanitary condition of the villag[illegible] Fermanagh; whether he was aware that at [illegible] oid fever existed and that one death at least had taken place therefrom; and what immediate action the Local Government Board intended to take in the matter.—Mr. **ATKINSON** said: It is a fact that five cases of enteric fever have occurred in this village and that one of the patients has died. A complaint has been made to the Local Government Board under the fifteenth section of the Public Health (Ireland) Act, 1896, that the sanitary authority has made default in the performance of its duty. The Board has accordingly directed a local inquiry to be held and the rural district council has been so informed.

The Sale of Poisons.

Sir **THOMAS DEWAR** asked the Secretary of State for the Home Department whether he proposed to introduce legislation this session to regulate the sale of poisons; and whether, in view of the deaths which had occurred through the taking of poisons by misadventure, notably a recent case in which a fatal dose of carbolic acid was administered to a patient under the impression that the bottle contained the prescribed medicine, he would take into consideration the advantage to be derived from a clause directing that all poisons shall be sold in bottles of a distinctive shape, so that the risk of bottles of poison being mistaken for medicine might be reduced to a minimum.—Mr. **AKERS-DOUGLAS** said: The Lord President of the Council has under his consideration the question of legislation on this subject but I am not in a position to make any statement as to the introduction of a Bill.

Mr. **REMNANT** asked the President of the Board of Trade whether his attention had been drawn to a recent judgment in the Cardiff county court in which it was revealed that a one-man company incorporated under the Companies Acts could not be punished for any disregard of the poison regulations sanctioned by the Privy Council; and whether, in the public interest, the departmental committee of inquiry on the Companies Acts would be directed to consider and report on this effect of incorporation.—Mr. **GERALD BALFOUR** replied: My attention has not been called to the recent judgment in the Cardiff county court referred to in the question. The Board of Trade is not prepared to direct the departmental committee of inquiry on the Companies Acts to consider and report on the sale of poisons by one-man or other companies, inasmuch as any amendment of the law in this respect would not be germane to a Companies Bill.

Dr. **MACNAMARA** asked the Home Secretary whether his attention had been called to the number of deaths which had recently occurred through accidental poisoning; whether he was aware that a locking poison bottle had been recently invented by which at a trifling cost accidental poisoning could be prevented; and, if so, whether he would take steps to compel distributors of carbolic acid and other virulent poisons to refrain from selling poisons except in some kind of locked bottle.—Mr. **AKERS-DOUGLAS** replied: My attention has been drawn to several recent cases of accidental poisoning and also to several inventions designed to minimise the risk of such accidents. Under the regulations made by the Pharmaceutical Society under Section 1 of the Pharmacy Act, 1868, and approved by the Privy Council, it is at the present time required that all liniments, embrocations, lotions, and liquid disinfectants containing poison must be sold in bottles rendered distinguishable by touch from ordinary medicine bottles, and that each such bottle must bear a label giving notice that its contents are not to be taken internally. The Lord President of the Council is of opinion that it would be undesirable to prescribe the use of any special form of bottle which might give a monopoly to the patentee, and further, that the inconvenience of a locked bottle might not improbably lead careless purchasers to transfer its contents into some ordinary vessel.

The Physical Condition of School Children.

Sir **JOHN GORST** asked the Secretary of the Board of Education whether the attention of the Board of Education had been directed to the evidence given in December, 1903, by Dr. Eichholz, one of its inspectors, before the Committee on Physical Deterioration, in which he testified that in a school in Lambeth he considered 90 per cent. of the children unable, by reason of their physical condition, to attend to the duties of the school in a proper way; and in many other schools in London and elsewhere he found a considerable, though less, proportion of physical deterioration, and what steps the Board of Education had taken to prevent the waste of public money involved in providing instruction for children thus unfit to receive it.—Sir **WILLIAM ANSON** said: I have carefully read the evidence referred to and have myself visited the Lambeth school referred to in the question. The right honourable Member is probably aware that there are very wide differences of opinion as to the extent of the evil complained of and the remedies to be applied. A departmental committee has been appointed by the Lord President for the purpose of providing useful and precise information on the subject.

The Registration of Dentist Companies.

Sir **JOHN BATTY TUKE** asked the President of the Board of Trade whether his attention had been called to the decision of the Master of the Rolls in the High Court of Justice in Ireland (Chancery Division) in the case of the Attorney-General *v.* Appleton and others; and whether the Board of Trade proposed to take any action in reference to that decision with a view to preventing in Great Britain such abuses of the Companies Acts as were disclosed in the course of the proceedings.—Mr. **GERALD BALFOUR** said: My attention has been called to the decision in the case of the Attorney-General *v.* Appleton. The Board of Trade is at the present moment taking the advice of the law officers of the Crown with regard to the instructions to be given by the Board of Trade to the registrars of joint stock companies in England, Scotland, and Ireland as to the registration of dentist companies.

The Medical Inspectors of the Local Government Board.

Mr. **CROOKS** asked the President of the Local Government Board whether the medical inspectors of that Board were permitted to accept appointments for pay outside their official duties.—Mr. **GRANT LAWSON**, who replied, said: A medical inspector is required to devote the whole of his official time to the duties of his office, but this is not intended to interfere with the manner in which he employs the rest of his time or his holidays.

TUESDAY, MARCH 14TH.

Medical Officer for Lewis.

Mr. **WEIR** asked the Lord Advocate whether he was aware that at a recent meeting of the Lewis district committee it was proposed that a medical officer of health should be appointed for the island of Lewis, and in the event of effect being given to the suggestion would arrangements be made for the new officer to be responsible to the Local Government Board direct and not to the medical officer of health of the county.—The **LORD ADVOCATE** said: The Board has no information of the meeting referred to and is at present awaiting the action of the district committee with which any arrangements regarding the appointment and its conditions primarily rest.

The Cotter Case.

Mr. **BOLAND** asked the Attorney-General for Ireland whether, with reference to the a[illegible] illage of Kenmare for an inquiry ir[illegible] the charges made [illegible] although he was [illegible] could be taken t[illegible] seeing that the [illegible] through the actic[illegible] that full inquiry [illegible] Mr. **ATKINSON** said: I stated in answer to the honourable Member's previous question of Thursday last that upon the information before the Local Government Board the reverend gentleman had not contravened the law. The Board is not aware that there are any grounds for the statement in the second part of the question. No cases of fever have been reported recently from this district other than that of the man Cotter.

Temporary Medical Officers to Irish Prisons.

Mr. **DILLON** asked the Chief Secretary for Ireland on what grounds the practice had been adopted in recent years of appointing temporary medical officers to Irish prisons instead of appointing permanent medical officers as was formerly the practice.—Mr. **ATKINSON**, who replied, said: The arrangement referred to has been adopted in the Irish prison service in order to assimilate the system to that previously existing in the Scotch service. The question of pensions is not affected as these officers did not devote their whole time to the service before the introduction of the change and consequently were not eligible for pensions.

Evasions of the Medical and the Dental Acts.

Sir **JOHN BATTY TUKE** asked the Home Secretary whether he was aware that evasions of the Medical Acts and the Dental Acts to the detriment of the public had been effected under the provisions of the Companies Acts; and, if so, whether he proposed to initiate legislation to preclude the possibility of such evasions being effected in future.—Mr **AKERS DOUGLAS** said: I am aware of the cases, recently before the courts, to which the honourable Member refers. I am not in a position to make any statement as to legislation, but I may say that the Lord President of the Council has been in communication with the General Medical Council and the Board of Trade on the subject of the companies carrying on business as medical men and dentists; and the Board of Trade is, I understand, obtaining the opinion of the law officers of the Crown on the question of the registration of such companies under the Companies Acts.

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PROGRÈS MÉDICAL, AUX BUREAUX DU, 14, Rue des Carmes, Paris. ALCAN, FÉLIX, 108, Boulevard St. Germain, Paris.

Recherches Cliniques et Thérapeutiques sur L'Epilepsie, l'Hystérie [illegible] *Service des Enfants Idiots,* [illegible] ...re pendant l'Année 1903. Par [illegible] de J. Boyer, L. Izou, Lemaire, [illegible] Noir, Paul-Boncour. Volume XXIV. Price Fr. [illegible]

RIVINGTON'S, 34, King-street, Covent-garden, W.C.

Health at [illegible] Aspects. [illegible] Rugby Sc[illegible] Price 10*s.* 6*d.* net.

[illegible] Josef, Schlüsselgasse 22, Wien.

[illegible] W.C.

[illegible] By Walter B. [illegible]

STUBER, A. (C. KABITZSCH), Würzburg.

Beiträge zur Klinik der Tuberkulose.—Herausgegeben von Dr. Ludolph Brauer, a.o. Professor an der Universität Marburg. Band III. Heft 3. Einzelpreis M.2.50.

UNIVERSITY OF CHICAGO PRESS, Chicago. (UNWIN, T. FISHER, Paternoster-square, London.)

Studies i[illegible] the Depart[illegible] the Univers[illegible] ...cond Series, [illegible]

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, [illegible] *for this column, are* [illegible] *...ected to the Sub-* [illegible] *...y morning of each week* [illegible]

CLAYTON-GREENE, W. H., M.B., B.C. Cantab., F.R.C.S. Eng., has been appointed Surgeon in charge of Out-patients at St. Mary's Hospital.

CONDON, R. P., L.R.C.P. & S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Broadford District of the county of Limerick.

COUPLAND, J. A., M.B. Lond., has been appointed Resident Surgical [illegible] General Infirmary.

[illegible] been appointed Public [illegible] ...ictoria, Australia.

[illegible] been appointed Casualty [illegible]

[illegible] ...ted Certifying Surgeon [illegible] the Staveley District of [illegible]

FELDMAN, [illegible] ...pointed L.C.C. Lecturer in Midwifery to Midwives.

FROST, ALBERT ERNEST, M.B. Melb., *has been appointed Acting Health Officer at Townsville, Queensland, pro tem.*

FRY, PERCY V., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Medical Officer of Health for the Luddenden Foot Urban District Council (Yorks).

GARLICK, J. P., M.B., Ch.B. Vict., has been appointed Assistant House and Visiting Surgeon at the Stockport Infirmary.

GEDDES, JOHN W., M.B., C.M. Edin., has been appointed Medical Superintendent of the Middlesbrough County Borough Asylum.

HUTTON, JOHN ROBERT, M.B., Ch.B. Edin., has been appointed Acting Medical [illegible] Health Officer, Queensland, *pro tem.*

LEAF, CECIL [illegible] been appointed Honorary Surgeon to the C[illegible]

LOVE, WILTON WOOD RUSSELL, M.B., M.S. Edin., has been appointed Honorary Pathologist to the Department of Public Health, Queensland, Australia.

MACBRIDE, A., M.B., B.S. R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Newport District of the county of Mayo.

MCCAUL, GEORGE BARTON, M.B., B.Ch., B.A.O. Dub., L.M. Rotunda, has been appointed Resident Obstetric Officer at the Bristol Royal Infirmary.

MCWILLIAMS, HENRY HEBER, L R.C.P. & S. Edin., has been appointed Officer of Health for the Shire of Springfield, Victoria, Australia.

MADIGAN, J. F., L.R.C.P. & S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Drumcollogher District of the county of Limerick.

MAKINS, G. H., C.B., F.R.C.S. Eng., has been appointed to the Consulting Staff of the Bolingbroke Hospital, Wandsworth-common, S.W.

MATHIESON, G. B., M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Doune [illegible] Perth.

[illegible] has been appointed Honorary Surgeon to [illegible] ndon.

[illegible] has been appointed Lecturer of Forensic [illegible] ne University, Australia.

NEWSTEAD, R. T., has been appointed Lecturer in Economic Entomology and Parasitology in the Liverpool School of Tropical *Medicine.*

NORRIS, W. P., M.D. Melb., has been appointed Chief Medical Officer of the Melbourne Board of Public Health, Victoria.

PARSONS, J. FREDERICK, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for the Frome (Somerset) Urban District.

PHILPOTT, ALBERT JOHN WILLIAM, M.B. Melb., has been appointed Medical Superintendent of the Yarra Bend Lunatic Asylum, Victoria, Australia, *pro tem.*

PINNIGER, F. B., M.B. Lond., has been appointed House Surgeon to the Hartlepools Hospital, Hartlepool.

SHEPPARD, A. LEWIN, M.B., B.S. Durh., has been appointed Casualty Officer to the Bristol Royal Infirmary.

SMITH, ROBERT SHINGLETON, M.D. Lond., F.R.C.P. Lond., has been appointed Honorary Consulting Physician to the Bristol Royal Infirmary.

SYMONDS, CHARTERS J., M.D., M.S. Lond., F.R.C.S. Eng., has been appointed to the Consulting Staff of the Bolingbroke Hospital, Wandsworth-common, S.W.

THOMSON, STCLAIR, M.D., F.R.C.P., F.R.C.S., has been appointed Physician for Diseases of the Throat in King's College Hospital.

WEBSTER, E. E., M.B., Ch.B. Melb., has been appointed Health Officer and Medical Officer at Cairns, Visiting Surgeon to the Prison, and Health Officer at Cairns, Queensland, Australia.

WILLIAMS, LEONARD, M.D. Glasg., M.R.C.P. Lond., has been appointed Honorary Physician to the French Hospital and Dispensary, London.

WILLIAMS, PATRICK WATSON, M.D. Lond., M.R.C.S., has been appointed Honorary Physician to the Bristol Royal Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AYR DISTRICT ASYLUM.—Junior Medical Officer, unmarried. Salary £120, with board, apartments, attendance, and washing,

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Resident Surgical Officer. Salary £100 per annum.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL, Edmund-street.—House Surgeon. Salary at rate of £70 per annum.

BIRMINGHAM, RUBERY HILL ASYLUM.—Two Junior Assistant Medical Officers. Salary £150 per year, with board, lodging, and washing.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-Resident House Surgeon for six months, renewable. Salary at rate of £75 per annum.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—House Physician, also Assistant House Surgeon, both for six months. Salary of former at rate of £50 per annum, and of latter £30 per annum, with board, residence, and washing.

CANCER HOSPITAL, Fulham-road, S.W.—Two Assistant Surgeons.

CARMARTHENSHIRE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, board, attendance, &c.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant for three months.

COULSDON, LONDON COUNTY ASYLUM, Cane-hill.—Junior Assistant Medical Officer. Salary £150 per annum, with board, apartments, and washing.

COUNTY OF LONDON, EPILEPTIC COLONY, Ewell.—Assistant Medical Officer. Salary £200 per annum, with board, apartments, and washing.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £25 per annum, with board and washing.

EDINBURGH, ROYAL VICTORIA HOSPITAL FOR CONSUMPTION, Craigleith.—Resident Physician for six months. Residence, board, and nominal honorarium.

ESSEX AND COLCHESTER HOSPITAL.—Honorary Physician.

GRAVESEND HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

GREENOCK INFIRMARY.—Assistant House Surgeon. Salary £40 per annum, with board and residence.

HOLLOWAY AND NORTH ISLINGTON DISPENSARY.—Medical Officer for Ball's Pond-road Branch Dispensary.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton—Resident House Physicians for six months. Honorarium of £25.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida-vale, W.—Ophthalmic Surgeon.

HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £40 per annum, with board, lodging, and washing.

HULL, VICTORIA HOSPITAL FOR SICK CHILDREN.—Lady House Surgeon. Salary £50 per annum, with board and laundry. Also Lady Assistant House Surgeon. Salary £40 per annum, with board and laundry.

LENZIE, GLASGOW DISTRICT ASYLUM, Woodilee.—Junior Assistant Medical Officer. Salary £125, with board, lodging, washing, &c.

LIVERPOOL WORKHOUSE, Brownlow-hill.—Assistant Medical Officer. Salary £100 per annum, with rations.

MANCHESTER CHILDREN'S HOSPITAL.—Junior Resident Medical Officer, unmarried, for six months. Salary at rate of £80 a year, with board and lodging.

MANCHESTER, CHORLTON-UPON-MEDLOCK DISPENSARY.—Resident House Surgeon, unmarried. Salary £120 per annum, with rooms and attendance.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

NORTHAMPTON GENERAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £50 per annum, with apartments, board, and washing.

QUEEN'S JUBILEE HOSPITAL, Earl's-court, S.W.—Honorary Physician and Honorary Anæsthetists. Also House Physician for six months, renewable. Honorarium at rate of £52 per annum, with board, residence, and laundry.

ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

ROYAL ORTHOPÆDIC HOSPITAL, 55, Bolsover-street, W.—House Surgeon and Registrar, unmarried. Salary £200 per annum, with rooms.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-bridge-road, S.E.—Physician to Out-patients.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square, W.—Honorary Physician.

SEAMEN'S HOSPITAL SOCIETY, Greenwich, S.E.—Dreadnought Hospital, Greenwich: House Physician, salary £65 per annum; House Surgeon, salary £65 per annum; Junior Resident Medical Officer, salary £40 per annum. At the Branch Hospital, Royal Victoria and Albert Docks: Senior House Surgeon, salary £100 per annum; House Surgeon, salary £50 per annum. With board, residence, and washing in each case.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

UNIVERSITY COLLEGE, LONDON.—Assistant Physician. Also Third Honorary Anæsthetist.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—Physician to Out-patients.

WELLS, SOMERSET AND BATH ASYLUM.—Senior Assistant Medical Officer. Salary £175, rising to £200 per annum. Also Second Assistant Medical Officer. Salary £130, rising to £150 per annum. Board, lodging, washing, and attendance in each case.

WEST HARTLEPOOL, CAMERON HOSPITAL.—House Surgeon. Salary £100 per annum, with board, rooms, and washing.

WESTON-SUPER-MARE HOSPITAL—House Surgeon, unmarried. Salary £100per annum, with board and residence.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Physician for six months. Honorarium at rate of £75 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

DALY.—On March 13th, at Upper Clapton-road, N.E., the wife of Frederick J. P. Daly, M.R.C.S., L.R.C.P., of a daughter.

KENDALL.—On March 6th, at Chiddingfold, Surrey, the wife of Nicholas Fletcher Kendall, M.R.C.S. Eng., L.R.C.P. Lond., prematurely of a daughter, stillborn.

NASH.—On March 11th, at Clavering House, Bedford, the wife of W. Gifford Nash, F.R.C.S., of a daughter.

WALLACE.—On March 11th, at Battersea-rise, S.W., the wife of J. B. Wallace, M.B., of a daughter.

MARRIAGES.

CARVER—MACKAY.—On March 2nd, at St. John's Episcopal Church, Edinburgh, by the Rev. C. A. H. Going, B.A., Arthur Edmund Carver, M.D., Torquay, son of the late Edmund Carver, M.D., Cambridge, to Clare Patricia, daughter of the late Captain J. S. Mackay, 42nd Highlanders.

WALKER—GOADBY.—On March 9th, at St. Marylebone, by the Rev. W. Perowne Holmes, vicar of St. Peter's, Leicester, assisted by Canon Barker, Robert Alexander Walker, B.A., M.B. Cantab, third son of Thomas James Walker, M.D., J.P., of Peterborough, to Ethel Ernestine, youngest daughter of Major Goadby (Inspect. Ret. Army Schools), of Staidburn, Lancashire.

DEATHS.

ALLEN.—On March 7th, J. Allen, M.R.C.S., L.S.A., Grosvenor Lodge Ripley, Derby, aged 91 years.

SPENCE.—At Rio Janeiro, c[illegible] Spence, M.B., Ch.B. Edin., eldest s[illegible] Burntisland, aged 27.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE NEED OF DISTINCTIVE BOTTLES FOR POISONS.

A VERY sad case of accidental poisoning investigated at an inquest at Paddington on March 7th illustrated the need for enforcing the use for poisonous solutions of a bottle so distinctive in shape as to be incapable of being mistaken by anyone retaining his ordinary senses. The deceased, a young officer in the army, was suffering from blood poisoning and was being nursed by his wife without other assistance. He had taken one dose of a sleeping draught prescribed by his medical attendant and his wife, before lying down to rest on the sofa in his room, placed ready for him, as she thought, a second dose of the same medicine. There was, however, at the same time on the table a bottle containing carbolic acid and it was from this that the unfortunate lady filled her husband's glass without noticing her mistake. The patient awoke in the night and drank the carbolic acid with the result that although he roused his wife immediately and the medical man was summoned he died shortly after. A juror at the conclusion of the inquest, which resulted in a verdict of death from misadventure, aptly drew attention to the possibility of preventing such cases by suitable legislative provision That errors frequently occur with a drug of so distinctive an odour as carbolic acid proves that the peculiar bottle or stopper to be adopted should be one which would practically compel the most tired patient or nurse to observe it and it need hardly be said that such contrivances exist, one at least being referred to in another column. Unless, however, their use is made compulsory they are not likely to become universal owing to the possible slight increase in expense, and if not used on all occasions they will fail to be employed precisely in those households from which professional nursing is absent.

A QUEER KIND OF DRAUGHT.

To the Editors of THE LANCET.

SIRS,—The note of Mr. I. George in your last issue recording the use of placental blood by the mother as a draught after childbirth is interesting. In these days of organo-therapeutics it must have occurred to many, on witnessing the devouring of the placenta and decidua by the female of one of the lower animals that possibly nature prompts the act because of some therapeutic virtue in the placental tissue and fluids. It would be interesting to know whether any such custom has been observed among savage races and whether it is commonly practised in the country from which Mr. George's patient came.

I am, Sirs, yours faithfully,

March 15th, 1905. RUSTICUS

THE HISTORY AND ACTIVE CONSTITUENTS OF PAREIRA BRAVA.

IN suggesting an improved formula for the preparation of the liquid extract of pareira based on percolation with a mixture of alcohol, glycerine, and water, Professor H. G. Greenish gives some valuable details as to its constituents. Hanbury ("Science Papers," p. 382) mentions that the drug was first brought to Europe by the Portuguese in the seventeenth century and attracted general attention, being considered to possess extraordinary properties as a diuretic and lithontriptic. In Brazil it is still held in the highest esteem but much of its original reputation in this country has been lost, due probably in part to the more or less general substitution during the last 50 years of less active roots for the genuine pareira. At the present time t [illegible] tomentosum, is [illegible] in 1836, chief [illegible] It contains an unusual amount of fat and the alkaloid beberine to the extent of, perhaps, 4 to 5 per cent. The astringency of liquid preparations of pareira points to the probable presence of tannin. There is some danger in the present day when new remedies, mostly products of the chemical laboratory, are produced in such multitudes and highly extolled during their usually brief life that remedial agents of vegetable origin which have stood the test of time should be forgotten, owing mainly to the fact that there is nobody to call attention to their virtues as in the case of the newer remedies. In the present case it is possible that had the genuine drug been procurable during the last century it would not so readily have fallen into disuse. To show the high opinion originally held of it the following brief extract from Hanbury's "Science Papers" may prove of interest. In 1710 the French Academy requested G [illegible] pharmacy in the College [illegible] ira and among physicians [illegible] oung man, was consulted by Louis XIV. in his last days. Helvetius gave strong testimony in its favour. Both Geoffrey and Helvetius were correspondents of Sir Hans Sloane, that diligent promoter of science whose immense collection gave origin to the British Museum Among the Sloane MSS was found a letter from Helvetius to an ambassador at the court of George I., a portion of which is extremely interesting:—"I am extreamly pleased that you have apply'd yorself to me for my advice about the use of *Pareira Brava* .... because I can give you a very good account of it haveing been one of the first that introduced it in France. I have made abundance of lucky experiments about it......... wherefore I assure you, you can do nothing better than to make tryall of it. .... 'Tis called in Brazil the Universal Medicine and made use of there in all kinds of distempers. A Capuchin monk who came from thence told me he could not give it a greater character than by assuring me that in all their voyages they carried the gospell in one pockett and the *Pareira Brava* in another......"

BEARING REINS.

WE have received the report for the year 1904 of the Anti-Bearing Rein Association which has for its [illegible] gag bearing rein. We are aware th [illegible] rein may be necessary, at all events [illegible] that for cart horses it is not only unnecessary but harmful. The appliance is, we think, absolutely unknown in the case of omnibus horses and it is certainly more rarely to be seen than formerly upon horses used for other heavy loads. The great offenders are, as a rule, the upper classes and we frequently notice carriages standing in the streets, the horses of which are reined up so tightly as to be a disgrace. Even if a coachman is incapable of driving them without a bearing rein there is no reason why he should not let them "have their heads" while waiting. The gag bearing rein is false from a mechanical point of view and no lover of the horse can like to see the poor animal with its head kept in a ridiculously artificial position.

THE CASE OF DR. A. D. GRIFFITHS.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me to acknowledge the receipt of the following additional contributions?

I am, Sirs, yours faithfully,
ALEXR. P. FIDDIAN, M.B. Lond.,
23, The Walk, Cardiff, March 14th, 1905. Treasurer.

	£	s.	d.
Amount previously acknowledged ...	66	0	0
Dr. S Cromwell Jones ...	0	10	6
Mr. W. F. Brook, sen. ...	0	10	6
Mr. J. Charles Edwards ..	0	10	6
Mr Eleazar Davis	0	10	9
Dr. E. J. Trevor Jones ...	0	10	6
Mr. Egbert Williams ...	1	1	0
Mr. J. Walters	0	5	0

CONCISENESS AND CONSUMPTION.

[illegible] wit, as Polonius reminded us, [illegible] displayed some soul which [illegible] panies have no souls. The [illegible] sengers not to spit in their [illegible] wo or three years constituted a progressive study in brevity. In December, 1902, a notice was [illegible] placed in a neat frame and hung [illegible]

vehicle, railway station, or other public resort. J. F. S. Gooday, General Manager, December, 1902."

Subsequently in the newer carriages another notice, consisting of a thin metal plate with a white ground and large dark blue letters, appeared. Two copies of this notice were placed in every compartment. This notice, which measured 8½ × 4½ inches and was fastened up with a dozen tacks, said: "Prevention of Consumption. Please do not spit" This was an exhortation. Since then another metal notice has appeared stating: "Prevention of Consumption. Do not spit." This is a command This brevity is a contrast to a notice placed inside some omnibuses in London as follows:—

> "London County Council. The London County Council hereby gives notice that, in pursuance of its powers under the Municipal Corporation Act, 1882, and the Local Government Act, 1888, it has made the following by-law for the good rule and government of the county of London and that the said by-law is now in force. *Spitting.*—No person shall spit on the floor, side, or wall of any public carriage, or of any public hall, public waiting-room, or place of public entertainment, whether admission thereto be obtained upon payment or not. Any person who shall offend against this by-law shall be liable for each offence to a fine not exceeding 40s. G. L. Gomme, clerk of the council, Spring gardens, S.W., July 10th, 1903."

This notice, when we saw it, was stuck on the roof inside the omnibus in such a way that in order to read it it would have been necessary to lie along the seat, so that it has probably not had much practical effect.

TUBERCULOSIS IN MEAT NOT DETECTED AT THE CENTRAL MEAT MARKET.

IN a recent case at the Marlborough street police-court a sanitary inspector gave evidence that in passing the shop of the defendants, a firm of provision dealers in Soho, he noticed that one of several pigs' heads exposed for sale was badly affected with tuberculosis. The defence raised was that the business carried on was of a high-class and respectable character and that the tuberculosis in the pig, the carcass of which had been disposed of already but of which the head remained, was of so slight a character that it had escaped the [illegible] the inspector at the Central Meat Market, of the dealer, [illegible] and of the defendants themselves. How the evidence which was called in support of this was reconciled with the obviousness of the disease to the passing inspector does not appear from the report before us. Mr. Kennedy said that great want of care had been shown and that as was usual in such cases, whatever examination there had been at the Central Meat Market or elsewhere had proved perfectly useless. Dr. F. J. Allan, medical officer of health of the City of Westminster, had stated in his evidence that if in the process of cooking the meat was exposed to a sufficiently high temperature the danger arising from eating tuberculous meat might be removed but that the products of the disease would remain. The argument that such meat is wholesome food *is a common line for the defence to take, as naturally* the medical officer of health in many cases where infected foodstuffs are concerned does not deny that steps may be taken to render them more or less innocuous. Mr. Kennedy, however, refused to adopt the suggestion. He said in plain terms that the sale of such unfit food as the pig's head in question was a very great danger to the public and that he refused to believe in tuberculous meat being made good to eat by cooking. He imposed a fine of £20 with £5 costs.

A "LOCK-AND-KEY" POISON BOTTLE.

THE reports in the press recently regarding a case of accidental poisoning, in which carbolic acid was administered in place of medicine, have led Messrs. Thomas Christy and Co. to introduce a "lock and-key" bottle which they consider will in the future prevent mistakes of this nature occurring. They propose to supply this "lock-and-key" bottle containing the usual quality of carbolic acid used for disinfecting purposes at the same price as commonly charged to the public in any ordinary bottle, and also to supply empty poison bottles with a nickel-plated patent automatic lock and key for locking up all poisons.

A SLANDER CASE.

AT the Durham winter assizes, before the Hon. Mr. Justice Bigham, the action brought by Dr. Harold E. Gamlen of West Hartlepool against Dr. John Hedley of Middlesbrough for slander was settled upon terms, the defendant having agreed to pay £50 damages and costs. Mr. Ivor Johnson, who appeared for the defence, said that his client made the statement complained of under a misunderstanding as to the facts of a case concerning the use of Roentgen rays in a case of phthisis under the treatment of the plaintiff and desired to withdraw the whole of the statements made and further to express his regret for having made them. Dr. Hedley wished this statement to be made in order that there should be no mistake about the withdrawal.

MORTALITY AT SEA.

AN official American report on mortality at sea suggests that travelling by ships is much more safe than travelling on railroads. The annual average of lives lost during the last 25 years is 1613, while in 1903 the total number of persons lost was 624, of whom 599 were sailors and 25 were passengers. Of the lost two had been sailing safely for 60 years, five for more than 40 years, and 21 for over 20 years. There were 5660 lives saved along the British coasts, 235 by the rocket apparatus, 489 by lifeboats, 205 were saved by coastguards, 578 were rescued by passing ships, and 1100 reached safety in the boats of their own ships.

DISINFECTION OF CONFESSIONALS.

THE Board of Health of Mexico is composed of thoroughly trained sanitarians. Recently that board recommended to the Government the importance of requiring the disinfection of confessionals as a measure for the prevention of the spread of contagious diseases. Acting on this recommendation, the Government has issued an order for the disinfection of confessionals in all the churches of that capital city daily. Priests in charge of churches who neglect the order will be fined and imprisoned. A similar order has been issued in the city of Guadalajaro and it is the intention to put it into effect throughout the republic.

"THE OPEN WINDOW."

ON March 3rd Dr. Harold Scurfield, medical officer of health of Sheffield, delivered a lecture at University College Hall in that city on the subject of the Open Window. After a recapitulation of the manifold dangers to health caused by the rebreathing of air and a demonstration of the necessity of frequently renewing the atmosphere of crowded rooms, he said that those who had to spend the greater part of the day indoors could compensate for this and obtain a continuous supply of fresh air at night by keeping the bedroom window open. He advocated letting a baby sleep in his cot with the window wide open night and day all the year round, provided that his body was kept warm. He had never heard of anyone adopting the open bedroom window and giving it up; the practice invariably gave a greater sense of physical fitness in the morning and a much lessened liability to catch cold.

We presume that there is no substantial difference of opinion within the medical profession as to the desirability of free ventilation, but in strange contrast with the foregoing we have received a letter dated from Brighton on March 5th inquiring "whether one needs to inhale oxygen during sleep." Our correspondent, whose name does not appear in the Medical Directory or Register, and who can hardly be either a medical man or a chemist, then proceeds to argue that if oxygen is not necessary during sleep "it is a good reason not to risk taking cold by open windows."

PAIN AFTER EXTRACTION OF TEETH.

To the Editors of THE LANCET.

SIRS,—I noticed in THE LANCET of March 11th, p. 686, a reply to "R. H." regarding pain after extraction. Several cases quite recently have come under my notice for treatment where continuous gumboils have been present previous to extraction of teeth, pain after which is bound to follow. It appears to last usually for about six days if not treated. The treatment which I find very effectual is to syringe the socket well out with hydrogen peroxide; then dry and apply equal parts of tincture of aconite, iodine, and belladonna, both in the socket *and around the gums in the immediate neighbourhood.* Relief is obtained within 24 hours.—I am, Sirs, yours faithfully,

Sherborne, Dorset, March 13th, 1905. F. VOSPER, L.D.S.

LIQUID POISONS.

Sir Thomas Dewar, M.P., is credited with the intention of introducing into the House of Commons a Bill rendering it illegal to sell liquid poisons in other than specially constructed bottles. It will be interesting to see what substances the introducer of the Bill defines as liquid poisons. Nearly all the alcohols are poisons and some are very poisonous and before now the drinking of a bottle of whisky has brought about death very rapidly.

◆

J. W. R.—Income tax Repayment Agency, 6, Chichester road, W.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (22nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.).

THURSDAY (23rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Royal Ear (10 A.M.).

SATURDAY (25th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (21st).—PATHOLOGICAL SOCIETY OF LONDON (Royal Army Medical College, Examination Hall).—5 P.M. Major W. B. Leishman: Some Experiments in connexion with Stimulins.—Mr. L. S. Dudgeon: Enteric Bacillus from Bone Abscess.—Mr. C. F. Selous: Physical Method of estimating Fibrin.—Major W. B. Leishman: Demonstration of Cultural Forms of the Leishman Body.

CHELSEA CLINICAL SOCIETY (Chels[illegible] King's-road, S.W.).—8.30 P.M. Annu[illegible] Constipation and its Medical and Surgical Treatment. Dr. W. Collier, Dr. F. J. Smith, Dr. H. C. Thomson, and Dr. L. Williams will take part in the debate.

WEDNESDAY (22nd).—HUNTERIAN SOCIETY (London Institution, *Finsbury-circus*, E.C.).—8.30 P.M. Discussion upon Influenza (opened by Prof. Allbutt). Contribution by Dr. F. Parsons: Causes of Influenza. The Discussion will be open to all members of the medical profession.

THURSDA [illegible] E BRITISH CHILD-STUDY [illegible] aret-street, W.).—8 P.M. [illegible] raining Froebelian Teachers

FRI [illegible] ectomies.—Sir Dyce Duckworth: A Case of Streptococcal Pachymeningitis.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (20th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Baldwin: Practical Surgery.

[illegible] AND POLYCLINIC (22, Chenies street, [illegible] ttle: Clinique. (Skin.) 5 15 P.M. [illegible] Diseases of Joints, their Diagnosis [illegible]

TUESDAY (21st).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M. Dr. W. C. Bosanquet: Some Considerations on [illegible] Lecture.)

[illegible] tal, Hammersmith- [illegible] (22, Chenies street, [illegible] Medical.) 5 15 P.M. Dr. P. Stewart: Reflexes.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture:—Mr. W. Edmunds. Intestinal Obstruction.

W [illegible]

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Habershon: Mitral Stenosis.

TH [illegible] P [illegible] (with lantern slides).

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson. Clinique (Surgical.) 5.15 P.M. Mr. J. Sherren: Some Surgical Observations on Referred and Reflected Pain.

[illegible] CONSUMPTION AND DISEASES OF THE [illegible] rry: [illegible]).— [illegible]).— [illegible] nces [illegible] (20,

F [illegible] COLLEGE (West London Hospital, [illegible] x and [illegible] treet, [illegible] TEM- [illegible] 5 P.M. [illegible] arlow, [illegible] Hos- [illegible] ville:

S [illegible] INSTITUTE (Parkes Museum, [illegible] ssion on Municipal Milk [illegible] Dr. G. F. McCleary) Dr. H. C. Pattin, Dr. H. M. [illegible] afternoon visits will be made [illegible] Depôt, and to the Disinfecting Court, and Shelter.

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Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1904, which was completed with the issue of Dec. 31st, and the Title-page to the Volume, were given in THE LANCET of Jan. 7th.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Mar. 16th, 1905.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rain fall.	Solar Radia in Vacuo	Maximum Temp Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 a.m.
Mar. 10	29·52	S.W.	0·07	85	51	37	37	40	Overcast
" 11	29·16	S.W.	0 23	60	52	40	60	51	Showery
" 12	29 01	S W.	0·09	94	51	45	45	47	Cloudy
" 13	29 39	S.W.	0·21	93	55	42	44	45	Fine
" 14	29 18	S.W.	0·26	93	54	45	47	48	Overcast
" 15	29·01	S W.	0·25	69	50	42	42	44	Cloudy
" 16	29 22	S.W.	0·65	86	52	41	45	47	Cloudy

During the week marked copies of the following newspapers have been received:—*Liverpool Courier, Westminster Gazette, Engineer, Richmond Herald, Glasgow Herald, Freeman's Journal, The Scotsman, Highland News, Evening News, Morning Leader, Sanitary Record, Local Government Chronicle, Mining Journal, Bath Weekly Argus, Glasgow Evening Times, Surrey Advertiser, Sussex Daily News, Dublin Times, Birmingham Post, Notts Guardian, Dublin Express, Bradford Observer, Hereford Mercury, Manchester Guardian, Southport Visitor, &c.*

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The Milroy Lectures
ON
INDUSTRIAL ANTHRAX.

Delivered before the Royal College of Physicians of London on March 7th, 9th, and 14th, 1905,

BY T. M. LEGGE, M.D. OXON., D.P.H. CANTAB.,
HIS MAJESTY'S MEDICAL INSPECTOR OF FACTORIES.

LECTURE II.[1]

Delivered on March 9th.

MR. PRESIDENT AND GENTLEMEN,—The treatment of anthrax has been conducted on three lines. The first is based on the fact that man is naturally possessed of a considerable degree of resistance to the disease, as spontaneous recovery from external anthrax is not infrequent. Treatment has, therefore, been conducted on expectant lines only. Secondly, and by far the commonest method, is removal or destruction of the pustule in the belief that the process is at first a local one, the bacilli developing at the seat of infection and only after lapse of time causing serious and it may be fatal effects either by intoxication or by a more widespread distribution of bacilli in the body. I include under this head such methods as excision, cauterisation, and injection into the tissues round the pustule of 5 per cent. carbolic acid, as they all have for their object either the direct destruction of the bacilli or the setting up of a barrier against further extension outwards from the central nidus. Thirdly, following on the successful results obtained in the treatment of certain infective diseases by inoculation with the serum of immunised animals, similar success has been claimed in the case of external anthrax also and, in Italy and South America notably, this method of treatment is coming more and more into practice. The fact that external anthrax is so frequently the subject of spontaneous recovery makes it difficult to compare the respective merits of one and another method of treatment when the only criterion taken is the proportion of deaths to the number attacked. But in the case of external anthrax there are other means of comparison which do not obtain equally in other diseases when this the chief is left out of account, namely—(1) the relative amount of scarring or of deformity left; (2) the applicability of the form of treatment to the differing types assumed by the disease and the stage which it may have reached; and (3) the length of time which elapses from the beginning of the treatment to resumption of employment. All these are fundamentally important in judging of efficacy and the third especially is of moment where industrial considerations enter.

Müller[2] bases a series of articles on the success attending 13 consecutive cases treated intentionally in Jena by the most conservative of methods—namely, rest, fixation, and elevation of the part affected, stimulating diet, and the local application of grey ointment. Ramstedt[3] from the same hospital more recently has adduced other seven consecutive cases (one a very severe one of anthrax of the tongue) in which nothing but the same expectant treatment was pursued. And, similarly, Fr. Schultze[4] of Bonn cites also a case of extremely severe malignant pustule of the cheek with extensive œdema of the eyelid, neck, and chest, so extensive as to suggest the gravest prognosis, which recovered (after a plastic operation on the eyelid) without operative treatment on account of the situation of the pustule. Muller's view is that the bacilli multiply slowly at the point of inoculation and that the œdema set up is due to toxins liberated by them. In itself this œdema up to a certain point is to be regarded as a healing process in that it is [illegible] of the bacilli already present and

development. The fact that in the blood and then only within a very short period prior to death shows, he thinks, that the blood is not readily infected. Unless the blood-vessels, therefore, are cut through the bacilli will not enter the blood stream except by the devious path of the lymphatic vessels and in the lymphatic glands the bacilli meet with obstruction and are held back. He assumes that generalisation of the infective organisms can only occur after the cells at the point of local infection have been weakened either by actual struggle with the bacilli or by the action of toxins and effort therefore should be directed to maintain the cells at the point of entry in such a state as to prevent best the further spread of the bacilli. Hence the reason for the conservative treatment. It is possible to deal with 11 of the 13 cases he describes, the data in two being insufficient for the purpose. Several were, he says, extremely severe but in all the temperature had sunk to normal and the œdema had considerably diminished within a few days of the date of commencing treatment. The duration of treatment varied from three to 45 days (so long a period in one case being necessary on account of necrosis of both upper and lower eyelids), the average duration being 16 days. But in seven of the 11 it is definitely stated that further attendance in the out-patient department was necessary—in one case for considerable loss of the skin of the arm. He regards as almost a crucial experiment the occurrence of death in the fourteenth case where incisions had been made into a malignant pustule which up to then had been doing well, with the result that after 12 hours the inflammation had extended widely and death ensued in 55 hours. The cases are too few to draw the sweeping conclusion Muller does but they are instructive in emphasising the difficulty in sifting the evidence of different methods of treatment. His view that obstacle is placed in the way of generalisation of anthrax by the lymphatic glands is supported by the experiments of Wyssokowitch[5] who found in one case of anthracæmia in man that he could cultivate 52 colonies of anthrax bacilli from a drop of blood from the finger, but similar cultivations from the vesicles, superficial and deep portions of the excised pustule, remained sterile. Following this observation up by injection of bacilli into rabbits in the region of the foot and watching the length of time which elapsed before the different glands and the blood became infected he concluded that the bacilli passed from the primary centre in the subcutaneous tissue into the blood chiefly through the lymph glands, which act as stations and hold up the bacilli until these grow through the glands and pass into the efferent lymph vessels. But seeing that as a consequence of the necrotic process many small veins must become thrombosed and be the seat of development of bacilli Müller gives no sufficient reason why these bacilli should not become detached and pass into the blood stream as readily as they would do were the blood-vessels cut through.

In the first lecture I showed that the mortality of the disease generally was at least 25 per cent. For cases treated under favourable conditions this figure is too high and by this is to be understood primarily excision not later than the fourth day after the initial symptoms have shown themselves. Unless the persons affected have knowledge of the nature of the disease or apply for treatment to a hospital the absence of pain and of constitutional disturbance often causes the lesion to be unheeded. That the general high death-rate is due to ignorance of the symptoms and neglect in applying for early treatment is shown, I think, by study of hospital records in districts where the disease is well recognised. *Thus in the hide and skin warehouses round Tooley-street* [illegible] apply usually in good

f malignant pustule

were fatal—7·1 per

new's Hospital two were fatal, and of 39 treated between 1896 and 1904 in the Bradford Royal Infirmary there were six deaths, 15·4 per cent. Study of these records leaves no doubt on the mind that in early cases, and frequently also in advanced, as soon as the local centre of infection has been removed or destroyed there is usually a rapid fall in temperature, the œdema commences to disappear and menace to life is over, although several days may elapse before all glandular swelling has subsided. Fatal cases are those in which excision is practised late and in which the symptoms are, already severe on admission. This statement must be regarded as a general one only, because examination of the notes on 64 cases treated in St. Bartholomew's Hospital and Guy's Hospital shows that in ten œdema increased after excision and in a small number of the deaths in London hospitals generalisation of the disease followed so quickly after excision as to raise suspicion that they were connected. Surgical interference in external anthrax usually takes the form of free excision, dissecting out the pustule from the healthy tissues beneath, swabbing the wound out with pure carbolic acid, and allowing the wound to granulate up from the bottom. Frequently, also, or in substitution altogether of excision, into the subcutaneous tissue around the margins of the malignant pustule 5 per cent. carbolic acid is injected. At Guy's Hospital, based on the experience of Davies-Colley,[6] which again was based on that of Muskett in South Africa, in addition to excision powdered ipecacuanha is dusted on the wound and ipecacuanha in ten-grain does is given internally. Muskett[7] himself in 15 years treated 50 cases without fatal issue, using locally ipecacuanha mixed with water to the extent of a cream and did not practise excision. He believed the remedy was as much a specific for anthrax as quinine is for ague and mercury for syphilis. Davies-Colley did not feel justified in omitting excision and believed that internal administration of ipecacuanha was useful in acting specifically on the small black sloughs not infrequently found in the intestinal tract in fatal cases, the cause probably of the vomiting so frequently complained of. Washbourn found, too, that ipecacuanha has the power of destroying bacilli but not the spores of anthrax and in the body sporulation does not take place. Muskett cites only four of his 50 cases, all of them affecting the forearm, hand, or finger. The treatment initiated by Davies-Colley is still that carried out most frequently at Guy's Hospital. Russian surgeons[8] appear to have used largely injections of carbolic acid round the pustule. Scharnowski has treated in this manner 50 cases with 2 per cent. of deaths and their severity may be judged from the fact that 25 affected the face and neck. Cases are recorded where very large amounts of carbolic acid have been injected in cases of anthrax when the œdema has been extending without production of symptoms of carboluria. Such a case is reported in the *Guy's Hospital Gazette* of Oct. 8th, 1904. Country practitioners make frequent use of the caustic potash stick alone. Graef[9] describes 384 cases of malignant pustule treated thus by himself and two other physicians since 1856 with 20 deaths—5 per cent. Of his own 75 cases four were fatal and ten were eventually cured after more or less local necrosis (in one case amputation of the arm). In the remaining 61 within 24 hours of the cauterisation the symptoms diminished and the threatening anthrax pustule was converted into a harmless eschar. The situation in these was about equally distributed on the face and neck, on the one hand, and the upper extremity on the other. The eschar commenced to detach itself in from ten to 14 days and became finally detached in the third or fourth week. In the neighbourhood of the eye sometimes plastic operation was necessary. Failure by this method he attributes to delay in application for treatment. He considers that the favourable result of the expectant treatment as shown by Müller does not justify the omission of destruction of the local centre, as he believes by that means the generalisation of the disease can be prevented. Excision as a preliminary to the use of caustics is allowable but, in his opinion, quite unnecessary.

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[1] Lecture I. was published in THE LANCET of March 18th, p. 689.

[2] Deutsche Medicinische Wochenschrift, vol. xx., 1894, pp. 515, 535, 628, 706, 916, 955, 977.

[3] Münchener Medicinische Wochenschrift, vol. xlvi., 1899, p. 517.

[4] Deutsche Medicinische Wochenschrift, vol. xl., 1901.

[5] Reference in Centralblatt für Chirurgie, 1892, p. 6.

The great objection, however, to be urged against excision is that in some situations—as, for instance, on the eyelids—operative treatment is impracticable or, if practised, must inevitably lead to disfigurement and necessitate subsequent plastic operation or skin-grafting to repair the loss of tissue caused; indeed, it may be said that subsequent treatment of external anthrax after excision is more concerned with remedying the conditions thus produced than by concern for the disease itself. Further, there is the objection that in a few cases it may lead to generalisation. Examination shows that of 15 cases treated by excision at St. Bartholomew's Hospital the average stay in hospital was 20 days and that in not one is it stated the wound was quite healed at the time of discharge. Similarly in Guy's Hospital of 43 cases the average duration of treatment was 15·7 days; in the London Hospital of 38 cases, 16·1 days; and in the Bradford Royal Infirmary of 32 cases, 22·6 days. I draw no inference respecting the average duration of stay in one and another hospital, for this necessarily is dependent on the pressure there may be for beds, causing in some cases an earlier discharge to the out-patient department than in others.

In view of the importance of examining the method of treatment by anti-anthrax serum closely I have set down the details of all the published cases that I can find[10] without selection (see Table X.). All but two of the cases have been treated in Italy with Sclavo's serum. Those numbered 1 to 23 are consecutive cases treated by Dr. Lazzeretti[11] of Siena and 28 to 53 by Dr. Cicognani[12] of Santa Croce. Of the 67 cases 56 were treated by serum alone and in 11 this serum treatment was subsequent to other treatment which in ten cases had been excision or cauterisation or both. In 44 of the 56 treated with serum alone data are given precise enough for practical purposes to determine the time which elapsed from the commencement of treatment until complete recovery. In several instances it is the same as the time given for the separation of the eschar but many days before that stage has been reached the patient is to all intents and purposes quite well. Excluding the fatal cases, in every instance but one by the third day marked improvement, not only in the general symptoms but in arrest of the further development of the pustule and in diminution of the œdema, had taken place. Taking the time thus given or to be inferred in these 44 cases the average duration of treatment was eight days. In none was it more than 14 days. I can affirm, too, that in the 12 cases treated with serum alone in which the details are not precise enough to allow of the number of days being given the evidence all points to rapid healing, except in Nos. 24 and 33 where there was loss of tissue. The exact description, so far as it is given, of the final condition at the site of the pustule itself may be summarised as follows: No visible scar, 10; scar hardly visible, 5; slight scar, 10; completely recovered, 15; some loss of tissue in eyelid but function unimpaired, 1; and complete loss of the upper eyelid, 1; total, 42. The situation of the pustule in these cases is indication enough of their severity, the high proportion on the eyelid being especially noticeable. (Table XI.)

In the list are two fatal cases, Nos. 10 and 49. In the first the patient was the subject of malaria, was addicted to alcohol, and had had syphilis. The upper eyelid was affected with œdema extending rapidly over the face and chest and there was no necrotic patch to assist in the diagnosis. The condition was suspected to be diphtheria of the conjunctival mucous membrane and diphtheria antitoxin was injected. A day later some vesicles appeared on the eyebrow, on which date 20 cubic centimetres of the serum were administered. Improvement in the local and general conditions ensued shown by reduction in the œdema, subsidence of fever, and regained appetite. Four days later, improvement during that time having been continual, he was seized with a rigor, violent headache, vomiting, rise of temperature, and delirium, on which followed profound collapse, coma, and death. Post mortem there were found extensive submeningeal effusion and hæmorrhage in the substance of the brain. Anthrax bacilli were found in the submeningeal effusion. In the other case, also affecting the eyelid, serum treatment was delayed owing to the impossibility of obtaining it, so excision was practised. When the serum was obtained and injected intravenously immediate improvement took place. Two days later the œdema had diminished so much that the woman was able to see out of her eye, took her food well, and the pulse-rate dropped from 140 to 104. A few hours later she was seized with sudden collapse, cyanosis, and died. No post-mortem examination was held. Of the nine other cases treated with excision or cautery as well, in one there was complete necrosis of the upper and lower eyelid and in two others it is stated that after four days' treatment the local injury was the only concern, although one was of such exceptional gravity as to have received 200 cubic centimetres of the serum intravenously within 24 hours. In another case in which the bacilli were found in the blood and urine 190 cubic centimetres were administered in the course of seven days.

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[6] Guy's Hospital Reports, vol. xlvii., 1890, p. 1.

[7] THE LANCET, Feb. 11th, 1888, p. 269.

[8] Reference in Centralblatt fur Chirurgie, 1882, 1890, and 1892.

[9] Wiener Klinische Rundschau, vol x., 1903, p. 165.

[10] This was written before the cases in the Brit. Med. Jour. of Jan. 7th and Feb. 11th and in THE LANCET of Feb. 4th were published.

[11] Lazzeretti: Ventitre Casi di Pustola Maligna curati col Siero Anticarbonchioso Sclavo, Siena, 1902.

[12] Cicognani. Quattordici Casi di Pustola Maligna curati e guariti col Siero del Professore Sclavo (Gazzetta degli Ospedali e delle Cliniche, No. 14, 1901). Ibid, Pustola Maligna e Siero Anticarbonchioso Sclavo (Gazzetta Medica Italiana, Nos. 51-52, 1902). Garzia: La Sieroterapia Anticarbonchiosa, Quattro Nuove Osservazioni Cliniche (Rivista d'Igiene, 1904). For further literature, see Sclavo, Sullo Stato presente della Sieroterapia Anticarbonchiosa (Rivista d'Igiene, anno xiv., 19[illegible]).

Particulars are given as to the amount of serum injected in each case. In the early days of the treatment the doses were comparatively small, no more than 20 or 30 cubic centimetres being given at the initial injection. In later cases the initial dose is generally 40 cubic centimetres and those who have experience of the treatment strongly advocate big initial doses. In 39 of the cases the initial dose sufficed. These cases, however, by no means exhaust the list of those in which serum treatment has been adopted. Sclavo[13] himself in 1903 reviewed the subject in a paper in which he tabulated all the cases known to have been treated by means of it in Italy whatever the stage of the disease. These totalled 164 with ten deaths—6·09 per cent. as compared with 24·1 per cent. for the whole of Italy. The facts stated by him he believes are very far from showing accurately the therapeutic value of the anti-anthrax serum. In the early days of a new treatment holding out a possible hope there is always temptation to use it in the most desperate cases. To two of the fatal cases I have referred already. In another, affecting the upper eyelid, the disease was not diagnosed until too late when the woman presented herself with a high temperature, very weak intermittent pulse, difficulty of respiration, and œdema of the face, the neck, and the chest. Death took place within nine hours of commencing treatment. In the fourth the pustule was situated on the neck with marked cyanosis from dyspnœa caused by the œdema. 25 cubic centimetres were injected with little hope of benefit and death followed within 20 hours. In the fifth the pustule was situated on the neck with œdema of the greater part of the thorax. Death took place within 11 hours of admission. 20 cubic centimetres only were injected. In the sixth no record was kept except that death took place within 30 hours of admission. In the seventh the pustule was on the neck with œdema rapidly extending to the thorax. Bacilli were found in the blood. There appears to have been no reaction to injection of 45 cubic centimetres on the first day and 30 cubic centimetres on the second. Of the eighth, particulars are not given except that the patient was admitted to the hospital in a serious condition, the victim of alcoholism and suffering from disease of the heart. The ninth had œdema of the neck and chest, and 20 cubic centimetres were injected. On the following day there was marked improvement. 20 cubic centimetres were again injected but death occurred suddenly on the morning of the next day with symptoms of hemiplegia.

Since July, 1904, serum treatment has been tried in England either alone or in connexion with excision in 12 cases of external anthrax. In one case of so-called malignant anthrax œdema also on the tenth day after the initial symptoms and when the patient was in a comatose condition 30 cubic centimetres were injected subcutaneously four hours before death at a time when bacilli were found present in the blood. In four of the 12 cases of external anthrax serum treatment alone without excision was adopted. The situation of the pustule in these cases was: (1) the malar eminence of the cheek; (2) the forehead; (3) the upper eyelid; and (4) the forearm. Cases 1 and 2 were treated at St. Bartholomew's Hospital.[14] An initial dose of 40 cubic centimetres sufficed in both cases to arrest further "development of vesicles or other indications of the necrotic process." There was increased œdema but this was associated with improvement in all other respects. In one of the cases no colonies of anthrax could be cultivated 19 hours after the serum had been injected although previously the fluid of the vesicles yielded abundant colonies. "Cultures were repeated on the third day again with negative result ...... only a few disintegrating bacilli were found, mostly enclosed in leucocytes." In both cases hardly any scar was left. Case 3 was treated by Dr. W. Mitchell of Bradford. The patient was a mill worker. Already by the second day both eyelids were closed with œdema, which extended to the clavicle on the left side, and the right upper and lower eyelids were dark coloured and appeared as if about to necrose. In four days 100 cubic centimetres were injected, 20 on the first, 50 on the second, 30 on the third, and ten on the fourth. By the fifth day the œdema had almost all disappeared except such as would readily be accounted for by the presence of a necrotic area on the left upper and lower eyelids. Although the local symptoms here were very severe the general condition of the patient remained good. Case 4 was treated at the Royal Infirmary, Bradford. The type of the disease was described as very malignant, with œdema rapidly extending to the shoulder. The patient received 140 cubic centimetres in the course of three days (30 cubic centimetres intravenously on the morning of the day of death). There appeared to be reaction at first in rise of temperature to 103·6° F. but the œdema continued to spread; he became insensible and the diagnosis of meningeal hæmorrhage between the pia mater and arachnoid was made by Dr. J. H. Bell. Post mortem the brain was found to be surrounded with blood between the pia mater and arachnoid and nowhere else.

Six of the eight cases in which excision was practised as well as serum administered (treated in Guy's Hospital, Bradford Infirmary, Kidderminster Infirmary,[15] and by Mr. E. G. Peck of Queensbury, Bradford) made rapid uninterrupted recovery. In the seventh, treated at the North Stafford Infirmary, excision of the pustule on the hand and incisions in the brawny œdema had been made on the twelfth day of the disease. Administration of serum was commenced 24 hours later when the patient was already in a comatose condition. Death took place 24 hours later, there having apparently been no reaction to the serum treatment (except in diminution of the œdema). In the eighth the pustule was situated on the neck with rapidly extending œdema. Two injections only of ten cubic centimetres at 12 hours interval were given. Death occurred within 30 hours of excision.

The claims which have been made as to the effect of serum treatment can be summarised by saying that: (1) even in very large doses it is innocuous; (2) it can be well borne even when introduced into the veins; (3) no case taken in an early stage or of moderate severity is fatal if treated with serum; (4) with the serum some cases are saved when the condition is most critical and prognosis almost hopeless; (5) when injected into the veins the serum quickly arrests the extension of the œdematous process so as to reduce notably the danger from suffocation which exists in many of the cases where the pustule is situated on the face or neck; (6) if used soon enough it reduces to a minimum the destruction of the tissues at the site of the pustule; (7) in some situations of the pustule, as the eyelid, serum treatment must be used in preference to any other as it alone can hold out hope of success without permanent injury; and to these may be added (8) that in internal anthrax it is the only treatment which holds out any hope of benefit. In almost all cases injection of the serum is followed by a rise in temperature often to over 105° F. and with it there is an improvement in the general condition of the patient. In the same way the necrotic process itself is to be regarded as a sign that the organism is making effort to resist the anthrax infection.

A few facts may emphasise the value and importance attached to the serum treatment in Italy. In Santa Croce,[16] a small town on the Arno of about 5000 inhabitants, are 36 tanneries employing 350 workers. Danger of anthrax is recognised as being practically limited to hides coming from the east and especially from China, so much so indeed that some manufacturers had ceased to use them. Anthrax among the workers had been frequent, of which the series of cases 28–53 in four years is sufficient evidence. Dr. Cicognani has adopted the serum treatment exclusively since 1899, having had experience that the other methods of treatment did not always prevent a fatal issue and when successful the sufferers could not resume their occupation until after a long period of convalescence. The workers now insist on having this treatment to the exclusion of every other and he states that the manufacturers are so certain of its efficacy that they hesitate no longer to use even Chinese hides. The workers, too, are now so willing to undergo treatment, since operative treatment is uncalled for, that they present themselves when there appears the

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[13] Sullo Stato presente della Sieroterapia Anticarbonchiosa, Rivista d'Igiene et Sanita Pubblica, Anno xiv., 1903.

[14] Brit. Med. Jour., C. B. Lockwood and F. W. Andrewes, Jan. 7th, 1905. A. Bowlby and F. W. Andrewes, Feb. 11th, 1905.

[15] THE LANCET, Feb. 4th, 1905, p. 292.

[16] Quattordici Casi di Pustola Maligna, by Dr. Cicognani, Gazzetta degli Ospedali e delle Cliniche, No. 14, 1901.

TABLE X.—DETAILS OF 67 CASES OF EXTERNAL ANTHRAX TREATED BY SCLAVO'S SERUM.

Number.	Sex.	Age.	Occupation.	Situation of pustule.	Date of admission.	Probable stage (days).	Treatment (quantities of serum injected in cubic centimetres).	Result.	Resulting condition at site of lesion.	Date of falling off of eschar.	Date of discharge.	Duration in days after commencement of treatment.	First day.	Second day.	Third day.
1	M.	17	Tanner.	Chin. Œdema of neck.	1/3/00	Third.	30	Recovery.	Slight scar.	12/3 00	13/3/00	13	Marked diminution of œdema.	Further diminution.	—
2	M.	18	,,	Neck. Œdema extending over neck.	18/3/00	,,	30	,,	,,	30/3/00	31/3/00	13	Local condition unchanged.	Œdema still extensive.	Marked diminution of œdema.
3	M.	27	,,	Lower eyelid. Œdema involving upper lip.	30/3/00	Second.	30	,,	No visible scar.	9/4/00	10/4/00	12	Œdema increased.	Unchanged.	Œdema disappearing.
	M.	22	,,	Forehead. Œdema of scalp.	14/4/00	—	20	,,	,,	After some days.	Not stated.	—	—	Local signs improved.	—
5	M.	47	Peasant.	One on the right forearm; another on the left thumb. Marked œdema and enlargement of the axillary glands.	14/5/00	Third.	40 on the 14th and 20 on the 15th.	,,	Completely cured.	A few days.	26/5/00	12	Œdema increased in both arms.	Œdema disappearing.	—
	F.	17	Tailoress.	Upper lip. Œdema extending to the cheek and eyelid.	23/5/00	,,	20	,,	No deformity.	31/4/00	28/5/00	5	Œdema diminished.	Complete disappearance of œdema on the eyelid.	—
7	M.	37	Tanner.	Back. Œdema of shoulder and arm.	6/8,00	,,	20	,,	Completely cured.	11/8/00	11/8/00	5	—	—	—
8	M.	39	Butcher.	Neck. Great œdema; difficulty of deglutition.	15/8/00	Sixth.	40	,,	,,	A few days.	28/8/00	13	Diminution of œdema.	Further diminution.	—
9	M.	22	Tanner.	Lower eyelid. Much œdema of both eyelids.	14/8/00	Second.	20 on the 14th and 20 on the 16th.	,,	No interference with function from slight scar.	25/8/00	25/8/00	11	Œdema increased.	Unchanged.	Improvement commencing.
10	M.	60	Hide merchant.	Upper eyelid. No pustule; rapidly extending diffused redness and swelling.	22/8/00	,,	Suspected at first to be diphtheritic inflammation of the conjunctival mucous membrane and treated on the 23rd with antitoxin. On the 24th 20 c.c. of Sclavo's serum and on the 26th 20 c.c.	Fatal.	—	—	—	—	—	—	—
11	M.	39	Milkseller.	Right forearm.	28/12/00	Sixth.	40	Recovery.	Scar hardly visible.	4/1/01	4/1/01	7	Œdema diminishing.	—	—
12	M.	16	Tanner.	Clavicular region. Much swelling.	20/6/01	Third.	40	,,	Completely cured.	About seventh day.	28/6/01	8	—	—	—
13	M.	45	Butcher.	Back of thumb.	1/6/01	Fifth.	30	,,	—	About seventh day.	About 7 days.	7	—	—	—
14	M.	23	Labourer.	Neck. Œdema extending over the clavicle.	3/8/01	—	40	,,	No trace of scar.	8/8,01	12/8/01	9	—	—	—
15	F.	19	Peasant.	Cheek. Œdema of eyelids, forehead, and lip; dyspnœa; difficulty of deglutition.	2/8/01	—	40 on the 2nd and 40 on the 4th.	,,	,,	15/8/01	15/8/01	13	Unchanged.	Unchanged.	—
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p

a	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*j*	*k*	*l*	*m*	*n*	*o*	*p*
16	F.	44	Peasant.	Middle finger. Œdema of arm	3/8/01	—	20	Recovery	Completely cured.	12/8/01	12/8/01	9	—	—	—
17	M.	5	—	Chin. Œdema of lip and cheek.	4/8/01	—	30	,,	No trace of scar.	16/8/01	16/8/01	12	Unchanged.	Œdema disappearing.	Œdema disappearing.
18	M.	48	Peasant.	Ear.	4/8/01	Eighth.	20	,,	Completely cured.	—	12/8/01	8	Œdema disappearing.	—	—
19	F.	58	,,	Nose.	5/8/01	—	20	,,	No trace of scar.	—	11/8/01	6	Unchanged.	Marked improvement.	—
20	M.	22	,,	Elbow. Much œdema above and below lesion.	18/8/01	—	40	,,	Completely cured.	—	31/8/01	13	—	—	—
21	M.	44	,,	One on the right arm and one on the left arm.	18/10/01	Third.	40	,,	,,	—	23/10/01	10	—	—	—
22	M.	54	Butcher.	Back of hand.	27/10/01	Seventh.	40	,,	—	6/11/01	6/11/01	9	—	—	—
23	M.	61	Labourer	Cheek.	26/11/01	—	40 on the 26th and 20 on the 27th.	,,	—	—	—	—	—	—	—
24	M.	32	Porter.	External angle of the eye Eyelid closed by œdema.	13/10/02	Fourth	20 and 10 on the 13th, 10 on the 14th, and 10 intravenously on the 15th.	,,	Some loss of tissue but function unimpaired.	—	—	—	Œdema diminishing.	Œdema increased; delirium.	—
25	M.	30	Tanner	Bridge of the nose Eyelid closed with œdema, which extended over chest.	21/4/03	Fifth.	40 on the 21st and 20 on the 22nd.	,,	Scar hardly visible.	—	Probably not later than 4/5/03	14	Condition improving.	Marked improvement.	—
26	M	17	Sausage maker.	Cheek. Much œdema.	1/3/03	Fourth	22 on the 1st and 11 on the 2nd.	,,	Rapidly healed	—	—	—	Œdema increasing	,,	—
27	F.	14 months	—	Cheek. Œdema of the whole face.	17/8/98	—	28 in three separate doses on the 17th.	,,	Scar hardly visible	20/8/98	20/8/98	3	Œdema markedly diminished.	—	—
28	M.	33	Tanner.	One on the neck and one on the nose Persistent vomiting.	15/6/99	Fourth.	40 on the 15th and 20 on the 16th.	,,	No trace of scar.	A few days	—	Not more than 7.	Œdema disappearing.	Œdema disappeared.	—
29	M.	7	—	Temple. Œdema of neck.	9/8/99	Second.	20 in two doses on the 10th.	,,	—	15/8/99	15/8/99	6	Slight diminution of œdema.	Unchanged.	Marked diminution.
30	M.	69	Tanner.	Root of the nose. Œdema of eyelids.	14/10/99	—	30	,,	—	20/10/99	20/10/99	6	Slight improvement in local condition.	—	—
31	M.	2	—	Cheek	4/11/99	—	10 on the 4th and 10 on the 5th.	,,	Completely cured.	9/11/99	9/11/99	5	Unchanged.	Improvement.	—
32	M.	20	Tanner.	Cheek.	3/11/99	—	30	,,	No trace of scar	A few days.	Probably very early.	—	Œdema diminished.	—	—
33	M	14	,,	Internal angle of the eye with great œdema	7/2/00	—	20 on the 7th and 30 on the 8th.	,,	Complete loss of upper eye lid.	—	—	—	Œdema increased.	Further increase.	Improvement commenced.
34	F.	13	Tanner's daughter.	Chin. Much œdema of neck.	17/12/00	Fourth.	30 on the 17th and 30 on the 18th	,,	No trace of scar.	21/12/00	21/12/00	4	Unchanged.	Improvement commencing.	—
35	M.	29	Tanner.	Neck. Slight œdema only.	29/12/00	—	40	,,	Slight scar.	4/1/01	4/1/01	6	—	—	—
36	F.	40	Peasant.	Thigh.	16/1/01	—	40	,,	—	—	—	—	—	—	—
37	M.	39	Tanner.	Shoulder.	30/1/01	—	40	,,	—	—	—	—	—	—	—
38	M.	—	Peasant.	Internal angle of the eye. Great œdema, delirium.	14/4/01	—	Had been cauterised on the 12th, when 40 c.c. were given, 40 c.c. on the 13th, and 40 c.c. on the 14th.	,,	—	—	—	8	Marked improvement	—	—

particular organism and antitoxic as regards the toxin contained in its substance.

The work of Wright and Douglas,[27] with its proof that the blood fluids by means of certain substances, "opsonins," contained in them modify bacteria in a manner which renders them a ready prey to the phagocytes, may be expected to throw light on the action of the anti-anthrax serum. The anthrax bacillus unfortunately, owing to thread formation, does not appear to lend itself well to the particular method of experiment employed by them—namely, averaging the number of bacteria ingested by a certain number of leucocytes—but in experiments on the opsonic power of human blood in its relation to the anthrax bacillus when unheated serum was used they say, "Although enumeration was impossible there was everywhere evidence of phagocytosis. In the few cases where the leucocytes had not ingested bacteria they were found to have extended themselves in a characteristic manner along the bacterial thread." Repeating the experiments with heated serum "there was practically no sign of phagocytosis." The presence of opsonins in quantity in the blood after inoculation of serum would account for the observation of Andrewes in the case already referred to in which no anthrax colonies could be cultivated 19 hours after injection of serum although their presence had previously been abundantly proved, such few disintegrating bacilli as were found being mostly inclosed in leucocytes.[28]

The Hunterian Lectures

ON

THE PHYSIOLOGY AND TREATMENT OF SURGICAL SHOCK AND COLLAPSE.

Delivered before the Royal College of Surgeons of England on March 6th, 8th, and 10th, 1905.

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LECTURE II.[1]

Delivered on March 8th.

ÆTIOLOGICAL FACTORS IN THE PRODUCTION OF SHOCK DURING OPERATIONS.

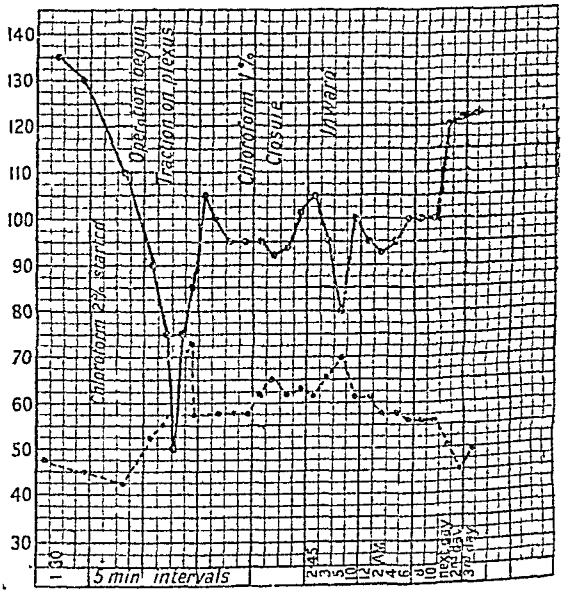
The relation between shock and the region operated upon.—As a general rule it may be stated that the degree of shock produced by an operation is dependent upon the amount of traumatism to the nerve elements of the part operated upon. Thus traction upon important nerves or injury to them will cause more shock than the same amount of interference with other tissues. I have observed that traction upon the brachial plexus during the process of clearing out the axilla in an amputation of the breast will cause a marked fall in blood pressure (see Fig. 5). It may be stated that the degree of shock caused by an operation is in direct proportion to the area of skin and muscle injured and the relative number of nerve endings in them. Thus crushing injuries of the feet or hands will cause more pronounced shock than amputation of the limbs high up. Crile has observed that in dogs crushing the paw will cause a greater fall in the blood pressure than section of the main nerves in the thigh. Injury to parts richly supplied with nerve endings, such as the genital organs, is very liable to cause shock. The area of wound surface exposed during an operation would also seem to be a factor in the production of shock. Crile states that in animals subjected to extensive removal of integument shock is induced with a rapidity proportional to the area exposed and its depth corresponds to the duration of exposure.

Of all injuries those such as burns and scalds which involve a large area are most frequently followed by shock. The shock produced by severe burns or scalds is due not so much to the severity of the injury as to the area of injured tissue and the number of nerve endings involved. Thus dangerous or fatal shock more frequently follows burns of the second and third degrees than those of the fourth and fifth degrees, because in the latter the nerve endings are destroyed, while in the former they are injured but can still send impulses to the nerve centres.

The first effect produced upon the blood pressure by injury to any part of the body richly supplied with nerve endings, such as the genital organs, the neck of the bladder, and the rectum, is a rise. Often a very marked rise in blood pressure occurs at first. If the injury is continued or is very severe this initial rise is either replaced by a fall in blood pressure or is followed by a fall. Thus in the operation for hæmorrhoids a very great rise in pressure almost invariably results from dilating the sphincter or from cutting away or ligaturing piles which involve the muco-cutaneous edge. Dilating the os uteri causes a similar result. Dilating an old urethral stricture with metal instruments caused at first a rise in the blood pressure, this rise being subsequently followed by a fall to a much lower level. Operations for fistula in ano when the sphincter is divided cause very irregular rises and falls in the blood pressure.

More severe and prolonged operations upon the rectum, such as excision for carcinoma, cause a fall in the blood pressure. In one case the pressure fell from 175 millimetres of mercury previously to operation to 110 millimetres of mercury at the end of the operation. In another case of excision of part of the rectum for a large papilloma the blood pressure fell from 150 to 115 millimetres. During an operation for the removal of cancerous glands from the neck in which the glands were found to be fixed to the carotid sheath and vagus the blood pressure fell from 155 to 110 in ten minutes while the glands were being exposed and dragged upon. During an amputation through the thigh for sarcoma of the knee in a man, aged 56 years, the blood pressure fell from 135 to 90. Prostatectomy in a patient, aged 60 years, caused at first a rise in the blood pressure from 190 millimetres of mercury to 245 and subsequently a fall to 100 millimetres of mercury (see Fig. 7). During an operation for excision of the shoulder-joint for an old fracture-dislocation in a woman, aged 58 years, where considerable difficulty was experienced in getting out the head of the bone, a fall in the blood pressure from 160 previously to operation to 95 was noticed (see Fig. 8).

FIG. 5.



Amputation of the breast with pectoral muscles and axillary glands in a woman aged 48 years. Chloroform was administered with a percentage inhaler, not more than 2 per cent. at any time. Traction on the brachial plexus led to sudden collapse, pallor, shallow respiration, and a great fall in blood pressure. There was a slight degree of shock present at the end of the operation.

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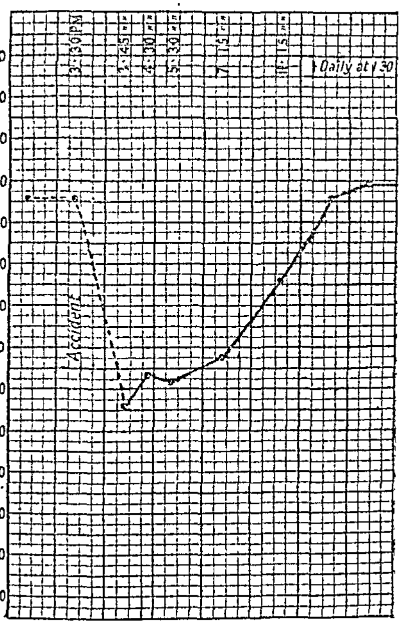
[27] An Experimental Investigation of the Rôle of the Blood Fluids in Connexion with Phagocytosis, A. E. Wright and S. R. Douglas, Proceedings of Royal Society, 1904, vol. lxxii., p. 357, and vol. lxxiii., p. 128.

[28] Sclavo's serum can be obtained from Elia Coli, chimico-farmacista, Siena, price 2 francs per tube of 10 c.c. Messrs. Martindale and Messrs. Allen and Hanburys also keep a supply.

[1] Lecture I. was published in THE LANCET of March 18th, 1905, p. 696.

In operations upon the abdomen the degree of shock produced depends very much upon the area of peritoneum exposed and the duration of the exposure. Generally speaking, operations upon the abdomen are more liable to cause shock than operations upon other parts of the body. Operations upon the upper portions of the abdomen, such as the stomach, duodenum, &c., cause relatively more shock than operations in the lower parts near the pelvis. The shock seems to depend upon the injury to, or exposure of, the peritoneum. Any form of manipulation of the peritoneum, such as traction upon it, sponging, flushing with hot water, and even exposure to the air alone, causes a fall in blood pressure which, if the cause be continued, is progressive. Interference with the mucous membrane of the intestinal tract does not seem to affect the blood pressure. Operations such as colotomy and appendicectomy, where only a small portion of peritoneum is exposed, do not cause much alteration in blood pressure.

FIG. 6.



Moderate [illegible]
aged 49 [illegible]
arm. [illegible]
24 hour [illegible]
previous to the accident.

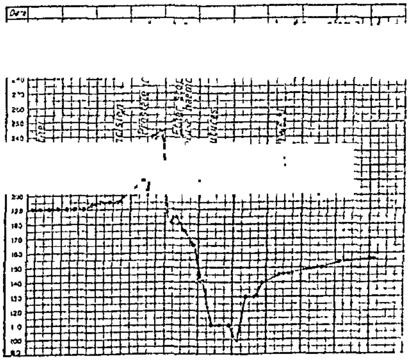
I have made a number of observations on the blood pressure during abdominal operations and the charts generally show well-marked but irregular rises in the blood pressure as the result of the different manipulations during the first stage of the operation. This stage varies [illegible] the nature of the operation and the [illegible] ome cases [illegible]. During [illegible] nal level though slight temporary rises in the blood pressure were observable as the result of manipulation; the general tendency, however, was towards a fall. The next and third stage, which was only seen in very severe operations, was marked by a steady and progressive fall in the blood pressure; any manipulation at this stage, such as would cause a rise in the pressure during the earlier stages, caused a fall which was often sudden, or if a rise in the pressure resulted, it was immediately followed by a fall to a much lower level. In operations upon the upper part of the abdomen such as the stomach and the gall-bladder the tendency was often towards a fall in the blood pressure almost from the commencement of the operation. During the operation of cholecystotomy in an elderly man I observed a fall in the blood pressure from 165 to 125 during the first 15 minutes of the operation. The application of hot sponges to the peritoneum or flushing the peritoneum with hot water usually caused a sudden rise in the blood pressure. In the later stages of the operation, however, it sometimes caused an equally sudden fall.

Turning the intestines out of the abdomen is in all cases followed by a sudden and often dangerous fall in the blood pressure. In one case I saw a patient who was suffering from shock become pulseless and die almost immediately after the intestines had been turned out of the abdomen to get at an obstruction in the colon. In a case of laporotomy for tuberculous peritonitis in a child Cushing observed a fall in the blood pressure from 112 to 70 result from partial evisceration; returning the bowels into the abdomen caused the pressure to rise at once to 90. Evisceration and extensive intra-abdominal manipulation, especially in the upper regions of the abdomen, are always followed by a very marked fall in the blood pressure. There is not sufficient evidence at present to say whether this fall in blood pressure is caused by a reflex effect upon the vaso-motor centres in the medulla as the result of sensory stimuli from the peritoneum or whether it is due to direct insult to the vaso-motor nerves in the splanchnic area. There is no doubt, however, that these procedures in the course of an abdominal operation are very apt to result in shock and may cause fatal collapse in a patient already suffering from that condition.

The influence of age upon the development of shock.—In elderly patients [illegible] observed, the [illegible] 150 and 170. [illegible] sclerosis. In s[illegible] point a little below the normal blood pressure for an ordinary adult may cause shock and in such a patient severe shock may be present with a recorded pressure of 90 or 100 millimetres of mercury. Shock seems to be developed more easily in elderly patients but so far as I have been able to ascertain the difference is not great. As one would expect, recovery from shock appears to be slow in elderly patients. It is noticeable that much greater variations in blood pressure occur during operations upon elderly patients than in young adults. This seems to show that the blood pressure is not under such complete control or, in other words, that with advancing age compensation for variations in the blood pressure tends to become imperfect.

Shock is always supposed to develop much more readily in children as the result of operation than in adults and shock is the chief risk of severe operations in children. Blood-pressure charts taken during operations upon children show that the pressure is very well sustained during the early stages of the operation but that these stages are much shorter in point of time. So that the terminal stage of exhaustion of the centres is reached much earlier in children

FIG. 7.

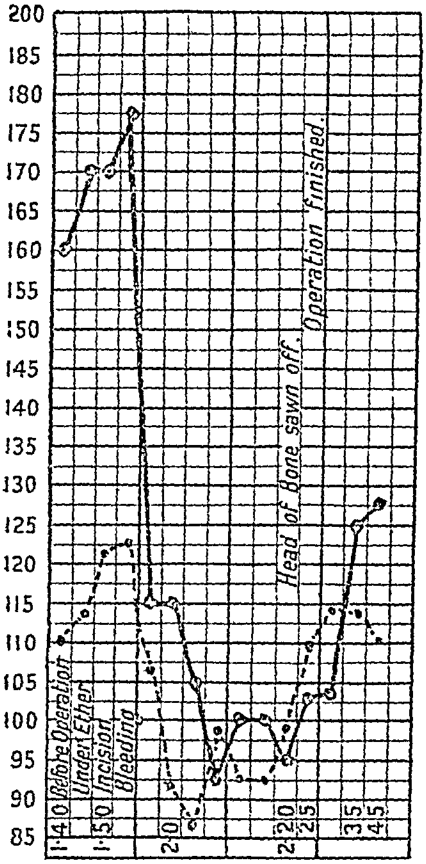


Prostatectomy in a man aged 60 years Slight shock and recovery. (Janeway.)

than in adults. The whole question in fact is one of time. Children have not any special liability to develop shock. And if the time which is occupied in performing the operation is reduced in proportion to the youth of the child I do not think that children are any more liable to develop shock as the result of an operation than adults.

The effect of the anæsthetic.—The influence of the anæsthetic upon the blood pressure during a long operation is very marked and the two anæsthetics in common use vary very widely in their effects upon the blood pressure. Ether anæsthesia causes a rise in the blood pressure in almost all cases. There is a marked rise in the blood pressure in the early stages of ether anæsthesia and the net result of all the investigations into the effect of ether anæsthesia upon the blood pressure shows that it tends to remain at its normal level or to be raised slightly throughout the whole period of ether anæsthesia, any fall in blood pressure which occurs during an operation being due to the steps of the operation and not due to the anæsthetic. Thus Cook and Briggs came to the conclusion that a fall in blood pressure never occurred during ether anæsthesia unless some cause apart from the anæsthetic was present. Blauel in 100 observations found a rise in blood pressure present throughout the whole period of ether anæsthesia in 79 per cent. and a fall in only 12 per cent., in most of which other causes were present. In my own series of charts of operations it seems that the effect of ether anæsthesia is towards a rise in the pressure.

FIG. 8.



Excision of shoulder for old fracture and dislocation in a woman, aged 58 years. Considerable bleeding and much traction necessary to get out the head of the bone. The high initial pressure is due to arterio-sclerosis.

With chloroform anæsthesia the results are almost the exact opposite of those with ether anæthesia. It has always been said by London surgeons that ether anæsthesia is safer in long operations and those where shock is anticipated than chloroform anæsthesia. This fact previously based upon clinical observation is proved beyond all shadow of doubt by blood-pressure records of operations. Chloroform anæsthesia is accompanied by a fall in blood pressure during the whole period of anæsthesia. The effect of chloroform upon the blood pressure is very striking indeed; a fall often to quite a considerable extent almost always follows its administration. In fact, it seems as if chloroform has a direct toxic influence upon the vaso-motor centres and produces by its action upon these centres a fall in blood pressure from lowered peripheral resistances.

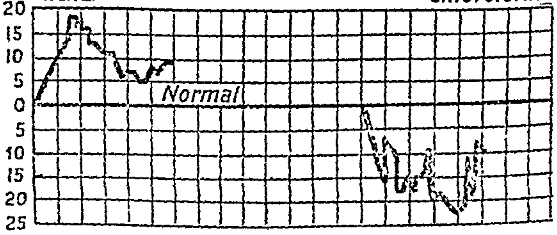
My own observations upon blood pressure, which have been carried out entirely with the object of elucidating the subject of shock, have incidentally led me to the belief that many, if not all, of the accidents which occur with chloroform are due to the effects of that drug *not* upon the respiratory centre and not to the effect upon the cardiac centres but are directly due to the toxic effects of the drug upon the vaso-motor centres. It so happened that on one occasion I was taking readings of the blood pressure of a patient who was being operated upon for piles. The patient struggled during the early stages of the operation and the anæsthetist changed from ether to chloroform. The patient was breathing very deeply at the time and the result no doubt was that a considerable overdose of chloroform was given. Four minutes later the operation was finished and the anæsthetic was stopped. Beyond the fact that the patient was deeply anæsthetised there were no alarming symptoms, but I found that the blood pressure had fallen to an alarming extent and during the following two minutes the respirations stopped and the patient became pulseless. Vigorous artificial respiration happily restored the patient. In this case I was able to observe that the blood pressure had fallen to a dangerous level some time before symptoms of chloroform poisoning developed.

The effects of chloroform in lowering the blood pressure have been demonstrated by Crile, by Duploy and Haillion, and by Remedi upon animals, and upon man by Blauel, Kapsammer, and numerous other observers. Blauel found a marked fall in blood pressure in 69 per cent. of cases of chloroform anæsthesia. Blauel's chart shows the relative results of the two anæsthetics in tabular form. (See Fig. 9.) My own observations seem to show that shock develops much sooner in those operations where chloroform anæsthesia is used than in those where it is not used.

There can, I think, be no doubt that shock is more likely to develop and will develop more rapidly in operations performed under chloroform anæsthesia than in operations performed under ether. I believe, moreover, that the so-called gas-ether-chloroform sequence for long and dangerous operations is a mistake, as it results in chloroform being administered at just that period of the operation when the maintenance of the blood pressure is all important. In operations upon the stomach and other abdominal operations where there are serious objections to ether anæsthesia on account of its liability to cause vomiting and to set up lung complications the C.E. mixture is certainly the best substitute from the point of view of subsequent shock. Blood-pressure charts taken during such operations where the C.E. mixture has been used show that the blood pressure is well sustained.

Time.—This has a most important bearing upon the development of shock. If one examines the blood-pressure charts of patients during an operation the effect of time upon the fall in blood pressure is unmistakeable. The longer the operation the greater the fall; this applies to every kind of operation and in the more severe operations the element of time can be seen to be a very important factor.

FIG. 9.



Blauel's chart of results upon the blood pressure caused by anæsthetic narcosis for at least 50 minutes, calculated from 25 cases of ether and 18 of chloroform anæsthesia, all the subjects being over 20 years of age.

In the pre-anæsthetic days speed in operating was of extreme importance and the great surgeons of those days depended very largely upon their ability to operate rapidly for the success of their operations. After the general use of anæsthetics and the development of aseptic methods of operating the pendulum swung the other way and great care and minute attention to detail were considered of more importance than the speed of an operator. Now the pendulum is swinging back and we are realising that speed is still of importance. In the more severe operations in which shock has to be reckoned with, every minute during which the operation is prolonged increases the risk of shock. We see this particularly in children; they will not stand prolonged operations, though they stand even severe operations well and recover rapidly if the operation is quickly performed.

It is a well-known fact that symptoms of shock frequently do not show themselves until some time after an operation; often not for several hours after the patient has been taken back to bed. This form of shock which develops some hours after an operation is frequently seen in children. This phenomenon can be seen very well if a chart of the blood pressure is kept. The chart usually shows that the blood pressure is dangerously low at the end of the operation, though there may be no symptoms of shock. The pressure, however, instead of rising again remains at the low level or slowly falls still lower. When the patient is in this condition the least thing may be sufficient to cause a dangerous or fatal fall in the blood pressure. In this exhausted condition of the nervous system afferent nerve impulses of any sort tend to lower the blood pressure instead of raising it, and acting in this way the pain and restlessness which so frequently accompany the post-operative period of returning consciousness probably act as the exciting cause of the ultimate breakdown of the vaso-motor system.

Cushing has pointed out that the blood-pressure charts clearly show that the weak pulse which is seen under these conditions is best stimulated by small doses of morphine to stop the inflowing sensory impulses. Blood-pressure charts are of considerable value, as they enable us to anticipate this condition of post-operative shock and we can thus by the adoption of suitable measures often avoid its development.

The condition of the patient prior to operation.—This has always been recognised as an important factor in the causation of shock. The physical factors in the patient's condition which are the most important as tending towards the production of shock are conditions in which the activity of the nerve centres tends to be lowered. Thus patients who are recovering from illness or who are at the time of operation suffering from illness are much more liable to develop shock than those in vigorous health. We see this in patients operated upon for perforation in typhoid fever.

It is often very difficult to estimate the condition of a patient with regard to his power of standing severe operative procedure. Thus often a weakly-looking individual who looks as if he would not stand a severe operation well stands it quite well and *vice versâ*. I think this is accounted for by the fact that a person of poor physique who leads a strenuous life has often much more highly developed nerve centres than one of robust physique who leads a life of ease and indolence which makes but slight calls upon his nerve centres for great or sudden activity. The mental condition of a patient prior to operation has a considerable influence upon the development of shock, though it is difficult to see why this should be so on physiological grounds. There is no doubt, however, that patients who dread an operation and who are in a state of considerable mental anxiety before the anæsthetic is administered are more liable, other things being equal, to develop shock than those whose mental equilibrium is undisturbed.

Conditions which accompany shock.—As has already been pointed out in considering the physiology of shock, it is only to be expected that in severe conditions of shock where the blood pressure has fallen to a level at which the circulation is inefficient there must be a profound change in the functional activity of every organ and tissue in the body.

Temperature.—Several observers have attempted to prove that some of these conditions which accompany shock are the cause and not the result of that state. Thus Kinnaman, arguing from experiments upon dogs, says that the fall in bodily temperature which accompanies shock is the cause and not the result of the fall in blood pressure. He argues that shock is always accompanied by a fall in body temperature and that in shock a rise in body temperature is followed by a rise in blood pressure and amelioration of symptoms. I think, however, that it is much more reasonable to consider the fall in body temperature as a secondary condition to the fall in blood pressure.

Kinnaman has demonstrated by a series of careful experiments that if an animal is killed by prolonged exposure of the intestines the body temperature (as ascertained by a thermometer in the rectum) falls continuously till the death of the animal. This fall in temperature occurs together with the fall in blood pressure and he found that both the temperature and the blood pressure are raised by immersion in a bath a few degrees warmer than the animal. Immersion of the animal in water will, however, raise the blood pressure quite independently of the temperature by increasing the outside pressure. He also failed in his experiments to take into account the alteration in the specific gravity of the blood which follows from exposure of the intestines and which must be a very important factor in such experiments.

There can be no doubt that in cases where shock results from exposure of the intestines the fall in body temperature which must result from exposure of so large an area of peritoneum is an important factor in hastening a fatal issue though it does not follow that it has any direct influence in the causation of the condition we know as shock. These experiments clearly show that a rapid fall of temperature which is steadily progressive follows exposure of the peritoneum to the air and that this lowering of the body temperature helps to hasten the subsequent complete breakdown of the circulation.

The lowering of the body temperature which occurs in cases of shock resulting from operations or injuries in which the peritoneum is *not* exposed is probably entirely secondary to the deficient circulation resulting from the fall in blood pressure, except perhaps in cases where a large wound area is exposed.

Secretions.—In conditions of shock all the secretions of the body are either arrested or markedly decreased. Many of the secreting glands, notably the salivary glands, depend for their secretive activity upon a high local pressure in their capillaries and if this pressure fails secretion is arrested. The intense thirst of patients suffering from shock has probably two causes: first, dryness of the mouth resulting from arrested secretion in the salivary glands; and, secondly, a physiological call for fluid by the tissues. Partial anuria always occurs in shock and complete anuria is not uncommon. This is accounted for by the lowered blood pressure.

Diabetes.—It is a well-known fact that diabetes may follow shock, whether the shock be produced by severe injury or by operation. The diabetes often is not noticed for some weeks after the injury, though glycosuria has often been noticed within a few hours. It is certainly not yet proved that diabetes occurring under these conditions has any direct relationship to shock. The association of circumstances would appear to indicate some connexion, but until further evidence is forthcoming I must be content with merely stating the fact. Mark R. Taylor reports a case of a strong healthy labourer who developed symptoms of diabetes 16 days after an operation for strangulated hernia.

Consciousness.—In syncope loss of consciousness is the rule but in shock there is usually no impairment of consciousness. In collapse impaired consciousness may occur but this depends entirely upon the rapidity of the fall in blood pressure. If the blood pressure falls slowly and there is no sudden alteration in the intracranial pressure consciousness is not altered, but if the fall is sudden unconsciousness and often other cerebral effects are seen.

TREATMENT OF SHOCK AND COLLAPSE.

The percentage of deaths from shock following major operations.—In order to try to ascertain the percentage of deaths from shock following the major operations of surgery at the present day I have analysed the cause of death in 200 cases at one of the large London hospitals. For this purpose I took 200 consecutive cases of death following upon an operation and analysed the cause of death as accurately as possible. It was not possible in many cases to be quite certain that the [illegible] died from shock, but I assumed shock to have be[illegible] I have little doubt that it was, in [illegible] sulted upon the table or soon after the operation, or within the first 24 hours following upon the operation except where the operation had been performed for conditions which *might* of themselves prove fatal apart from shock—i.e., such cases as general peritonitis or acute appendix abscess, meningitis, empyema, &c., these cases were all excluded. The cases included as shock were such as intestinal anastomosis, reduction of dislocated hip, splenectomy, amputation of the hip, ruptured bladder, removal of a cerebral tumour, &c. No doubt several cases were included which did not die from shock; on the other hand many cases which die from shock do not die within the first 24 hours and in many cases where death follows quickly after an operation for general peritonitis or appendix abscess shock is the main cause of death, so that, on the whole, I am inclined to think that the figures give a very fair estimate of the percentage of death from shock and that, if anything, the result is too low rather than too high. Taking the minimum figure I found that there were 42 deaths out of the 200 which could be attributed to shock; or, in other words, 21 per cent. of the deaths following operations were either directly due to shock or shock was an important contributory factor in causing death. This shows, I think, that there is still a great field for the treatment or prevention of shock in lowering the mortality from the more severe operative procedures.

METHODS OF TREATING SHOCK.

Methods which simply treat symptoms.—Under this head I include treatment which has for its object keeping the patient warm by artificial means, the use of warm or stimulant enemata, the administration of alcohol or other stimulants, &c. Such treatment is based entirely upon the relief of symptoms and does not take into account the causes of the condition. The importance of keeping the patient warm is strongly insisted upon by most writers upon this subject and is one of the principal methods of treating shock advocated by many text-books. As I have already mentioned, in abdominal operations exposure of a large area of peritoneum for any length of time causes a considerable lowering of the body temperature and it is therefore important after such operations to attempt to compensate for this loss of heat by the application of external warmth.

The application of heat has, however, but little influence upon the blood pressure and certainly does not tend to raise it, except in so far as recovery of the vaso-motor centres will probably occur more readily if their blood-supply is at the normal rather than at a subnormal temperature. The application of external heat to the patient when it is carried to the extent of making him break into a profuse perspiration, as one not infrequently sees, is probably harmful, as it tends to lower the blood pressure by causing vaso-dilation of the peripheral blood-vessels.

The use of stimulants.—This has hitherto been one of the most popular methods of treating shock in almost all degrees of that condition. During the time that I was house surgeon I had considerable opportunities for watching the effects of treatment in cases of shock from different causes. The opportunities of seeing cases of shock which a house surgeon possesses are not easily obtained afterwards. Cases of shock either following operations or severe injuries or burns are constantly occurring in any large hospital but it is only the house surgeon who really is able to watch these cases constantly. During the period in which I acted in that capacity I was able to observe a large number of cases and one thing that struck me forcibly was the very disappointing results of stimulants, especially strychnine. In severe degrees of shock when the patient's circulation had almost failed hypodermic injections of strychnine, whether given in small or large doses, seemed in most cases to produce no effect. Thinking that the reason why strychnine had so little effect upon the circulation in bad cases of shock might be that owing to the deficient circulation it never reached the nerve centres I tried injecting it directly into the veins but in all cases the effect was the same—little or no improvement in the circulation resulted.

In lesser degrees of shock the effect of strychnine was more marked, the blood pressure being rapidly raised and marked improvement being apparent. I say apparent because as a rule the patient generally relapsed into a more severe degree of shock as soon as the effects of the drug had passed off. The most noticeable fact was that the more severe the degree of shock from which a patient was suffering the less was the effect of administering strychnine. Now it was at once obvious that this was just the reverse of what one would expect to find if strychnine really acted beneficially in the treatment of shock. In many of the cases where strychnine had entirely failed to improve the patient's condition I observed that a very marked improvement followed saline infusion into the veins. This showed that it was still possible to raise the blood pressure though strychnine was useless. At that time an article appeared by a distinguished surgeon in which the administration of strychnine hypodermically in large doses (from 20 to 30 minims of the liquor) was advocated in such cases. This was tried. The same effects, however, were observed—that is to say, in minor degrees of shock a marked result followed the injection, often resulting in great excitement or twitchings, but in the major degrees the result was the same as from the smaller doses—that is to say, there was none, except that in a few instances in which the patient subsequently recovered from the shock very pronounced symptoms of poisoning by the drug developed many hours after its administration. From the observation of a large number of cases I became quite convinced that strychnine was of very little value in the treatment of shock and that in many cases it directly contributed to a fatal issue. Alcohol also appeared to be equally valueless. At that time I was quite in the dark as to the reason for this and was going simply upon the results of clinical observations. Since the use of the sphygmomanometer to register blood pressure accurately in millimetres of mercury, however, the explanation of these clinical observations has become clear. Previously to the use of this instrument there was one fallacy which was very misleading in judging the effects of stimulants. The patient's condition was judged by feeling the character of the pulse and an increased flow through the artery gave the impression that the blood pressure had been raised. After the administration of alcohol especially, the pulse is often much more easily felt and one is led to suppose that the blood pressure has been raised. By observing the blood pressure with the sphygmomanometer after the administration of alcohol to a patient or to myself I have found that the blood pressure instead of being raised is actually lowered and that the apparent improvement in the pulse is due to vaso-dilation and an increased flow through the vessel.

Crile's recently published work upon the effects of stimulants administered to animals both in the normal condition and when reduced to different degrees of shock has entirely altered our views as to the use of stimulants. He found that in the normal animal the effect produced by the intravenous administration of alcohol upon the blood pressure was not great; the most constant result was a fall. There was no evidence that the heart beat more forcibly. In animals suffering from varying degrees of shock the effect of alcohol was to cause a still further fall in the blood pressure, the amount of the fall depending upon the size of the dose. Alcohol, in fact, increased the shock present and the more profound the degree of shock the greater was the decline in the blood pressure which followed its administration.

Strychnine.—In small doses strychnine produced very little effect upon the blood pressure in a normal animal. In large doses it produced a marked rise in the blood pressure and the blood pressure was maintained at a high level for a considerable time. A second dose was followed by a similar rise in the blood pressure usually not so high and not continued for so long. A third dose was followed by a slight rise and the effect passed off very quickly and on repeating the dose a point was soon reached when no effect at all was produced. After each dose the blood pressure fell to a lower level than before the injection and when the point was reached at which no effect followed the administration of strychnine the blood pressure had reached a very low level and the animal was in a condition indistinguishable from that of profound shock produced by traumatism.

Crile proved that the repeated administration of strychnine to a normal animal produced a condition of profound shock in every way comparable to that produced by traumatism, that this effect could be produced without causing convulsions, and that it was due to exhaustion of the vaso-motor centres from excessive stimulation. He proved that it was not due to any effect on the heart by first dividing both vagi and accelerants. Crile subsequently found that the quickest, easiest, and most certain method of producing shock in an animal for experimental purposes was by the administration of strychnine.

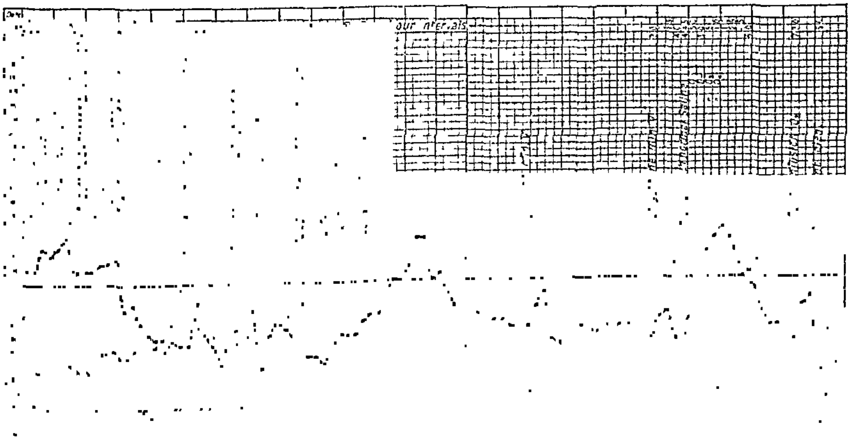
In animals suffering from shock the administration of strychnine caused a rise in the blood pressure which was proportional to the degree of shock. That is, if the degree of shock was slight there was a marked temporary rise in the blood pressure but if severe strychnine produced no effect. In all stages of shock the animal passed into a deeper degree of shock as soon as the effects of the strychnine had passed off. M. Roger has made a similar observation upon frogs. He found that if strychnine is injected into the veins of a frog no effect is produced if the animal is in a state of shock. With the sphygmomanometer the same facts may be observed clinically in patients suffering from shock. In the case of an elderly woman who had had an enormous fibroid uterus removed and who developed severe shock after the operation I was able to observe the results of the administration of strychnine. It was noticeable that just after the operation when the patient was in a dangerous condition brandy produced, if anything, a fall in the blood pressure. An injection of five minims of strychnine produced only a very slight rise and a repetition of the dose produced no effect at all. During the next four hours the patient recovered somewhat and the strychnine that had previously been administered produced a very considerable rise in the blood pressure and a third dose given a little later produced a rise to above the patient's normal level. Some hours later the pressure again fell and strychnine then produced only a slight rise. The patient gradually sank into a deeper condition of shock and an injection of strychnine of ten minims then only resulted in a very slight rise, the pressure very quickly falling to a level below that previous to the injection. The patient was then infused intravenously with saline solution and the blood pressure rose rapidly to a point considerably above the normal, only, however, to fall again in the course of the next two hours and the vaso-motor centres being completely exhausted, death ensued (see Fig. 10). I think there can be no doubt after an examination of this chart that the administration of strychnine in this case contributed to the fatal result by stimulating the exhausted vaso-motor centres and so preventing their recovery. This case is of considerable interest as it shows that even when the vaso-motor centres are so exhausted that a large dose of strychnine calls forth no vaso-constrictor response the blood pressure could still be raised by saline infusion to a point far above the normal level.

I know that these views with regard to the use of strychnine in the treatment of shock are opposed to accepted opinion and are contrary to the teaching of many able and experienced surgeons. It is not a question of opinion, however, *but of facts capable of proof.* It is only recently that it has been possible by careful observations upon the blood pressure to see the exact effects of stimulants in the treatment of sl[illegible] [illegible]nts of Crile and the clinical facts whicl[illegible] the way in [illegible] causation [illegible] conclusion—namely, that in all conditions and [illegible] true shock strychnine is not only useless but directly harmful, as it tends to increase and to hasten exhaustion of the vaso-motor centres. *The administration of strychnine in shock* is like beating a dying horse, it may call forth an effort if we beat hard enough but it hastens the end. And I am convinced that many a case of post-operative shock is rendered hopeless by the administration of this powerful drug which, but for the use of strychnine, might have recovered.

In the treatment of collapse such as would result from a severe hæmorrhage strychnine may be of value. When the blood pressure has fallen as the result of hæmorrhage to a level equal to that of profound shock the administration of strychnine in therapeutic doses causes a rise in pressure which is well sustained. In collapse the vaso-motor centres are not exhausted and consequently strychnine will raise the pressure by stimulating these centres to increased activity. We have thus an interesting contrast between the effects of strychnine in shock and in collapse. Saline intravenous infusion is, however, a better and more reasonable method of treating the collapse resulting from hæmorrhage as it directly combats the cause of the fall in blood pressure.

Digitalis.—In his experiments upon animals Crile found that digitalis caused a slight rise in the blood pressure when injected into an animal suffering from profound shock. The animals which were treated with digitalis, however, did not live any longer than the control animals and he came to the conclusion that digitalis was of little value.

FIG. 10.



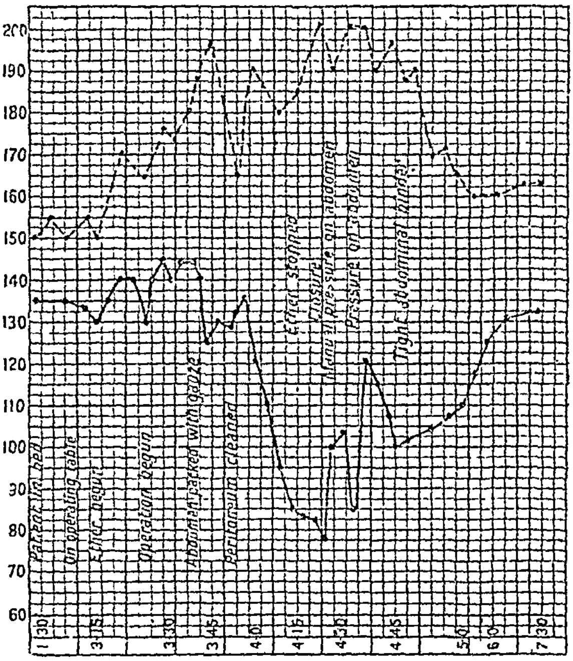
Th[illegible] blood pressure and the dotted line pulse rate. [illegible] enormous uterine [illegible] operation and [illegible] the normal level.

METHODS WHICH MECHANICALLY RAISE THE BLOOD PRESSURE.

Position.—It has been proved both by experiments upon animals and by observations upon man with the sphygmomanometer that position has a very marked effect upon the blood pressure. The best position is undoubtedly that usually advocated with the foot of the bed raised upon blocks and the head of the patient lower than his buttocks. This position tends to prevent the blood from accumulating in the abdomen and the lower limbs and assists the blood to flow from the great veins into the heart. This position raises the blood pressure in the essential part of the circulation—*that is, in the great* vessels and the brain—both in a normal individual and in a patient suffering from shock. Moreover, this is the position in a normal individual in which the highest blood pressure is found associated with the lowest pulse-rate; indicating that this is the position in which the blood pressure is most *easily maintained* at a high level. This was first demonstrated experimentally by Alexander in animals and upon man. It has since been confirmed by other observers, more especially by Stephens whose experiments upon 22 medical students I have already referred to. This position with the foot of the bed well raised (it should be raised at least a foot) is of the greatest value in combating shock and all patients suffering from shock should be nursed in this position until the blood pressure has once more returned to the normal level of health. I believe further that dangerous shock may often be warded off by placing patients after any severe operation in this position. At the North Eastern Hospital for Children it is the practice always to raise the foot of the cot of any child who has undergone any severe operation, whether shock is present or not, and I believe this to be very good routine practice. Once a patient suffering from shock or collapse has been placed in this position with the head down it is most important that his position should not be altered suddenly, as, for instance, by raising him for the administration of nourishment, &c., as the sudden alteration in blood pressure may result in a dangerous syncope; this has several times been observed. This is also one of the dangers of the Trendelenburg position. The act of lowering the patient into the horizontal position after an operation in which the Trendelenburg position has been used may result in a dangerous fall in blood pressure.

Compression of the abdomen.—Simple manual pressure upon the abdomen will raise the blood pressure in all conditions of shock and collapse. It acts by driving the blood out of the splanchnic area. In animals firm manual pressure upon the abdomen always causes an immediate and marked rise in the blood pressure. It is frequently possible by this means to double the blood pressure and however low the blood pressure may have fallen compression of the abdomen will always raise it. I have repeatedly observed most marked improvement in the pulse and arterial tension to follow this procedure in cases where shock has occurred during an operation. It is a valuable method of temporarily raising the blood pressure when the pressure suddenly falls during or just after an operation, whether it be from shock, sudden loss of blood, or from chloroform poisoning.

FIG. 11.



Blood-pressure chart of a case of laparotomy for general peritonitis. After Briggs and Cook.

Experiments upon animals showed that the blood pressure can always be raised during shock by compression of the abdomen and that in some cases the pressure does not again fall to its original level but remains higher than before the compression. The application of a tight abdominal binder acts in the same way and is at the same time a simple and effective method of raising the blood pressure during shock. I have seen great improvement in the patient's condition follow the application of a tight abdominal binder and if care is taken in its application to avoid compressing the chest and so embarrassing the respiration it is a most useful method of treatment, especially in abdominal cases (see Fig. 11).

Crile tried a number of experiments upon dogs to test the value of pressure in the treatment of shock. The animal was placed, after it had been reduced to a condition of shock, into a pneumatic tube and the pressure of the air in the tube was then raised. He found that in this way he had absolute control over the blood pressure in all conditions of shock. The blood pressure of an animal suffering from shock could in this way be raised to the normal level and kept there. Animals suffering from profound shock and treated in the pneumatic chamber lived longer than similar animals not so treated.

Arguing from these experiments and from the known physiology of shock, Crile attempted to treat human beings in the same way. For this purpose he had a pneumatic suit made in which the patient could be placed. This suit was so constructed that it enveloped the whole body except the head and chest and could be inflated by a foot pump. A uniform pressure was in this way exerted upon the whole body surface, constituting, in fact, an artificial peripheral resistance. He found that with this suit the blood pressure of a patient could be controlled within a range of from 25 to 75 millimetres of mercury. He was able with this suit to raise the blood pressure of a patient suffering from shock to a safe level and to keep it there while the operation was finished or afterwards until the vaso-motor centres had recovered. The suit was gradually deflated, the patient's pressure being meanwhile watched with a sphygmometer. It was found possible with this suit to maintain the blood pressure at a safe level for as long in one instance as 12 hours.

One case is worth quoting: it was that of a patient whose arm and shoulder had been mangled in a railway accident. On admission to the hospital the patient was in a condition of deep shock and on administering an anæsthetic for the purpose of amputating the arm the blood pressure fell and the radial pulse disappeared. The pneumatic suit was then put on and inflated. By this means the blood pressure, which had previously fallen to nothing, was rapidly raised to the normal pressure and maintained at that level during the operation for removal of the arm and the patient recovered. The results obtained by Crile with the use of this rubber suit afford a very striking proof of the physiological cause of shock.

This method of treating shock by raising the external air pressure and so substituting an artificial peripheral resistance for the lost peripheral resistance caused by the exhaustion of the vaso-motor centres promises to be of great clinical value and to be the most effectual method of treating that condition. Unfortunately it cannot yet be said to be a practical method. I should like to have been able to make some investigations with a pneumatic suit but the difficulties in the way are numerous and one item of no little importance is the cost of the necessary apparatus. The experiment was made by Crile at the Lakeside Hospital of building a pneumatic chamber in which patients suffering from shock could be placed and the atmospheric pressure raised. It had to be abandoned, however, owing to mechanical difficulties. Air chambers in which the air pressure can be raised to a considerable number of atmospheres and which are provided with air locks for entry and exit are now used for the treatment of workmen suffering from too rapid decompression on leaving the caissons where they work under high air pressure in the building of bridges and tube railways. These pressure chambers, or medical locks as they are called, are used, I believe, in most places where tunnelling under high atmospheric pressure is in progress. I do not think, therefore, that it would be impossible to construct a chamber or small ward in which the pressure could be raised to the necessary extent, provided with an air lock for entry and exit, and in which patients suffering from shock after severe operations or after burns or other injuries could be treated. Many lives might possibly be saved at a big hospital provided with such a ward. No doubt the money necessary for the construction of such a ward on the lines of the medical locks provided for workmen by the big engineering companies would be considerable and there would be numerous constructural difficulties. Some day, perhaps, such a ward may be built and an opportunity afforded for testing its value in the treatment of patients suffering from shock and other conditions of lowered blood pressure.

ON THE RELATION OF THE PARASITIC PROTOZOA TO EACH OTHER AND TO HUMAN DISEASE.[1]

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IT is from the standpoint of an onlooker that I propose to-night to take a survey of the advances made during the past three years in our knowledge of the disease-producing protozoa. They reveal, in the first place, a surprising complexity of reproductive phenomena, and, in the second place, an equally surprising parallelism in the developmental cycle of forms which at first sight seem far removed. The protozoa, or one-cell animals, are divided into four classes: the rhizopods, the sporozoa, the flagellates, and the infusorians. The rhizopods are the lowest, comprising mainly amœbæ—shapeless masses of *protoplasm. The only one of these* which interests us to-night is amœba coli.

Many kinds of amœba occur in the human intestine. Just as the spores of many of the higher fungi, when placed in suitable nutritive conditions, pullulate in the form of yeast cells, and can only be distinguished from genuine yeast by a study of their development, so, of the many kinds of amœbæ occurring in the intestine, some are genuine—viz., the vegetative stage of rhizopods, whilst others are only amœboid stages in the development of higher forms, such as Trichomonas, Lamblia, and other infusorians. Genuine amœbæ *are divided into those provided with a shell, Thecamœbæ,* and those that are naked, *Gymnamœbæ.* At least one of the former and two of the latter sort are now known to occur in the intestine. With the representative of the shell amœbæ, Chlamydophrys stercorea (Cienkowski), and its complicated life-history we need not now concern ourselves, as its habit appears to be purely saprophytic. The two naked forms of amœbæ are genuine parasites. One of them is harmless and the other is one of the most dangerous of pathogenic protozoa. The former, which has hitherto been known as amœba coli (Lösch), has been re-named entamœba by Schaudinn. The second, hitherto called amœba dysenteriæ by such authors as admitted its existence, has been re-named [illegible] Schaudinn[2] found out [illegible] eba from the dangerous [illegible] frequently in the fæces of healthy persons, as was first discovered by Grassi. It is a shapeless mass of protoplasm, not showing a well-marked distinction into clear ectoplasm and granular endoplasm and possessed of a large and distinct nucleus. The obstacle to finding it in the healthy fæces is that its habitat being in the upper regions of the colon its vegetative stages die out as the intestinal contents become firmer on their way down. If, however, their downward course be hurried, then the amœbæ can readily be detected. The amœbæ have two distinct cycles of development: one vegetative or asexual, taking place in the naked state, the other displaying a primitive but unmistakeable form of sexuality and occurring inside a capsule or cyst. In the vegetative form the amœbæ either simply split in two or their nucleus divides into eight daughter nuclei, each of which takes a portion of the protoplasm so as to form a characteristic brood of eight young amœbæ which come apart. In the other, or sexual cycle, the amœba rounds itself off, comes to rest, contracts, and surro [illegible] which becomes the cyst [illegible] going reconstruction and [illegible] halves which copulate so [illegible] containing half of the two parent-nuclei. Each of [illegible] copulation-nuclei now divides twice and the divisions [illegible] eight young amœbæ which, however, cannot leave their [illegible] until it has been taken in by a new host and has had its wall softened in the stomach and the duodenum. The resemblance in general outline to the developmental process of the sporozoa will be at once manifest: asexual swarming in the primary host till it is exhausted or conditions bec [illegible] unfavourable; then sexuality with cyst formation [illegible] change of host.

[illegible] he pathogenic rhizopod entamœba [illegible] of the non-pathogenic entamœba [illegible] a clear, tough, outside layer or ectoplasm which enables it to penetrate between the epithelial cells, and, secondly, in not possessing a distinct, well-defined nucleus. Its tough ectoplasm enables it to force its way into the deeper layers of the mucous membrane where it multiplies and forms the undermined ulcers so characteristic of tropical dysentery and readily distinguished from the diphtheritic appearance presented by the bacillary form of the disease. The two sorts of amœbæ differ also in their reproduction. *The pathogenic form in its* vegetative stage divides into two or forms new individuals by budding. Brood form*ation does not occur. The* process of encystment is also quite different. It comes on when the patient is beginning to recover from his attack of dysentery and the fæces are becoming solid. The nucleus gives up most of its chromatin in granular form to the plasma and its *remains are expelled.* The plasma now projects from its surface a number of little knobs, each containing a particle of chromatin and measuring from three to seven micra in diameter. These break off after a while and each becomes surrounded by a capsule which ultimately becomes quite brown, hard, and opaque. These "spores" are then expelled with the fæces and serve to infect a fresh host.

In my presidential address delivered in 1901 before *the* Royal Academy of Medicine in Ireland I spoke of the rôle of amœbæ in the following terms: "The general *conclusion* to which I incline after a careful survey of the literature is that the amœba coli is in all probability either wholly or partially responsible for the causation of one form of dysentery—that termed '*tropical*' *and* which is not endemic in this country." Subsequent *investigation has borne out this view. One of Schaudinn's experiments seems quite conclusive. He allowed a small* fragment of fæces from a case of dysentery contracted in China to dry in the air, suspended it in water, made a number of sl [illegible] tions, and by searching them [illegible] on the mechanical stage he [illegible] contained nothing resembling the cysts of entamœba coli but only the small brown spores of entamœba histolytica. There were no amœbæ, these having been destroyed by drying. The cover-glasses were then removed and the fæces washed off with clean water, made up to about one cubic centimetre, and administered with meat and milk to a young healthy cat, the fæces of which had been proved by careful examination to be free from amœbæ and their cysts. Three days afterwards the cat began to pass slimy fæces streaked with blood. These were found to be swarming with the typical entamœba hystolytica. Next day the animal died from dysentery. The necropsy showed characteristic ulceration of the large intestine with crowds of amœbæ in all stages of penetration into the intestinal wall. There were no cysts, the animal having died in the acute stage of the disease. In order to see whether the amœboid stage *could propagate the disease Schaudinn* administered large quantities of this fæcal matter to another cat. It remained quite healthy. Its fæces were examined for four weeks and no amœbæ were detected. It was then given a small portion of the same dried-up spore-containing fæces from the Chinese case that had been used in the other experiment. Within six days, amœbæ appeared in the fæces. This cat developed dysentery and died from it in about a fortnight. From this it would seem that the disease is not propagated by amœbæ introduced per os. The older experimenters, from Kruse and Pasquale onwards, had often succeeded in producing infection by the [illegible] of amœbæ per rectum. This rectal trans- [illegible], however, hardly be realised under natural [illegible] and, accordingly, it is to the dried-up spore- [illegible] present in dust and water that we must [illegible] dysentery. Whether the amœbæ [illegible] the acute stage will, if gradually dried, become converted into spores outside the body, or whether the amœbæ that are going on to spore formation receive their impetus along that track whilst still in the bowel, does not seem to be quite clear. In any case the [illegible] of these observations is obvious. The [illegible] entery must be pre- [illegible] water or from being [illegible]

The next class is that of the sporozoa, so called because at one stage of their life-history the individual breaks up into a number of minute reproductive bodies resembling the spores of fungi or mosses and, like them, often contained within a cyst or thick-walled capsule. Amongst the chief orders of this class are the gregarines, which mostly live in the intestines of crustaceans and insects; the coccidia, many of which inhabit the digestive tract and its annexes in mammals, birds, and various invertebrates (myriapods, &c.); and the hæmosporidia, or parasites of the blood corpuscles, which are the cause of malaria and to which, therefore, a very special interest attaches. All these organisms, however different their vegetative stages, have in common a certain ground-plan of life-history, though varying in individual cases and with regard to matters of detail. This life-history comprises two main features, alternation of generations and change of host. Alternation of generations means that a sexual method of reproduction alternates with an asexual method, whilst the term "change of host" does not, of necessity, imply a change of host-*species*, but in many cases only a change of host-*individual*. The general idea underlying the parasitism of these organisms is that once the sexually produced reproductive body, or spore, finds its way into a suitable host and into a suitable cell of that host—for they are intracellular parasites—it rapidly attains its full size and splits up without the intervention of sexuality into a number of fragments which fall asunder and, invading fresh cells of the same host, repeat the process. The host-animal thus becomes speedily pervaded by swarms of parasites and the resultant disturbance of function is the disease. After a time, owing to the production of specific antibodies or to the exhaustion of the reproductive power of the parasite under the strain of repeated asexual division, this process gradually ceases and specially differentiated male and female forms appear and copulate. The fertilised female forms a cyst containing spores, which have to be transmitted to a fresh host before they can develop. The points at which the greatest variability obtains are, first, the place and time of conjugation, and secondly, the arrangements for transfer from one host to another. Where the organism passes its asexual stage in the blood, transfer must necessarily be effected by the only agency whereby blood is at all frequently removed from the vessels—i.e., blood-sucking invertebrates, such as flies and ticks. The intermediate host of blood-inhabiting parasites is, therefore, an invertebrate blood-sucker. Some of the blood parasites—those of malaria, for example—avail themselves of the invertebrate host as the scene of their sexual reproduction and multiply enormously within it. Others, such as the trypanosomes of the mammalia, remain, so far as we are at present aware, quite passive within their cold-blooded host and use it merely as a vehicle. Others, again (some of the piroplasmata), in some mysterious way pass on into the eggs of the invertebrate host and infect its young brood. On the other hand, when the parasite passes its asexual stage in a cavity of the host that is connected with the outer world (the coccidia), the problem how to escape is comparatively simple, and an intermediate host may be dispensed with.

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[1] Abstract of a paper read before the Epidemiological Society on Feb. 17th, 1905.

[2] Arbeiten aus dem Kaiserlichen Gesundheitsamte, Band xix., 1903

In order to characterise readily these several stages and to emphasise homologies, it is necessary to adopt a systematic nomenclature, and I accordingly use that elaborated by Schaudinn and Lühe, according to which

The [illegible] the mature asexual individual.
[illegible] to the pieces into which the Schizont [illegible]

" Gametocytes is applied to the forms which produce or become converted into the sexual individuals:—

viz., Macrogametocyte ...	The *asexually produced* individual which, by chromosomic reduction, becomes converted into a female;
and Microgametocyte ...	The *asexually produced* individual which, by chromosomic reduction and nuclear division, becomes converted into a *number* of males.
Gametes	The sexual individuals:
viz., Macrogametes ...	Females (the ova of the metazoa).
And Microgametes ...	Males (the spermatozoa of the metazoa, antherozoids of the higher cryptogams).
Zygote	The fertilised macrogamete.
Ookinet	The zygote when capable of locomotion.
Öocyst	The zygote when it has come to rest and is surrounded by a thick capsule.
Sporoblasts	Secondary cysts or spore bags formed within the oocyst.
Sporozöites	The final products of the act of sexual reproduction—minute bodies formed often in large numbers within the öocyst and which, on being removed to the new host, give rise to the schizonts.

The life-history of the parasites of human malaria, as established by the labours of Laveran, who discovered them; Golgi, who differentiated them into species; Ross and Manson, who discovered the change of host; MacCallum, who recognised their sexuality; and Grassi, who identified the mosquito, has been more fully worked out during the last three years and numerous important details have been added. Plasmodium vivax, the cause of tertian ague, has been minutely studied by Schaudinn[3] at an ague-stricken village near Rovigno on the Adriatic. Some of his observations regarding the sexual process are of special interest. It starts in from ten minutes to half an hour after the blood has been sucked in by the gnat. The microgametocyte, which is readily recognised by its hyaline plasma, large oval nucleus, and coarsely granular pigment, suddenly shoots forth from four to eight curved filaments, from 20 to 25 micra long and one micron at thickest. Meanwhile the macrogamete has been preparing itself for fertilisation by ejecting part of its nucleus. This process appears to be homologous with the extrusion of the polar bodies by the metazoan ovum. The number of chromosomes is thus reduced by one-half. The extruded matter may possibly, by its disintegration, provide a diffusible substance acting chemiotactically on the microgametes and causing them to approach the female, in the same way as the canal cells of the archegonium of ferns yield malic acid which attracts the antherozoid. The female then protrudes a "receptive eminence," and as soon as one of the males has adhered to this it is at once withdrawn carrying the struggling microgamete in with it. Only the one male obtains admission in the case of the malarial parasites but in the coccidian cyclospora caryolytica, which causes an infective form of enteritis in the mole (talpa), what is called polyspermy occurs.[4] Quite a number of male gametes force an entrance into the macrogamete. Only one of them undergoes the fertilising fusion, whilst the others break down and serve as food for the developing zygote. The presence of superfluous males, however, is apt to disturb the proper relation of male and female pronucleus, and give rise to interesting pathological changes described by Schaudinn. In the tertian parasite only one favoured microgamete gains access, and no sooner has it done so than a coat of mucus is secreted by the female which keeps away the excluded males and is homologous with the cyst wall of the coccidia. The zygote now becomes a motile öokinet, and this becomes an öocyst. Some of the liberated sporozöites, according to Schaudinn, obtain access to the ovary of the gnat and infect the developing ova, so that the young brood next spring harbours the parasite, and the young mosquitoes can confer the disease without having previously sucked blood—a fact of great epidemiological importance if it be confirmed by subsequent observation. Finally, Schaudinn observed the entrance of the sporozoite into his own red corpuscles, thus completing the developmental cycle.

I now come to the last part of my subject—namely, the order of flagellates, to which belong the trypanosomes. Three years ago, in the address already referred to, I gave some account of these parasites in connexion with the diseases of animals known as nagana, due to trypanosoma Brucei, and surra, due to trypanosoma Evansi, and I described the rôle of the tsetse fly as carrier of the former. During the three years that have since elapsed the rôle of these parasites as disease producers amongst the lower animals has been greatly enlarged. Dutton and Todd[5] found a disease of horses in Gambia to be due to trypanosoma dimorphon. Elmassian,[6] followed by Voges and Lignières, has shown that the disease of horses in South America known as mal de caderas is due to another trypanosome (trypanosoma equinum). The sexual malady of stallions and brood-mares known to the French as dourine, or mal de coit, is due to trypanosoma equiperdum, which was first discovered by Rouget in 1896.[7] The so-called galziekte or gall-sickness of bovines in the Transvaal has been shown by Theiler to be caused by a species called after him trypanosoma Theileri.[8] Other forms have been described in the smaller mammals, as well as in birds, reptiles, amphibians, and fishes. But the great access of interest in the study of trypanosomes is due to the fact that they are now known to produce disease in the human race. In December, 1901, Dutton[9] was the first to recognise as a trypanosome *the vermicule* previously seen by Forde in the blood of a European patient in the hospital at Bathurst. He described it accurately and named it trypanosoma Gambiense. In April, 1903, Castellani[10] discovered a trypanosome in the cerebro-spinal fluid of natives of Uganda affected with sleeping sickness and this malady has consequently come to be *regarded as one* of the manifestations of human trypanosomiasis. David Bruce[11] with his fellow workers, Nabarro and Greig, brought home the propagation of the disease in Gambia to the fly glossina palpalis. Finally, there is the discovery, so far back as 1900, by Leishman and, independently in 1903, by Donovan, in smears of spleen pulp from cases of *splenic* cachexia in India, of parasites which Rogers[12] has shown to be stages in the development of a trypanosome.

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[3] Loc. cit., Band xx.

[4] Schaudinn, loc. cit., Band xviii.

[5] Thompson Yates Reports, vol. v., 1903.

[6] Conféren[illegible] 19 Mai, 1901 (Asuncion, 190[illegible] p. 241.

[7] [illegible]

[8] Journal of C[illegible] l. xvi., 1903.

A correct idea of the structure of a trypanosome is essential to an understanding of what follows. Its fish-like body, twice or thrice as long as a red corpuscle, is fringed along one side with the undulating membrane, which is prolonged at one end into the flagellum. In the body is a large nucleus, and towards the posterior end a smaller dot-like mass of chromatin from which originates the margin of the undulating membrane—the edge which is prolonged into the flagellum. The nature and homologies of this smaller mass of nuclear substance have given rise to lively discussion. There seems to be no doubt that it gives origin to, and presides over, [illegible] undulating me[illegible] the colour reac[illegible] method) are part and parcel of this mass, which I shall therefore term the blepharoplast. Trypanosomes bear a close resemblance to the spermatozoa of some animals (bombinator). They multiply mostly by unequal longitudinal division, more rarely by multiple division (rosette formation). The first part to divide is always the blepharoplast. They are agglutinable by foreign or immune serum, as was shown by Laveran and Mesnil. One species at least,[13] that of the rat, has been successfully cultivated on blood agar. Until the researches of Schaudinn trypanosomes were looked upon as independent organisms and were not known to possess any trace of a sexual mode of reproduction.

In the blood of the stone owl (athene noctua) Schaudinn[14] found three distinct protozoal parasites. First *there* was the proteosoma, the development of which in the mosquito, culex nemorosus, had been so brilliantly discovered by Ross and subsequently studied by Koch. Then there was another plasm[illegible] previo[illegible] there[illegible] as 1894 by Danilewsky. The two last-named parasites own culex pipiens as their intermediate host. Previous observers had followed the development of the halteridium (called by Schaudinn trypanosoma noctuæ) as far as it goes on in the hanging-drop of blood. Further they could not pursue it, not knowing the species of mosquito which serves as its intermediate host. Schaudinn finds that as the result of fertilisation an öokinet is formed which moves along like a slug by the aid of its own mucus towards the front of the mosquito's stomach *and there becomes converted into a trypanosome.* The nucleus divides unequally so as to form a hetero-polar spindle. The larger (left) half enters the resting stage, whilst the *smaller (right)* half, which is now in the ectoplasm at the periphery, again divides, forming another hetero-polar spindle with the long axis parallel with that of the öokinet and the smaller pole forwards. The chromatin of this spindle forms the skeleton of the locomotive apparatus of the future trypanosome, the thickest *thread forming* the free edge of the membrane, whilst the posterior centrosome becomes the blepharoplast. Thus a trypanosome is formed and of these Schaudinn describes three types: the "indifferent," the "female," and the "male." The öokinet, which is to develop into a "female" trypanosome, has darker protoplasm and a smaller nucleus than the form which he calls "indifferent." It goes through the same nuclear processes, the result being the formation of a larger trypanosome, which is provided with a relatively small flagellum and is *therefore less active in its movements.* The "female" trypanosome ultimately comes to resemble a mature gregarine and possesses a marked power of resisting external unfavourable influences. If, for instance, the mosquito is starved and then kept on ice all the parasitic forms within it die out save the "female" trypanosomes, *which lie buried between the epithelial and elastico*-muscular coat of the intestine, last through the winter, and infect the brood of eggs laid next spring. Multiplication of this gregarinoid stage takes place by a process termed by Schaudinn "parthenogenesis" and which he homologises with the re-infection of the warm-blooded host *in malaria, the so-called "relapses." The forms* which persist in the blood of old-standing cases of malaria are, according to him, old females (macrogametes) [? macrogametocytes]. After a time these "sink" to the level of schizonts; in other words, produce a brood without having been fertilised. This mode of reproduction—the skipping of the sexual generation—appears to me to be homologous with the phenomenon amongst ferns, first described by De Bary under the name of "apogamy." The öokinet which is to form the "male" trypanosomes is distinguished *ab initio* by its small size, large nucleus, and absence of reserve material in its protoplasm. By a process of reduction it gets rid of one-half of its nucleus—the half which is preserved in the female—and the remainder splits up so as to form eight minute trypanosomes. These Schaudinn regards as microgametes which, however, are unable to perform their physiological function of fertilisation. This act is only performed at one period of the life-history of the parasite viz., within a few minutes of its arrival within the stomach of the mosquito.

The intestinal canal of the mosquito thus becomes inundated with "trypanosomes" of all three kinds. Sometimes they are produced in such swarms that their resting stages occupy all the epithelium and the mosquito dies from the disease. Ordinarily the insect feeds three times and it is during these three periods of digestion that the parasites make their way down the bowel, through the wall of the colon, and so into the blood stream, whereby some get carried to the ovaries, where they infect the young brood; most, however, are carried to the front of the body cavity, into the head, where they accumulate round the pharynx and *ultimately rupture into it and so obtain access to the lumen* of the proboscis. The mechanism of transference to the warm-blooded host is extremely interesting and as the parasites of human malaria may possibly be transferred in the same way it seems worth while to mention the details. Culex pipiens possesses œsophageal diverticula which become *distended* with gas and may be termed "gas bags." The gas is carbon dioxide, which is evolved by a sort of yeast-like fungus always present in the insect's stomach from traces of glucose present in blood, or—much more abundantly—from glucose present in the plant juices which the insect occasionally sucks At the commencement *of the* act of suction, when the insect has its proboscis buried in the skin of its victim, its body undergoes one or more violent contractions which eject the contents of its fore-gut and "gas bags" into the skin. These contents comprise gas, saliva, and whatever particulate matter is present—viz., yeast cells and sporozöites. Schaudinn looks upon this contraction as a sort of dyspnœal effort due to the entrance into its tracheæ of the *CO_2-laden air* which bathes the skin. He succeeded in producing the contraction artificially by placing an infected culex on a cupped slide, with its proboscis in a drop of glycerine under a cover-glass, and its body projecting over the hollow. In this he evolved some CO_2 from a fragment of chalk and a droplet of *acid*, and he observed that the gnat's body underwent a violent contraction, which had the effect of expelling *into* the glycerine its contained gas, yeast cells, and sporozöites. Viewed teleologically, the effect of the injected CO_2 would be to paralyse the thrombocytes and in other ways to delay the coagulation of the blood. The hyperæmia and pain caused by the bite he considers to be due to the enzyme of the yeast cells. He dissected out the "gas bags" and pushed them into a fine puncture in his own skin, with the result that the typical swelling, redness, and itching came on at once. The salivary glands he found quite inoperative. The effect of the "gas bags" appears to depend on the quantity of yeast cells contained in them, for it was much more marked when the yeast had been allowed to proliferate actively as the result of feeding the gnat on plant juice. The fungus is not a true yeast, but a yeast-like stage in the life-history of one of the entomophthoreæ, fungi with which we are all acquainted in the shape of the well-known empusa muscæ, which kills flies in the fall of the year and causes their bodies to adhere to the window pane surrounded by a white cloud of ejected conidia.

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[9] Journal of Tropical Medicine, December, 1902, and Thompson Yates Reports, vol. iv., 1902, part 3.

[10] Letter dated Uganda, April 5th, 1903, and addressed to the Royal Society; THE LANCET, June 20th, 1903, p. 1735.

[11] Reports published by the Royal Society in 1903; Brit. Med. Jour., Nov. 21st, 1903.

[illegible] 1905, p. 16; [illegible] Infektions

[illegible] osome and [illegible] MacNeal, [illegible] 1904, and [illegible] 04.)

[illegible] Spirochæte, 1903.

Let us now follow the trypanosomes into the blood of the owl, whither they are carried by the bite of the culex. Such "males" as are conveyed in the fully differentiated state die off. The mature "females" are usually too large to pass the gnat's proboscis. It is the "indifferent" forms and young "females" that thrive in their new surroundings. Adhering by their flagellum to the red corpuscles they bore their way in, withdra[illegible] ow larger in the plasmodial form [illegible] Koch, and other observers. They do *not* proceed to form asexual rosettes (schizonts)—a fact expressly drawn attention to by Koch who could not find in the blood of his artificially infected sparrows and pigeons any trace of this form of multiplication so abundantly met with in human malaria. The intracorpuscular parasites leave their host cells only during the night and in the deepest recesses of the circulation—the spleen and bone marrow. There they swim about for a while as free trypanosomes of all three varieties above described. During the day they mostly go back to the corpuscles. Thus, they change about at intervals for six days, by the end of which time they have attained their full size. Finally emerging, the full-grown parasite now multiplies by repeated acts of longitudinal fission till the products have attained their minimal size. The excessively minute flagellates so formed penetrate into fresh red corpuscles till the blood becomes fairly inundated. Then they die down and only a small number of "indifferent" forms survive, which become gradually evolved into macro- and micro-gametocytes and can only complete their evolution in the body of the gnat.

I have dwelt thus at length upon the history of this parasite on account of the light it throws upon the nature of the Leishman-Donovan body. These parasitic bodies are contained in large endothelial cells of the spleen and marrow; so, for a time, are the halteridium parasites. The Leishman-Donovan bodies possess two nuclei—a large oval and a small rod-shaped one; so do the involuted intracorpuscular trypanosomes of halteridium. Finally, we have the brilliant discovery by Rogers that blood containing Leishman-Donovan bodies gives rise to trypanosomes. The details given by Rogers tend to support the supposition that the life-history of the parasite of human cachexial fever runs on the same lines as that of owl malaria. For example, "the splitting up of the parasite into two, the separation usually beginning at one end," suggests the longitudinal division of the trypanosomes; and "the presence of smaller pear-shaped flagellated bodies like those described by Plimmer in tsetse fly disease," which are evidently involution, or immature forms, also described by Laveran and Mesnil in their recently published text-book,[15] under the name of *mises en boule*. Finally, there is the fact that the trypanosomes were only developed in Captain Rogers's cultures at a low temperature (22°), which would point to their being naturally produced outside the warm-blooded host, in a blood-sucking invertebrate, such as a bug or a mosquito. There can be little doubt that the original opinion of Major Leishman with regard to these bodies is correct and that kala-azar and cachexial fever will prove to be a form of human trypanosomiasis. The same opinion doubtless holds good of the bodies found in the granulation tissue of Delhi boil and tropical ulcer.

Remarkable as is the connexion so established between the malarial parasite and the trypanosome, it is, at any rate, a connexion between one protozöon and another. But the developmental cycle which I am now about to recount will, if established by further investigation, effect a still more surprising connexion—viz., between a malarial parasite and an organism hitherto looked upon as a bacterium, spirochæte. Sporozoites ... [illegible] question was discovered so far back as 1891 by Danilewsky of Charkow[16] in the blood of athene noctua and called by him the leucocytozöon, from its dwelling in the white corpuscles. Both its warm-blooded and cold-blooded hosts (culex pipiens), as well as its general aspect, are identical with those of halteridium. In the mosquito's stomach its stationary macrogametes are fertilised by the motile microgametes. An öokinet is thus formed which becomes spirally coiled, the coils afterwards coalescing. This process is remarkably like what occurs in the development of the sexual fructification of the cleistocarpous ascomycetes, such as eurotium. The original nucleus divides into a vast number, each of which presides over a territory of protoplasm which gradually becomes differentiated into a trypanosome-like body, with blepharoplast, undulating membrane, and flagellum. Of these, as in halteridium, there are three sorts—"indifferent," "female," and "male"—all very minute. As the result of repeated division the individuals may become so small as to become not only incapable of measurement but of being perceived individually even with the highest powers. It is only when agglutinated in rosette form that they can be well seen and Schaudinn has no doubt that they would constitute a *filtrable* virus: that is, one capable of passing the pores of a porcelain filter and therefore in the same category as those of pleuro-pneumonia, foot-and-mouth disease, and perhaps of small-pox. These minute trypanosomes increase greatly in length and become spirally twisted round their long axis so as to constitute what have hitherto been termed spirochætes. Now the leading pathogenic spirochæte hitherto known is S. Obermeieri, the cause of relapsing fever. It has been observed to move equally well in either direction, "forwards" or "backwards." But trypanosomes always move flagellum first, and this would seem to be a serious difference between them and spirochæte. Schaudinn states, however, that these long, thin trypanosomes divide longitudinally and that the two new individuals *remain coherent by their non-flagellated ends*, and can accordingly move in *either* direction. They continue to cohere until each individual has again divided in the same way. These spirochæte-trypanosomes agree with the trypanosomes of the mammalia and differ from those of birds (halteridia) in becoming agglutinated by their *non-flagellated* ends. It is at the end of the first digestive period of the mosquito that these spirochæte-like trypanosomes are developed from the öokinet, inundate the body cavity and infect the ova. On reintroduction, natural or experimental, into the owl, they begin by multiplying enormously in the spirochæte form before proceeding to the formation of sexual individuals. To me it seems surprising that neither Danilewsky nor the other workers who observed the intra-corpuscular stage of this parasite should have seen the spirochæte. The cell preferred by this parasite is not the mature red corpuscle, nor yet the mature leucocyte, but the hæmoglobin-free precursor of the former—the erythroblast. This accounts for its presence mainly in the spleen and marrow (cf. the behaviour of the Leishman-Donovan body). In human relapsing fever Metchnikoff observed that when the spirochæte disappears from the blood at the crisis it accumulates in the spleen. The parasites undergo successive stages of intra- and extra-corpuscular existence in the blood of the owl and on removal from it by culex pipiens at once proceed to the formation of large rounded macrogametes with dense protoplasm and small active microgametes which look like a minute trypanosome or a spirochæte. Fertilisation gives rise to the öokinet from which we started. Should this developmental cycle be confirmed by other observers then it follows that trypanosoma and spirochæte are really only different names for the same thing. This would account for the non-cultivability of the spirochæte on ordinary substrata and the persistence of the parasite in the spleen after its disappearance from the general circulation. It would also appear probable that its propagation would be effected by some blood-sucking parasite as has actually been found to be the case with the "spirillosis of fowls," recently described by Marchoux and Salimbeni,[17] who found that spirilla were conveyed by the bird tick, argas miniatus. I am not aware that the intermediate host of the spirillosis of ducks described by Sakharoff, or of that of oxen quite recently described by Laveran,[18] has been ascertained. In the case of human

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tases, Paris, Masson, 1904.

[16] Abstr. in Centralblatt f. Bakteriologie, Band ix., 1891, p. 120.

[17] Annales de l'Institut Pasteur, 1903.

[18] Comptes Rendus de la Société de Biologie, April 20th, 1903, No. 10.

relapsing fever it seems most probable that bed-bugs carry the infection. Karlinski[19] found abundant spirilla in the bugs captured in Bosnian houses where the inmates suffered from the fever, whilst he could find none in bugs obtained from houses where there was no fever. He found that the spirilla persisted for 20 days in the bugs. The human "tick" fever in the Congo has recently been found by Dutton and Todd to be caused by spirilla which are conveyed [illegible] oo long, would be swollen to [illegible] to attempt to refer in detail to the piroplasma parasites. I am, however, absolved from the task by the fact that this society has already been this season the recipient of a very admirable communication from Professor G. H. F. Nuttall, F.R.S., on the subject of Ticks and Tick-transmitted Diseases, which practically covers the ground. I will merely mention that Kossel and Weber[20] of the German Imperial Health Office have found [illegible] blood of cows affected with [illegible] the intestines of ticks that [illegible] ows. Furthermore, Theiler, and quite recently Bowhill,[21] have found both trypanosome and spirochæte forms in the blood of oxen and dogs affected with piroplasmosis. Judging by analogy it seems not improbable that the hitherto unseen parasite of yellow fever may prove to be a spirochæte too small to be seen with the highest powers of the microscope.

Dublin.

THE TREATMENT OF PLEURITIC EFFUSION BY PARACENTESIS AND INCISION IN SEROUS EFFUSION, EMPYEMA, AND PYOPNEUMOTHORAX.[1]

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THE invitation to read a paper before this time-honoured society was a compliment which I greatly appreciated but it brought with it the difficulty of deciding upon a subject which should be of sufficient general interest and at the same time one upon which I could say anything worthy your attention. My difficulties were, however, solved by the choice being made for me and I was told that the treatment of pleuritic effusion would be acceptable. This selection certainly commended itself to me as dealing with a common affection of which we all should have experience and probably views of our own, while it was at the same time a subject which had always been of special interest to me and upon which I might speak freely. The general treatment of pleuritic effusion would lead me into fields too wide to cover within the time and I shall restrict myself to the treatment of serous effusion, empyema, and pneumothorax by paracentesis and incision.

I.—SEROUS EFFUSION.

I do not propose to enter upon the question of diagnosis. In most cases this is easy and where difficulty arises the needle will settle it. If the needle be clean and ordinary care is exercised the exploration is simple and safe. Serous fluids do not change their character except as the result of fresh infection with some pyogenic organism. If a serous effusion become purulent after the passage of a needle the presumption is that the operation was not aseptic. It is most important, therefore, even for such a small operation as an exploratory puncture, that the strictest antiseptic precautions should be taken—the side washed, scrubbed, and most scrupulously cleansed, as well as the needle sterilised. With these precautions the needle may be passed as many times as necessary with impunity. I have tapped a case 36 times and left the fluid at the last tapping as clear and uninfected as at the first. Dieulafoy taught this long before the advent of antiseptic surgery, though his teaching was not generally accepted.

To understand the principles of treatment of pleuritic effusion it is essential to have correct views of the way in which the fluid is got rid of from the pleura when it is left alone and disappears spontaneously. It is often said to be absorbed, yet the part which absorption plays in the removal of the fluid is very small. The pleura is a lymph sac connected through the stomata or small pores with the lymphatics of the lungs on one side and of the thoracic walls on the other. The lymph trunks on both sides have valves directed away from the pleura. Such an arrangement of valves indicates a circulation and there is such a circulation of lymph in health through the pleural sac, lymph passing into the sac from the blood-vessels and being removed by the lymphatics, and these processes are so adjusted that no fluid accumulates in the pleural sac. The sac is accordingly [illegible] always contains a [illegible] to keep the surfa[illegible] enters.

This action may be called the "lymphatic pump." The movements of respiration work the pump. Inspiration sucks lymph in; expiration, by the help of the valves, drives it out; the direction of the lymphatic circulation being in the lungs from the pleura to the root of the lung and in the thoracic walls from the pleura to the adjacent lymphatic glands. Fluid might therefore accumulate in the pleura in two ways. On the one hand, more fluid might enter than could be removed (this is what probably occurs in hydrops pleuræ or dropsy); on the other hand, owing to some interference with the pump mechanism, less might be removed than is necessary. In inflammation of the pleura both causes are in action, the inflammation causing increased exudation, while the inflammatory swelling and fibrinous [illegible] exercised by the fluid upon the stomata and superficial lymphatics creates a further obstruction. Lastly, a large effusion makes difficulties for itself by greatly reducing or abolishing the respiratory movements—that is to say, the force by which the lymphatic pump is worked. As the effusion grows in size the respiratory movements on the affected side become less and less and ultimately cease, so that the pump stops working. When this point has been reached, even if the effusion increase no more, what is already in [illegible] for the pump does not work. [illegible] which it [illegible] now will start the pump again. Thus we have an explanation of what is otherwise not easy to understand—viz., the removal of only a few ounces of a large effusion being followed by the gradual disappearance of the rest. This fact is not to be used as an argument for the deliberate removal on tapping of only a portion of the effusion. On the contrary, the pump should be given every chance to work and all the fluid should be removed which can be conveniently obtained. This much of theory is necessary [illegible] must be based upon correct [illegible] and pleuritic effusion other than by tapping I do not propose to enter save to refer in passing to a once popular line of treatment—the so-called derivative method. It is based upon the nec[illegible] absorption by [illegible] fluid be prom[illegible] the skin, the [illegible] povershed wil[illegible] itself ready to [illegible] be "absorbed. [illegible] found wanting, [illegible] theory.

I now turn to the ques[illegible] The indications for paracentesis are gi[illegible] its duration, and especiall[illegible] I have already shown how [illegible] to removal. It therefore follows that where the pleura is full of fluid and the respiratory movements are completely abolished the sooner paracentesis is performed the better. [illegible] has existed some [illegible] Yet it is not [illegible] there may be [illegible] sufficient thickening [illegible] to give dulness on percussion though the lung may have so far expanded and the fluid disappeared that surprisingly little fluid, if any, is obtained on paracentesis. In such cases the respiratory murmur and vocal resonance are better guides to the intrathoracic condition than percussion.

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[19] Centralblatt für Bakteriologie, 1901, Orig., p. 569.

[20] Arbeiten aus dem Kaiserlichen Gesundheitsamte, Band xx., 1903, p. 436.

[21] Journal of Hygiene, 1905, No. 1.

[1] A paper read before the Medical Society of Plymouth on Feb. 12th.

Early tapping—i.e., tapping in the first few days of an effusion—has been advocated chiefly for two theoretical reasons: (1) that early tapping shortens the duration of the attack, and (2) that if the lung be left long compressed by fluid it will become bound down by adhesions and thus prevented from re-expanding. Neither of these reasons is strictly accurate. The duration of the pleurisy is not shortened by tapping. The inflammation continues its course completely unaffected by paracentesis. It is not with serous effusion as it is with an empyema, where the removal of the pus is followed by the fall of the temperature. On the contrary, the temperature remains as high as before and continues raised until the inflammation comes to a standstill irrespective of whether paracentesis be performed or not. Again, though the lung may, if long compressed, be bound down by adhesions, still it may be compressed by fluid for weeks or months and yet remain perfectly free and expand readily when the fluid is removed. I have seen this occur in two cases in which the side had been full of fluid for 18 months before paracentesis was performed.

The occurrence of *dyspnœa* presents some points of special interest. Of course, as the effusion increases the respiratory capacity of the lungs is diminished and there must therefore always be some shortness of breath, but, other things being equal, the amount of dyspnœa varies with the rate of effusion—i.e., with the rapidity with which the fluid has accumulated; thus it may be trifling with a very large effusion if the fluid has accumulated slowly and severe with a much smaller effusion if it has formed rapidly. The respiration can adapt itself to the altered conditions if time be given, but if not it becomes embarrassed and dyspnœa results. But dyspnœa may arise and rapidly become urgent with effusion in a way which requires a different explanation and has a much more serious significance. A patient may have the side full of fluid and the organs greatly displaced, so that the total respiratory capacity is reduced to one-third or one-quarter of what it would normally be and yet for days or weeks no particular dyspnœa be present. All at once, without any warning, dyspnœa arises and rapidly becomes urgent, so that if relief be not quickly given the patient will die from suffocation. This is due to what is called "congestion" of the opposite lung. But that lung has been pathologically in a condition of congestion throughout, inasmuch as it has had to do the work of the two and consequently to deal with double the normal quantity of blood. It has been able for a time to meet these demands made upon it successfully and has given no clinical signs of congestion. All at once those signs appear—viz., wheezing and crepitation and the expectoration of fluid which may be blood-stained. The extravasation of fluid into the tubes upon which these signs depend is not due to bronchitis, for it is not an inflammatory exudation. It is the result of functional breakdown or incompetence in which probably both the heart and the lungs take their share. The signs of congestion arising in the one lung when the other is out of gear are of very grave significance. In the case of effusion they give the indication for immediate paracentesis but where they depend upon a condition to which no relief can be given, as in pneumonia, they are of the gravest omen and signify a fatal termination.

I saw an instance recently in a young lad who had effusion following pneumonia. He was breathing 70 in the minute and was bathed in a cold clammy sweat; the rattling and wheezing in the other lung were extreme. The lad was conscious but was suffering horrible distress and begged piteously for relief. So ill was he that I did not venture to examine the chest much; indeed, I dreaded lest the mere prick of the needle should prove fatal. The removal of two pints of fluid gave immediate relief and snatched him out of the jaws of death. He is living still and I hope that he will get well. I thought the case absolutely desperate at the time of operation but one learns never to despair.

Indications against paracentesis there are none. The temperature is entirely unaffected by tapping for good or ill. The risk of the conversion of the effusion from serum to pus is, with proper precautions, *nil.* Lastly, the statement still often made that the compression of a tuberculous lung by fluid is so far of advantage that it checks the further development of tubercle in it is at the most only partly true and if used as an argument for leaving the fluid unrelieved longer than it would otherwise have been is mischievous.[2]

The best method of tapping a serous effusion is what is called *syphonage.* The apparatus consists of an ordinary trocar and cannula connected with an indiarubber tube reaching to the floor. The mouth of the tube should be placed in a vessel, say a tumbler, filled with boiled—i.e., sterilised—water so as to avoid the chance of any air being sucked into the chest during the operation. As soon as the needle has been introduced into the side and the trocar withdrawn the fluid flows into the tube and fills it, thus forming a syphon by which the effusion is drawn off under a constant negative pressure of from 18 to 24 inches of water—that is to say, of the height of a column of water reaching from the seat of the puncture to the vessel on the floor. This pressure is sufficient to empty the side or at any rate to remove all that can safely be taken away. What will not flow away at that pressure had better be left. If tapping be performed in this way and the fluid removed slowly under a steady, constant pressure the lung expands gradually as the fluid flows away.

The change in the lung from the conditions of long-standing collapse to one of distension and renewed activity is attended with considerable respiratory and circulatory embarrassment which may even lead to symptoms sufficient to compel the operation to be suspended. These symptoms are pain, cough, shortness of breath, faintness, and general discomfort. The *pain* is usually referred to the sternum or upper part of the affected side and is probably due to the stretching of adhesions there. If the flow be stopped for a few minutes the pain may pass off and some more fluid may be then removed without recurrence. Usually the pain returns and continues to increase, so that the operation has to be terminated. The *cough* may be due to irritation of the surface of the expanding lung by the cannula and then can be obviated by withdrawal of the cannula or the alteration of its direction in the pleura. Cough may, however, be connected with the expansion of the lung and the alteration of the circulation in it or to the presence of some secretion in the larger tubes which accumulated there while the lung was compressed. In these circumstances it may be very severe and paroxysmal so that it becomes impossible to proceed with the operation. The *shortness of breath* is for the most part subjective and if the flow be stopped for a time it passes off and does not return. At other times, though there is no cough, pain, or any special dyspnœa, the patient suffers much *general distress* and becomes anxious and uneasy or even pale and faint. These symptoms are, I think, generally of cardiac origin and depend upon the altered condition of the circulation as the lung re-expands. At any rate, the distress may be sufficient to make it clear that the operation cannot be continued with safety. Usually as the lung re-expands the air enters freely and the respiratory murmur is fairly normal but sometimes towards the end of the operation wheezing sounds and crepitation develop, indicating the exudation of fluid into the air tubes. A considerable quantity may then be expectorated which may be streaked or stained with blood. In its most extreme form the conditions of serous or albuminous expectoration develops, a very rare and remarkable condition which, though alarming, is seldom fatal.

All these symptoms, though they may occur when paracentesis is performed by the syphon, are much more likely to arise when the fluid is removed more rapidly and under much greater negative pressure by the aspirator. For this reason the aspirator should not be employed—it is not necessary and is, moreover, attended with risk. To use the aspirator with the object of sucking the lung out and making it expand is a dange [illegible] for it may cause the lung to rupture and [illegible] or, by the infection of the serous fluid, possibly pyopneumothorax, that is to say, pneumothorax in its most unfavourable form. This risk is no imaginary one. I have seen the lung ruptured on many occasions and knowing what a strain must be put upon the lung I tremble when I see the aspirator used fully exhausted so that the fluid rushes out from the pleura when the tap is turned in a violent jet. Of course, if the lung were perfectly free and could expand uniformly no harm might ensue, but it is impossible to tell that there are not adhesions which will check the expansion of some part of the lung and expose it to a strain which it cannot stand The great difference of pressure produced by the aspirator is shown by the frothing which takes place in the aspirator bottle, the gases contained in the serum being liberated and filling the bottle with bubbles To use the aspirator in this way is like cracking a nut with a sledge hammer It is attended with great risk and no advantage If the aspirator be employed at all it should be kept exhausted only sufficiently to make the fluid flow and even then it should have a manometer attached to indicate the actual pressure which is being employed The *aspirator is, however, quite unnecessary and is better never* used for the paracentesis of serous effusion Syphonage will remove all the fluid that need be removed and is quite safe

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[2] Further details on these points will be found in my book on "Diseases of the Organs of Respiration," vol. ii., p. 670, &c.

A general *anæsthetic* is quite unnecessary and indeed, undesirable, as it masks the symptoms which show that the operation has gone far enough The trifling pain of the skin puncture can be obviated by applying to the part for an hour or two previously a pad of lint well soaked in a 4 per cent solution of cocaine

Paracentesis may be repeated as often as the fluid reaccumulates but when frequent paracentesis fails to cure the question of further radical measures may arise

Free incision of the side deliberately performed for a refractory serous effusion is rarely required Some few years ago I treated a case in this way in which paracentesis had been performed more than 30 times The patient being highly tuberculous was not a favourable case for such an operation but she made a complete recovery in time It is now many years ago but the chest has been perfectly well ever since and it is difficult to detect except by the scar on which side the operation was performed A second case of the kind I had under my care a year or two later

The objection to this method of treatment is of course, that it necessarily leads to empyema but, as the cases show, this is easier to cure than the recurrent serous effusion The operation should not be performed unless the lung be free from adhesion and able to expand freely and every care must be taken to make sure of this Otherwise a cavity is left in the pleura which it will be difficult to close and the patient might have been better off with that space full of fluid than open to the air and discharging pus Still, the cases which I have recorded show that in appropriate cases this is a method of treatment that is justified by success To recommend free incision as a routine method of treatment of serous effusion into the pleura within a few days of its development is as rational as it would be to lay the knee joint open for a recent simple synovitis Yet this so called radical treatment has been advocated I consider it unjustifiable

II —PURULENT EFFUSION EMPYEMA

When pus is pent up in the body the sooner it is let out the better, accordingly the treatment of empyema is by free incision and rightly Still it is interesting to be reminded that in the days when the operation for empyema was not so simple and successful as it is now many cases were cured by paracentesis The knowledge of this fact

give relief and gain time till the patient is in a better state to stand the incision I can recall many cases both in adults and children in which one paracentesis or more resulted in complete cure and in some it would be impossible now to tell which has been the affected side Of course if paracentesis be performed for empyema the aspirator must be employed, as considerable suction may be necessary to get pus to flow but more suction than is absolutely required should never be used for with every increase of pressure the risk of rupturing the lung increases especially as in such cases the empyema may be already trying to break through the lung and there will therefore be weak spots in it

When incision is to be made the rule which Trousseau laid down should never be departed from—that at the time of operation a needle should be passed first and when the pus has been found used as a director to lead the knife into the cavity It is impossible to be sure beforehand that an empyema is a simple one, often those which from the physical signs seem simple prove to be difficult so that the pus is not easy to find If the pus cannot be found with the needle it will not be found with the knife *Therefore to* pass a needle first should be the invariable rule I have seen failure to find pus with a needle prevent an operation which in the end proved to be unnecessary, as the diagnosis *was wrong, and I have many times found pus with a needle* so deeply seated that no one would have ventured to explore so far with a knife unless the needle had been there to guide it

The seat of incision —Of course, the incision must be made wherever the pus is, but in a case where the choice is open the best place to select is just in front of the post axillary border and on the transverse level of the nipple It need not be farther down, because directly the pleura is evacuated the diaphragm rises and soon reaches that level It need not be farther back because the patient will not lie upon the tube and with the incision in this place he can lie comfortably on the back If the incision be farther back the patient will turn over on to the opposite side and the drainage will be no better than with the incision in the place I recommend

Resection of rib should not be performed as a matter of routine Its object is to provide free drainage If drainage can be obtained without resection is not necessary and an unnecessary operation should never be performed There is no reason why the hole should be round Drainage will be just as good if the hole be oval and two small drainage tubes placed side by side between the ribs are quite as efficacious as one large tube which necessitates resection At the time of operation the pus often contains curdy flakes which are difficult to remove but these curdy flakes are the consequence of the pus having been in the pleura for some time and th the side has been opened Howe d of at the time of operation by e finger and washing the side freely out Of course if resection is necessary it must be done, but it is often unnecessary and should not therefore be considered a routine part of the procedure

Washing out —I cannot discover whence the tradition comes that washing out the pleura is a dangerous proceeding There is no risk in it whatever I have washed the pleura out many hundred times and I have never seen a patient become even faint in the process On the contrary, I should lay down the rule that the pleural cavity ought to be washed out thoroughly wherever the pus is curdy, flaky, or offensive, or contains blood clot, for by this means recovery is greatly accelerated

The mode of cure of an empyema cavity is by expansion of the lung and falling in of the side By these means after incision in a case that has not been neglected or allowed to remain long unrelieved, the cavity may be almost completely obliterated in the course of a few days and nothing be left but the track in which the tube lies There should be no hurry to remove the drainage tube Safety should not be sacrificed to the *desire for brilliancy* *The track of the tube* should close up from the bottom In a simple case the tube may be shortened rapidly and soon can be put in no more But it may happen that if the tube be removed too soon the external opening quickly closes, then pus accumulates behind and either makes its way out through the old incision or this has to be opened with the knife again and a tube re inserted I have seen the desire to whip the tube out too soon result in three or four operations on the same patient for the purpose of putting it back again Not infrequently if a refractory track be examined with a probe it is found to extend back to a pouch somewhere behind where a broken-down gland or some other lesion existed and which presumably caused the original empyema As a rule it may be held that if the tube is not out in three weeks or so it will be necessary to retain it for a long time, possibly months I have seen a case in which a small tube had to be worn for

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not be free Indeed the tube may itself prevent drainage and sometimes lies actually across the exit from the cavity and closes it By the careful use of a probe it is easy to ascertain exactly what the condition of things is and how to deal with it Whether I have been myself responsible for performing the original operation or not I make it a rule to examine the cavity with the probe every few days and I may say in passing that the after treatment of an empyema is better left to the physician than to the surgeon

Estlander s operation is very fatal and when successful is followed by fearful deformity Now that empyema is recognised earlier and is better treated the cases in which it might be even thought of will be few and far between

Excisions of small portions of three or four ribs, modified Estländer as that has been called, is not an Estländer at all. It is generally of little use. The remarkable cases recently published by Mr. C. A. Ballance show what can be done by a skilful surgeon, but the results are quite exceptional and neither the cases nor the results are likely to recur.

III.—PNEUMOTHORAX.

In pneumothorax tapping may be indicated at two different periods: (1) immediately after its occurrence and (2) later when effusion has formed. Immediately after its occu [illegible] ied to give exit to the air and [illegible] has been produced by the rapid collapse of the lung and the consequent embarrassment of the respiration and circulation. For this purpose the apparatus used for syphonage is sufficient and an aspirator is absolutely unnecessary. If paracentesis repeated several times fails to give relief and urgent symptoms continually recur free incision of the side may be performed. Various forms of valved tubes have been advocated but they almost always lead to incision; so I prefer incision at once as safer and more satisfactory. When effusion has formed, whether of serum or pus, the treatment should be on general lines.

In hydropneumothorax air is readily absorbed but the fluid is under less favourable conditions for removal than when no air is present. Sometimes the air is absorbed and fluid only is left which is removed gradually in the ordinary way, though it may have to be assisted by paracentesis. When air and fluid are present together care must be taken in tapping so that the mouth of the cannula is below the level of the fluid, otherwise the air only and not the fluid will be removed. In such cases the opening from the lung is nearly always sealed and with the syphon there is little risk of opening it afresh but, of course, the aspirator would be extremely dangerous. The prognosis of hydropneumothorax is by no means bad and would be better if paracentesis was performed earlier than it usually is.

Pyopneumothorax is the most serious form but even this may be successfully treated on general principles. It is not the presence of air with the effusion that makes the difference but that both alike are in most cases the result of tuberculous disease of the lung, from which the patients die though they may get well of the pneumothorax.

Tuberculous disease of the lung used to be regarded as conclusive against free incision of the pleura in any circumstances. That is not the view held now in regard to empyema nor should it be either in respect of pyopneumothorax as cases which I have recorded show. Therefore I do not hesitate to lay down the rule that pyopneumothorax should in all cases be treated like empyema—i.e., the side should be laid freely open and drained so soon as the presence of pus has been established. If that be done the results for pyopneumothorax will not be worse than for tuberculous empyema and will certainly be better than leaving the case alone and doing nothing.

The treatment of pleuritic effusion is a subject by no means exhausted, yet, rapid as our progress in recent years has been, our knowledge of the physics of the pleura and the lungs, upon which rational treatment must be based, is very far from complete. If incidentally I have suggested problems which still await solution, or have shown that even in so ordinary a subject there is still much work to be done, the labour of preparing this paper will be amply repaid.

Wimpole street, W.

A CASE OF INTRAPELVIC EXTRAVASATION OF URINE.

By DAVID LOWSON, M.D. ABERD., M.R.C.S. ENG.,
SURGEON TO THE ROYAL INFIRMARY, HULL

THE more common form of extravasation of urine is well known. From blows or kicks on the perineum, falls astride, or rupture of the urethra behind a narrow stricture the urine escapes into the perineal space in front of the triangular ligament and burrowing backwards as far as the transversus perinæi muscle it there finds a barrier formed by the junction of Colles's fascia with the base of the triangular ligament which changes its course and directs it forward and upward. This fascia is attached to the ascending rami of the ischium and the os pubis, rises convexly like a tent, covering the structures filling the perineum, and anteriorly turns outward to join Scarpa's fascia in the groin, thus preventing the constantly increasing flow of extravasated urine from making its way from the perineal space into the thigh and directs it first forward, after filling the anterior half of the perineum, into the scrotum and the penis and then upward into the connective tissue of the anterior abdominal wall, and laterally above Poupart's ligament towards the loins. In most traumatic ruptures the tear is near the junction of the bulbous and membranous portions of the urethra just in front of the triangular ligament, for in several cases in which there has been a large wound in the perineum it has been possible, by passing the finger into the wound and guiding it along the anterior aspect of the triangular ligament, to place the tip on the torn end of the urethra, as it lies in the opening in the ligament and thus to introduce an instrument into the bladder just as one passes a female catheter by touch alone. In other cases the wound is in the membranous portion only, where it lies between the anterior and posterior layers of the triangular ligament. When the urethra is ruptured in this situation, in addition to the urethral tear the anterior layer of the ligament is also lacerated, for the course taken by the extravasated urine is the same as when the rupture is in front of the ligament at the bulbo-membranous junction.

These are the two commonest forms of ruptured perineal urethra and it is seldom that one comes across any other and in both the urine takes a forward course, running superficially the whole way. Should the urethra, however, be torn further back a very different path is pursued by the escaping urine. Such an accident occurred in the case of a young sportsman who was thrown from his horse when hunting on Jan. 12th, 1904. The accident seems to have been undoubtedly a severe one. A gate had been opened for the horses to pass through but as the rider was approaching it swang to and he was obliged to negotiate it at a short distance and at an inadequate pace. The consequence was that the horse did not rise sufficiently to clear the gate and catching its fore-legs on the top bar turned a somersault and came down on its back with great force with the rider underneath. The latter probably came in contact in the sitting posture and the horse following drove the pelvis into the hard chalky ground. Some stone or hard piece of raised soil must have come into violent collison with the perineum and driven it forcibly upwards.

The patient was carried home, a distance of four miles, and Mr. F. Calvert was summoned at 4.30 P.M. the same day. Mr. Calvert found on his arrival that the patient had passed urine half an hour before the accident and that he was complaining of much pain in the back and in the left side of the pelvis and groin. There were no great degree of shock and no symptoms at that time of internal injury. A somewhat restless night followed and on the next morning a catheter was passed as far as possible and a small quantity of blood and urine was drawn off. In the afternoon, accompanied by Dr. J. P. Park of Beverley, Mr. Calvert again visited the patient and again introduced a catheter into the urethra, drawing this time only a little blood. The patient said that he had previously passed water freely while in a bath. From what I saw afterwards I do not think that any urine at all was passed on this occasion but that he simply urinated into the torn structures. At 9 P.M. the same evening I saw the case in consultation with Mr. Calvert and Dr. Park. At the examination no swelling was found in the perineum or the scrotum and neither sign nor symptom of extravasation in the usual situation. Above the pubes, however, there was a large central globular tumour, dull on percussion and extending three parts of the way up to the umbilicus. It was tender to the touch and pressure on it caused an immediate desire to micturate. The lump was tense and semi-fluctuating, and I had little doubt that it was a distended bladder, but all attempt to get an instrument into the bladder proved futile, for on reaching the deep urethra the tip always deviated to the right and there it entered a space where it had considerable liberty of movement on rotation but with the finger in the rectum it could be at once felt that it had never reached the bladder.

The patient was therefore without further delay placed on the table, anæsthetised, and the pubes was shaved and cleansed. On making an incision in the middle line above the symphysis a stream of dark blood and urine poured into the incision and over the abdominal wall. The stream was of about the size and curve of that which flows from a healthy adult urethra. At first the orifice was supposed to be a vein and a clamp was applied but it proved to be an artificial channel hollowed out of the connective tissue and communicating with a reservoir deep in the pelvis. The muscular layer was next divided and we came immediately on the bladder which was undoubtedly distended but not so much as expected. The blood seemed all to come from the right side of the bladder and on passing the fingers in that direction down into the pelvis immediately there welled up a large quantity of blood and urine filling the line of incision and overflowing the abdominal wall coming from a large cavity by the right side of the neck of the bladder. Quite one and a half pints of fluid had to be sponged out of the pelvis and after it seemed empty blood of a brighter tinge still continued to flow. On passing the hand down into the excavation it was clear that it was capable of holding the fluid that had already overflowed and as the bladder was still quite tense and full it was also plain that there was no rupture of that organ. At the bottom was felt the ischial or pubic ramus but quite denuded of all covering; the bare hard bone was there but no line of fracture could be detected by the most careful searching with the finger nail. There is little doubt that when the perineum came in violent collision with the hard projecting earth the floor of the pelvis with the bladder was driven up into the abdomen and the right pubo-vesical ligament and all the soft structures were violently torn off the bone and forced up into the abdomen and that at the same time the pudic vessels were torn across and the urethra being also completely severed just at the tip of the prostate and behind the deep layer of the triangular ligament the blood and urine soon excavated for themselves a large chamber in this situation. Even here the pressure of the fluid was very high for it had channelled out for itself a course through the muscular layer into the subcutanea where it was found in the earlier part of the operation. As there was still bleeding going on the cavity was packed firmly with aseptic sponges. A small opening was next made in the bladder and with the finger inside and a catheter in the urethra the instrument was ultimately insinuated successfully into the bladder and tied in. A piece of indiarubber tubing just fitting the vesical opening conveyed the urine to a receptacle by the side of the patient, the wound was then partially closed and dressed and the patient was placed in bed.

On Jan 14th the temperature was 101° F and the pulse was 118. On the 22nd the temperature reached 103 and the pulse 104. The catheter was on the same day removed from the bladder as well as the tube from the vesical wound. There was considerable pain in the urethra and the glands of the right groin swelled up. This was due to a little pus that had formed in the abdominal wall close to the incision. This was incised on the 24th. Some lymphangitis occurred in the thigh but was allayed by lotions of acetate of lead. After this all went well and the opening in the bladder closed on Feb 19th. Nine weeks after the accident the patient was quite convalescent and his urethra so far has given no trouble. He is a young man of fine physique and there is little doubt that his youth and strength have borne him over a very serious accident.

Hull

PRE MENSTRUAL PREGNANCY IN A GIRL AGED 13 YEARS.

By AUGUSTUS W ADDINSELL M B C M EDIN,
M R C P LOND,
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A GIRL, aged 13 years was taken to the London Temperance Hospital by her mother early in January last suffering from abdominal pain and slight vaginal hæmorrhagic discharge. The breasts were well developed and contained milk. There was an abdominal tumour. The pubic hair was very slight in quantity. As vaginal examination was extremely painful an anæsthetic was given. It was found that an arm and the cord were presenting. There was no pulsation in the cord. Mr T G Ward, the senior resident medical officer performed version and removed a well developed seven months child which showed no signs of life. Convalescence was without incident.

The interest of this case lies in the fact that impregnation took place before the outward signs of sexual maturity had manifested themselves. The evidence of the mother had been carefully taken, the girl herself was very positive that "she had never seen anything" and remained unshaken when questioned by the medical registrar or by the sister of the ward in private conversation, she was at school and professed entire ignorance of her condition, moreover, she positively denied any intimacy with man or boy.

There is nothing very remarkable in the age of this young mother. Plenty of cases of precocious maternity are to be met with. A girl nine years old, gave birth to an infant in France, others of 11¾, 12 and 12½ years respectively are recorded in this country but in these cases previous menstruation had been noticed. The testimony of the patient and her mother in this instance is so definite as to make it quite certain that the usual monthly flow had never taken place. After all is this very wonderful? The signs of sexual maturity in the female are well known to be development of the mammary glands, growth of pubic hair, and finally menstruation. Whilst these are the outward signs of sexual maturity cellular activity within the ovary has been proceeding regularly since the birth of the individual. A very interesting and instructive contribution towards the study of the fate of the ovum and Graafian follicle in pre menstrual life has been published by Dr T G Stevens in vol xlv of the Transactions of the Obstetrical Society for 1903. He there traces the history of the follicles and the series of changes they undergo together with the fate of the ovum and its ultimate removal by the phagocytic agency of the cells of the membrana granulosa. This cellular activity within the ovary of the female is precisely similar to that which goes on within the testis of the male leading to the development of the spermatozoa.

Now sexual maturity depends for its onset upon a variety of causes climate race, nutrition, growth, &c but there is reason to believe that our remote ancestors matured sexually much earlier and were much more prolific and that with the advance of so called civilisation the recognised nubile age has been made later and later until at the present time it presents a grave sociological problem in more than one European country. In Central Africa it is by no means an uncommon thing for a girl to become a mother before she has menstruated, and in certain districts of India where early marriages are common the same thing has been recorded. Rachmaninoff a Russian physician reports a case in a girl aged 14 years. A traveller in the remoter regions of Australia told me of a case in his own camp of a girl, aged ten years who had never menstruated and became pregnant. Metchnikoff in his book "The Nature of Man" quotes several cases also. In the warmer and Eastern climates then it would appear to be a well recognised fact and this doubtless because there is in those countries less sexual restraint while in the West sexual maturity in both sexes comes later and when it does come environment, habit, training and general oversight make early or precocious impregnation less probable but that is all, precocity in the East is the rule in the West it is the exception.

The life history of the ovum and follicle in pre menstrual life as traced by Dr Stevens shows that maturity up to a point is constantly going on in those follicles which come to the surface and when that point is reached retrograde changes take place in the infantile ovary. Now as the age of sexual maturity is being reached and as ovulation is regularly proceeding it is easy to see how impregnation might occur even though the outward and visible signs of sexual maturity be absent. The periodic occurrence of [illegible] really independent of menstruation and [illegible] and it is not difficult to see [illegible] excitement attendant upon [illegible] at the rupture of a ripe [illegible] the ovum.

Assuming the statement of this patient and her mother to be true (and there is no reason *to doubt it, for every effort* has been made to ascertain the exact facts)—viz, that she had never menstruated—then it is an added proof were that needed, of the contention that ovulation and menstruation are not interdependent though they may be coincidental.

There is something curiously akin to a pathological process in the menstruation of women. In every other instance discharges of blood whether from the intestines lungs, or kidneys, are evidence of disease. The analogue in the higher vertebrates is "heat," but in very few is this accompanied by a discharge of blood, and where there is a slight staining the proportion of red blood corpuscles to white is very small, as in those macaque monkeys observed by Heape of Cambridge. In the case of "Johannah," the famous chimpanzee, whose menstrual history I have recorded elsewhere, I made a careful microscopical examination of the menstrual discharge and satisfied myself that the red corpuscles were comparatively small in number, though enough to tinge distinctly and to stain red the monthly flow; still, all these were under the artificial surroundings of captivity. Not only the attendant pain and copious loss in woman but the general and nervous disturbances occurring at these times are suggestive of a departure from the originally normal line. The amenorrhœa accompanying lactation is often regarded by women as a welcome condition of security from impregnation. This we know to be an error, for ovulation is proceeding with its accustomed regularity and impregnation may, and often does, take place. Furthermore, the development of the endometrium every month may be safely regarded as the preparation of the uterus for the implantation of an impregnated ovum and the menstruation may be considered as evidence of a failure of these anticipations.

It is quite likely that primitive woman never menstruated, at any rate as we know menstruation to-day, and there is reason to believe that this phenomenon, this heritage of woman, of which she is not proud and for which she is not grateful, has assumed its present proportions as a result of the almost universal practice, begun in the earliest ages, of restraining the excessive uberty of our primeval ancestors.

Curzon-street, W.

A CASE OF

CHRONIC INTESTINAL OBSTRUCTION WITH PERFORATION OF THE SIGMOID FLEXURE.

BY GEORGE A. CLARKSON, F.R.C.S. ENG.

THE notes of the following case present one or two points of considerable interest. At the time of the first operation the history and the age of the patient led me to believe that I was dealing with a stricture of some part of the colon due to growth but the distension of the small intestine and cæcum was so great and the call for immediate drainage of the distended bowel was so urgent that no prolonged examination of the colon could be made. The subsequent sloughing and perforation of the sigmoid flexure probably occurred at the seat of obstruction, yet here no cause was obvious to account for the condition found. The gut, though in a condition little short of gangrene, was apparently not invaded by growth and the fact that no fæcal matter was found in it rather excluded the idea that retention of a scybalous mass of fæces at that point had given rise to inflammatory softening and perforation of its coats.

The patient, a woman, aged 52 years, had suffered from disease of the outer surface of the acetabulum for 12 years and the sinuses on the outer side of the right hip had healed after a free exploration and scraping in May, 1903. In the spring of 1904 she began to be subject to occasional attacks of vomiting, accompanied by abdominal pain, distension, and constipation, but these attacks were relieved from time to time by aperients and enemata. On May 9th she was seized with a severer attack than usual. The bowels were at first relieved and the sickness would stop for 12 hours at a time but invariably returned again. The patient was kept in bed, put on a fluid diet, and saline aperients and enemata were given with some result. A rectal examination revealed no stricture within reach of the finger nor could anything be felt through the abdominal walls to localise the seat of obstruction. On the 15th the symptoms became urgent, the vomiting being persistent and copious but not offensive in smell, the abdominal distension became very great, and there was obviously more or less complete obstruction. Enemata given through a long rectal tube produced no effect, so the patient was removed without delay to a surgical home. The operation was carried out in the evening. The abdomen was opened in the middle line below the umbilicus. Enormous distension of the small intestine and cæcum was met with and as the transverse and descending colon appeared less distended and the indication to drain the bowel with as little delay as possible was urgent the wound was closed and another small incision was made over the cæcum, which was drawn out, opened, and a Paul's tube tied in. Following the operation there was a little vomiting of a stercoraceous character but the cæcal opening gave great relief and the acute symptoms subsided. At the end of a fortnight the patient was able to be removed home. Enemata were subsequently given from time to time and occasionally brought away small scybalous masses.

On the afternoon of June 11th the patient was suddenly taken ill with intense pain in the left inguinal region and when I saw her was extremely collapsed, with drawn features, cold extremities, and thready pulse. Subcutaneous injections of strychnine with a little morphine were given and she gradually rallied, symptoms of an acute localised peritonitis quickly manifesting themselves. A diagnosis of intestinal perforation was made and on the 15th an incision similar to that for inguinal colotomy was made over the area of pain and resistance. On opening the abdomen some very foul-smelling pus welled up and the abscess cavity having been thoroughly swabbed out the sigmoid flexure was seen plastered over with thick lymph and with a perforation on its anterior surface of the size of a shilling. The coats of the bowel were softened, black, and gangrenous and in bringing it forward it tore almost across. The wound was therefore enlarged in an upward direction and the bowel was slit up with scissors till its walls appeared unaffected by the changes below and would allow of its being stitched to the skin which was then done. The whole condition seemed to be an acutely inflammatory one. The abscess cavity was again swabbed out and then packed with iodoform gauze, an indiarubber tube of large calibre being passed into the colon.

The patient stood the operation well. The discharge was most offensive for some days but the cavity contracted quickly and at the end of a month the opening differed but little from an ordinary colotomy opening and it acted well. As the cæcal opening became an annoyance to the patient when she began to get about again owing to the liquidity of the discharge, on August 11th, under ether, the mucous membrane was separated from the skin and the opening closed. At the time of writing (March, 1905) the patient finds no difficulty in controlling the artificial anus and she is able to get about out of doors and to resume her ordinary domestic duties at home.

Leicester.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A NOTE ON THE ABDOMINAL INCISIONS FOR THE EXPLORATION OF THE APPENDIX AND PERFORATED ULCER OF THE STOMACH.

BY CUTHBERT S. WALLACE, M.B., B.S. LOND.,
F.R.C.S. ENG.,
SURGEON TO OUT-PATIENTS AT ST. THOMAS'S HOSPITAL; ASSISTANT SURGEON TO THE EAST LONDON HOSPITAL FOR CHILDREN.

The incision for exploration of the appendix.—The two abdominal incisions that are most in vogue for removal of the appendix—namely, that of McBurney and that through the rectus sheath—have their advantages and disadvantages. The McBurney incision is cramped and if difficulties are encountered gives poor access even if strongly spanned by assistants. It is, on the other hand, easily and quickly closed. The rectus sheath incision gives a good view and can be enlarged without difficulty to any extent; it is, however, often difficult to close owing to the tendency of the layers behind the rectus muscle to retract towards the iliac crest. The following modification seems to combine some of the advantages of both incisions. The rectus sheath is entered towards its outer side by the usual vertical incision. The muscle is then retracted inwards and the posterior wall of the sheath is exposed. As a rule two nerves are seen running transversely inwards about one inch apart. The mid-point between these is selected and the peritoneal cavity is entered by an incision one inch long transverse to the body axis and parallel to the nerves This incision is easily closed since the natural tension of the parts approximates the edges Should difficulties be encountered in the removal of the appendix and a large incision be required it can be obtained by the usual vertical incision in the posterior rectus sheath

The incision for perforated ulcer of the stomach —In many cases of perforating ulcer of the stomach or the duodenum it is a matter of doubt as to whether the pelvis has become infected or not Even after the usual epigastric incision the same doubt remains, since the state of the middle area of the abdomen is no criterion as to that of the lower portion The only method of settling the point is by making an incision in the hypogastrium Should this be made after the upper incision there is danger of infecting the pelvis if this prove clean, since hands and instruments are already soiled It therefore seems advisable in cases of doubt to make the hypogastric incision first The state of the pelvis can then be ascertained and if found clean the wound can be closed If the contrary prove to be the case the lower wound can be used in the process of cleansing the peritoneum The primary lower incision is also of service in determining the condition of the appendix when there is doubt as to whether the appendix region or the upper part of the intestinal tract is at fault

Upper Wimpole street W

A CASE OF ACUTE IODINE POISONING WITH FATAL RESULT

By E DONALDSON SIM, M R C S ENG, L R C P LOND,
SENIOR RESIDENT MEDICAL OFFICER AT THE GUEST HOSPITAL DUDLEY

A MAN, aged 52 years, was admitted to the Guest Hospital, Dudley, on the morning of Jan 25th, 1905 with an outward dislocation of the right foot and a simple fracture of the right fibula He had been a hard drinker for some years and was drunk at the time of the accident There was no evidence of definite cardiac disease on examination of the heart and no anasarca was present No specimen of the urine was obtained The dislocation was reduced under chloroform soon after admission On the morning of the 26th the patient showed signs of threatening delirium tremens He was placed on a bromide mixture and of course was on milk diet He complained of pain in the left side of the chest but no sign of injury or disease was found on examination Orders were given however to paint the painful area with liniment of iodine When about to do this (at 7 30 P M) the nurse placed a bottle containing liniment of iodine on the patient s locker and then left the patient for certainly not more than a minute During this short period however the patient seized the bottle of iodine, uncorked it and gulped down the whole of the contents, about four ounces I was in the ward at the time and hearing the other patients call out I turned round in time to see the patient replace the empty bottle on the locker I at once took steps to wash out the stomach but in order to do this we were forced to anæsthetise lightly the patient with chloroform The stomach was then thoroughly washed out until the returning boric lotion was quite clear On completion of this operation the patient promptly regained consciousness, his pulse was good and his condition seemed satisfactory There was no dyspnœa nor was there vomiting or purging In about an hour s time the pulse became very feeble the extremities were cold and blue and the face was cyanosed respiration was easy but the patient kept expectorating and complained of some pain in the epigastric [illegible] tion of strychnine were injected [illegible] in two hours as there was no [illegible] tles were applied and one ounce of brandy was given per rectum Two drachms of bicarbonate of sodium were given by the mouth in a little water and diluent drinks were ordered In spite of treatment, however the patient died from cardiac failure at 11 45 P M The coroner unfortunately, did not order a post mortem examination to be made

The case is of interest on account of the rarity of acute iodine poisoning and on account of the rapidity with which death followed the swallowing of the poison in spite of energetic treatment Probably this was partly due to the patient having been in a low condition of health on account of his drunken habits

Dudley

A Mirror

OF

HOSPITAL PRACTICE,

BRITISH AND FOREIGN.

POPLAR HOSPITAL

A CASE OF SEROUS PLEURAL EFFUSION FOLLOWING ACUTE RHEUMATIC ARTHRITIS AND PERICARDITIS

(Under the care of Dr CECIL WALL)

FOR the notes of the case we are indebted to Mr A C Dixon house physician

A man aged 44 years, was admitted into the Poplar Hospital under the care of Dr Cecil Wall on August 19th 1904 The patient had been ill for 14 days with acute rheumatic arthritis There was nothing of importance in his previous history or in his family history, he had not previously suffered from rheumatism On admission his temperature was 102 4° F , many joints were hot, red tender, and swollen, and there was much sweating The heart was not enlarged but a systolic murmur was heard at the apex and in the axilla accompanying a weak first sound He was put on full doses of salicylate of sodium and the temperature fell rapidly and reached normal on August 22nd On the 23rd the temperature rose to 100° and loud to and fro pericardial friction was heard, during the next few days the temperature continued to rise and reached the maximum of 104° on the 29th Between these two dates a large pericardial effusion developed and the patient became delirious After the 29th the temperature began to fall and the pericardial effusion to lessen On Sept 6th the area of cardiac dulness was only slightly larger than normal but for some days the temperature remained between 100° and 101° On Sept 7th and 10th the patient had syncopal attacks from which he recovered under the influence of stimulants Between the 6th and the 15th the pyrexia continued, there was a good deal of diarrhœa and the patient sank into a typhoid state Tested on Sept 14th the blood did not give Widal s reaction On the 13th signs of pleurisy at the right base developed and an effusion formed of which 29 ounces were evacuated on the 16th A report upon this fluid is appended The temperature now gradually fell to normal and on the 20th there was no evidence of pleurisy or of effusion on the right side Pleural friction, however, was heard in the left axilla At the beginning of October a fresh effusion formed in the right pleural cavity and 11 ounces were removed by aspiration on Oct 4th The signs however, at the right base persisted and the temperature again rose An exploring syringe was again inserted on the 21st but only three ounces of fluid were obtained After this the signs cleared up, the temperature became normal, and the patient made rapid progress towards recovery He was discharged to a convalescent home on Nov 22nd On discharge and when seen about a month later the heart seemed a little enlarged but no murmurs could be heard In all other respects he seemed perfectly well

Report on the pleuritic fluid by Miss H L B[illegible]TT *of the Laboratory of Pathology and Public Health* —'Microscopical examination of the centrifugalised deposit from the fluid showed it to consist chiefly of red blood discs, with a fair number of leucocytes and a small number of endothelial cells The blood discs are of good colour and the *leucocytes appear to be chiefly of the polymorphonuclear type* The coagulum shows a similar composition with the addition of fibrin *No tubercle bacilli* have been found in a stained specimen Plate cultivations were made from the centrifugalised deposit and an organism was isolated which is similar in microscopical appearance to the rheumatic diplococcus, appearing in pairs, groups and short chains. This was inoculated into various media; a characteristic fine growth was seen on the solid media, and the production of acid was noted in most of the liquid media, with a sedimentary growth. It does not liquefy gelatine; this organism is thus seen to correspond in many respects with the characters of the diplococcus of acute rheumatism."

Report on the fluid obtained on Oct. 4th by Dr. C. E. HAM, *chemical pathologist to the London Hospital.*—"The following is a report on pleural fluid sent to me on Oct. 5th. Colour: very pale straw; specific gravity 1018; reaction to litmus very faintly alkaline. Chemical examination: proteid (albumin and globulin) about 1·5 per cent. and a substance which reduced Fehling's solution slightly. No formic acid and no lactic acid could be detected. Microscopically practically nothing was seen under oil immersion except a few leucocytes."

Remarks by Dr. WALL.—It is generally accepted that rheumatism may cause pleurisy but it is less commonly held that it may lead to the formation of a clear pleural effusion. In this case bacteriological evidence supports the clinical diagnosis. Dr. G. A. Gibson, in a lecture published this year,[1] says that he is not aware of any case of pleural effusion from which the microcroccus of rheumatism has been isolated. I have not myself been able to find a report of any such case and consequently think that this instance is worthy of record.

DAVID LEWIS NORTHERN HOSPITAL, LIVERPOOL.

A CASE OF RUPTURED KIDNEY AND LIVER; OPERATION; RECOVERY.

(Under the care of Mr. K. W. MONSARRAT.)

A MAN, aged 28 years, was admitted on Nov. 26th at 3 P.M. to the Northern Hospital immediately after an accident in which he had been crushed between a wagon and a wall. The patient was very pallid, breathing heavily. His pulse was slow (66 per minute) and he was complaining of great pain in the abdomen. There were no external marks of injury. Palpation of the abdomen revealed nothing, being extremely painful and resistant, but on percussion marked dulness in the left flank was elicited and palpation there caused considerable pain. A catheter was passed and the urine was found to contain blood. Rupture of the left kidney was diagnosed. The pulse-rate increased steadily after admission. At 4.15 P.M. two pints of normal saline solution were injected intravenously previously to operation.

Under ether an oblique incision was made in the left flank, just below the ribs; blood was present in the perinephric tissue. An irregular laceration two inches in length was found on the anterior surface of the kidney at its superior pole; this was stitched up by means of three silk sutures. The peritoneum was incised to the outer side of the descending colon, whereupon a quantity of blood and clots escaped. The hand was then introduced into the peritoneal cavity and the spleen was explored and found to be normal. The hand was then passed across the abdominal cavity and a laceration of the liver was discovered. The lumbar wound was closed, a glass drainage-tube being passed down to the kidney. An anterior incision below the ribs on the right side exposed the liver. The laceration was found on its anterior surface, four or five inches in length, ending on the anterior border about one inch to the outer side of the gall-bladder. Another small tear was present on the anterior border external to the former. The blood and clots were removed as far as possible from the peritoneal cavity and the laceration was packed with gauze; it was not sutured. The parietal incision was closed by through-and-through sutures of silk-worm gut and the gauze packing was brought through its upper extremity. Two pints of normal saline solution were injected intravenously and a quarter of a grain of morphine and $\frac{1}{100}$th of a grain of atropine sulphate were administered hypodermically before the patient left the table.

On the next day the patient had not quite recovered from the shock and the collapse. The wounds were dressed and the glass tube to the kidney was replaced by rubber drainage tubing. The gauze drain was removed from the liver as hæmorrhage appeared to have ceased. Atropine sulphate ($\frac{1}{100}$th of a grain) was given hypodermically every three hours. On Nov. 28th one grain of cocaine was given every hour because of severe vomiting. Five grains of calomel having been given without result an enema of gruel and turpentine was ordered. The atropine was discontinued and strychnine (four minims every four hours) was substituted. The pulse was feeble, the face was flushed, and the pupils were dilated. The patient complained of a great deal of pain over the wounds. On Nov. 29th another gruel and turpentine enema was given with an excellent result, the general condition being decidedly better in consequence. Blood was now absent from the urine. On Dec. 2nd the condition had greatly improved, except for a superficial skin infection of both wounds, for which boric foments were applied every four hours. By Dec. 16th the patient was well on the way to recovery, complete restoration to health being delayed by the complication already referred to.

Remarks by Mr. MONSARRAT.—The chief complaint made by the patient on admission was agonising pain across the back at the level of the upper lumbar spines. During exploration of the kidney blood was seen to be present in the peritoneal cavity and the peritoneum was incised. Through this incision the spleen, the liver, and the other abdominal organs were examined with the hand and the long tear in the liver was felt with the fingers. Hæmorrhage from the tear in the liver was readily checked by gauze packing; in addition to the large wound there were several smaller wounds, only one of which, however, involved the peritoneal covering.

Regarding the indications for operation in such a case, in my opinion where definite signs of rupture of the kidney are present operation is always advisable. Agonising lumbar pain is usually present in a characteristic manner in contusion and rupture of the liver and in this case the signs of hæmorrhage into the peritoneal cavity were sufficiently distinct.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Some Experiments in Connexion with Stimulins.—Demonstration of Cultural Forms of the Leishman Body.

A LABORATORY meeting of this society was held at the Royal Army Medical College, Victoria Embankment, on March 21st, Sir JOHN BURDON SANDERSON, the President, being in the chair.

Major W. B. LEISHMAN, R.A.M.C., described a series of experiments demonstrating the Property possessed by Typhoid and Malta Fever Sera of stimulating the Phagocytic Power of Leucocytes derived from Normal Blood towards the Bacillus Typhosus and Micrococcus Melitensis respectively. The first series of experiments were conducted *in vitro* by Major Leishman's original method of quantitatively estimating the phagocytic power and demonstrated that the addition to normal blood of a very small amount of immune serum, whether derived from a convalescent patient or from an immunised animal, increased the phagocytic power of the normal leucocytes to a very marked degree. The addition of a similar amount of normal serum or of serum derived from men or animals immunised with other germs had either a negative or an inhibitory effect upon phagocytosis. This stimulating effect was found to be exercised only in the case of the particular germ which had been employed in immunisation. It was further shown that the stimulating properties of these sera were not destroyed or diminished by heating to 60° C. for 15 minutes. In another series of experiments the modification of Major Leishman's method employed by Wright and Douglas in their work on opsonins was adopted. In these the normal corpuscles were freed from the citrated plasma by centrifugalisation and repeated washing in normal salt solution and all the sera subsequently added to these washed corpuscles had been previously heated to 60° C. for 15 minutes. In this way the thermo-labile opsonins, if present in these sera, had been destroyed and the possibility of the stimulin effect being, in part or altogether, due to opsonic action was excluded. In this series immune sera derived from a case of enteric fever and from a rabbit immunised with bacillus typhosus were found to exhibit stimulating properties similar to those of the sera

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[1] Brit. Med. Jour., Jan. 7th, 1905.

tested in the first series In a further experiment an
was made to determine whether the increased phag
following on the addition of the immune serum was
the action of the serum upon the bacteria or was caused by a direct stimulation of the leucocytes In this experiment the emulsion of living germs employed was divided into three equal parts the first was digested for one hour at 37° C with heated typhoid serum the second was similarly treated with heated normal serum while the third was untreated The germs which had been digested with the sera were then freed from these sera by washing and suspended in normal saline solution A parallel series of experiments was conducted with these three emulsions The results appeared to show that the stimulins acted directly upon the leucocytes The above experiments were then contrasted with those previously described by Metchnikoff Gengou, Besredka and others but as the latter were conducted *in vivo* upon animals whose peritoneal fluid or exudates were withdrawn and studied accurate comparison was not possible Major Leishman however concluded that the stimulating action demonstrated in his experiments was due to the presence in the immune sera of the 'stimulins described by Metchnikoff and others He pointed out however that he had obtained no evidence of any stimulating effect from the addition of normal serum such as had been described by those authorities The conclusions which he drew were, first that sera derived from cases of typhoid or Malta fever or from animals immunised with living cultures of these organisms appeared to contain a substance—stimulin—capable of stimulating normal phagocytosis Secondly these stimulins were specific—i e they only induced increased phagocytosis of the germ which had been employed in immunisation Thirdly they were thermostable withstanding a temperature of 60° C for 15 minutes Fourthly no evidence of a stimulin effect was obtained from the normal serum of man or animals Fifthly although their action might possibly be reinforced by that of the agglutinins or the immune body they were not identical with either of these substances Sixthly they appeared to act by direct stimulation of the leucocytes

Major LEISHMAN then gave a demonstration of the Cultural Forms of the Leishman Body He showed a series of microscopic specimens illustrating the changes which these parasites undergo in artificial culture eventuating in the development of a flagellated organism closely resembling a trypanosoma (The original cultures were obtained by Captain J C B Statham R A M C at Netley)

CHELSEA CLINICAL SOCIETY

Chronic Constipation and its Medical and Surgical Treatment

THE annual clinical debate of this society was held at the Chelsea Dispensary Manor street King s road London on March 14th Dr F VINCENT DICKINSON the President being in the chair

Mr W ARBUTHNOT LANE in opening the debate on Chronic Constipation and its Medical and Surgical Treatment first described the conditions of the viscera consequent on imperfect evacuation of the large bowel In the large majority of cases such a condition was associated with the symptoms properly comprehended under the term constipation , in a small proportion of cases however the patient might have a daily evacuation but might still have a loaded large bowel The sufferer might obtain from the overflow of the loaded large bowel a daily action which was usually solid but might be fluid and consequently there might be no complaint of constipation When children were fed unsuitably the intestines and particularly the large bowel might become distended with gas rendering the whole of the abdomen abnormally prominent The cæcum and the ascending colon appeared to suffer most severely and the transverse colon became distended and elongated in a downward direction as a consequence Mr Lane then referred to a paper which he had published in August 1893 in which he called attention to the presence of fluid associated with distension of the intestines resulting from malnutrition the large bowel becoming more or less inflamed sufficient to produce a distinct peritonitis as manifested by the effusion The appendix shared in the inflammatory process and might do so sufficiently to become attached in the position in which it

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come

considerably elongated by the forcible downward displacement of the cæcum in consequence of the development of that organ and its elongation from distension by its contents Such fixation of the appendix might not give rise to any obvious symptom but it left the organ more or less damaged functionally and capable of becoming obstructed and acutely inflamed at any time Appendicitis was in the first instance directly consequent upon the condition of distension and inflammation of the cæcum at some period or other excepting those rare cases where a foreign body was the cause Appendicitis therefore, practically never existed except as a consequence of the overloading of the intestinal cesspool and must of necessity have been associated at some time or other with the results of such distension The forcing down of the cæcum and transverse colon was much helped by the sedentary position assumed almost universally during defæcation in civilised communities The inflammation of the cæcum and the ascending colon consequent on their excessive distension produced an adhesive process between the outer wall of the bowel and the peritoneum with which it came into contact The sigmoid flexure was driven down and obstructed and ultimately might become so contracted up in consequence of the adhesive process that it ceased to be a loop and formed a straight conduit One most conspicuous clinical symptom was a fulness and tenderness in the region of the cæcum which organ in the erect and sitting posture in these cases of any severity reached well into the true pelvis Most pain was felt when the cæcum lay upon a firm background such as the iliac fossa or pelvic brim The tenderness extended upwards to the hepatic flexure and pressure on the loin below the last rib caused pain partly due to the strain exerted upon that area by the loaded bowel when the trunk was in the erect position and partly due to the thrusting in an upward and backward direction of the upper limit of the ascending colon As the transverse colon became frequently adherent to the ascending colon the area of the tenderness of the one merged into that of the other The patient was liable to attacks of pain in the region occupied by the inflamed and dilated cæcum and such attacks were frequently mistaken for inflammation of the appendix alone In consequence the appendix which might or might not be inflamed was frequently removed for the relief of such conditions of acute distension the patient however after such operation obtaining only the temporary relief that was afforded by the prolonged assumption of the resting posture which was favourable to the emptying of the intestinal cesspool and by the care and attention which his bowels received during the period of convalescence When such a patient again resumed the erect posture he soon complained again of the troubles from which he suffered before his appendix was removed That condition of the large bowel was almost the only cause for the pain which the patient experienced after these unsuccessful appendicular operations excepting such conditions as might be due to an incorrect diagnosis in the first instance That in Mr Lane s opinion was exactly what might be

causation of disease of the
removal of the appendix
patients of their painful
and no array of statistics

pointing to a contrary conclusion to that could be relied upon It was possible at the time of operation to gauge fairly accurately the amount of success that would follow upon the removal of an appendix and if necessary upon the division of such bands as might be constricting the lumen of the cæcum and of the ascending colon or hitching up and obstructing the hepatic flexure Mr Lane observed that the failure to relieve permanently these patients of their symptoms in a number of so called cases of appendicitis was forcing itself daily more and more convincingly upon the profession and was calling forth a more thorough study of the physical conditions which produced appendical inflammation and which were associated with it It seemed to him that the consulting physician and the general practitioner could help the surgeon most materially by giving an account of their experiences of the subsequent history of these cases after operation In certain cases of chronic constipation the patients referred all the pain to the epigastrium or to the umbilical region and the many symptoms comprised under the term indigestion might be present in an aggravated form. Mr. Lane then explained in detail the symptoms due to the absorption of toxins tending to produce an appearance in the patient of premature senility and described how the skin became dry, thin, and loose, the secretions acquiring a nasty offensive smell in the flexures. One of the most conspicuous consequences was the loss of fat and once that commenced it afforded the best indication that the patient was going rapidly downhill. In considering the question of treatment he did not propose to deal with any form other than operative, since he assumed that everything short of operative interference had been tried. When it became apparent that something must be done beyond drug and other such treatment the question resolved itself into whether an attempt should not be made to liberate the bowel by the division of bands or adhesions or whether it would not be better to establish direct continuity between the lower end of the ileum and the termination of the large bowel. In regard to the operative procedure itself Mr. Lane explained that he divided the ileum about six to eight inches from the cæcum and then connected the proximal end with the sigmoid flexure or rectum. The operation was simple and the results were excellent provided the case had not been allowed to drift on till adhesions and dilatation of the small intestine had occurred and considerable dilatation of the stomach had taken place. Many had objected to the operation on the assumption that the patient would afterwards be affected by persistent chronic diarrhœa. Such was not the case, for in a large proportion of the cases the patients had still for some considerable time to take drugs or by preference use glycerine enemata.

The PRESIDENT said that the remarks made by Mr. Lane forcibly reminded them that the treatment of chronic constipation did not consist alone in the giving of aperient drugs and, apart from its surgical treatment, its cure was not to be found in any one panacea. He then proceeded to give a brief survey of the causes of chronic constipation. The causes of chronic constipation might be primarily divided into two groups, intrinsic and extrinsic. Intrinsic causes might be further divided into: muscular atony, glandular atony, hepatic inefficiency, chronic colitis, and mechanical causes, organic and functional. The President discussed these seriatim and in the course of his remarks mentioned that small doses of castor oil seemed to act better than any other therapeutic measure in relieving constipation and curing the disease. By small doses he meant ten minims every four hours or a drachm night and morning and it might usefully be combined with belladonna. Kussmaul introduced the injection of olive oil into the colon as a cure for that complaint, from three to ten ounces of warm olive oil being employed every night at bedtime which should be retained during the night. In order to effect that, the oil should not be injected through a Higginson's syringe but by means of a douche can suspended above the bed and connected with a nozzle and indiarubber tube of large calibre. After a time the injection might be used on alternate nights and the patient would probably find that he obtained an evacuation each morning; the intervals could be then lengthened until cure was effected. He also pointed out that an excess of lime salts in drinking water was one of the most important of the extrinsic causes of constipation. He thought, too, that lack of sugar and lack of water might perhaps play a subsidiary part in the causation of chronic constipation, for some people drank too little water or fluid of any kind. The President concluded by saying that in the future the cure of constipation might be effected by surgery rather than by medicine but until that happy time arrived there would be many who would echo the words of mine host of the Garter Inn set forth in the *Merry Wives of Windsor*: "Shall I lose my doctor? No; he gives me the potions and the motions."

Dr. W. H. GODDARD said that on the existence or non-existence of the pathological processes described by Mr. Lane depended the argument in regard to chronic constipation. Dr. Goddard said that for the last three years he had had considerable experience in cases of chronic constipation and had been present at many surgical operations undertaken for its relief. He had seen the conditions described by Mr. Lane and considered his conclusions logical and correct, for they were borne out by the success of the surgical methods which he advocated. The treatment initiated by Mr. Lane was not universally accepted by his brother consultants; indeed, one eminent consultant had given denial categorically to Mr. Lane's teaching and method. When Dr. Goddard read that gentleman's statement he was much exercised in his mind to know what his objections could be and after careful reflection he came to the conclusion that that authority had attributed, rightly or wrongly, such advantageous functions to the colon that it would be unjustifiable to interfere with it. That conclusion led Dr. Goddard to ask himself, What then were the functions of the normal colon? Continuing, Dr. Goddard stated that he had been experimenting in Paris during the last few months on the living colon of the dog and the rabbit. He set himself to determine those functions under four heads: 1. As to the peristalsis of the colon. Was it peculiar to the colon? 2. As to the digestion of fat carried on by the agency of bacteria known to abound in the cæcum. 3. As to the absorption of fluid from the fæcal mass. 4. As to the digestion of cellulose. He would briefly describe his experiments. He purged both a dog and a rabbit and administered to them A.C.E. mixture. When the abdomen was opened he made a small incision in the posterior part of the ascending colon and through it he passed a small indiarubber ball to which was fitted a tube fitted with a stop-cock. The elastic ball was chosen in consequence of its collapsibility, so that it could be passed through a comparatively small orifice and also because it could be easily inflated and deflated to suit the altering calibre of the large gut. He noticed that the wall of the intestine contracted on the ball and it was not difficult to see that both the external longitudinal and the internal circular muscular coats contracted together at the same instant of time. To make sure of that particular, however, he applied an enterograph which confirmed his observation. He also observed (in the case of the rabbit the intestine of which was more delicately responsive than that of the dog) that in front of the ball there was a contraction of the intestinal wall and so marked was this that it might be compared to a constrictor or sphincter. The combined effects of these two processes were evidently to insure a twisting or churning movement on the ball. After a time the sphincter gave way and the ball was carried upwards or onwards, only to meet with a repetition of the process at the hepatic flexure of the intestine and then again in the middle of the transverse colon but he could not follow its action further. The text-books told them that first one coat of the intestine and then the other contracted but it was clear they contracted together, the outer or longitudinal muscular coat acting as an adjuvant to the inner coat by pressing tightly upon it. As to the digestion of fat, he fed a dog on diet containing a slight excess of fat of known weight. He obtained the fæces arising from this food. He boiled the fæces first in alcohol and subsequently in ether, the ether was evaporated off from the product, and the fat and other compounds soluble in ether were weighed. He then removed the ileum of the same dog from its normal position and implanted it into the upper rectum. When the dog had recovered from the operation he administered to it a diet exactly similar to what it had previously received in its normal condition. He found on weighing the fat resulting from its fæces that the average quantity of six experiments was 12 per cent. more than in the first experiment, hence 12 per cent. of fat was digested by the cæcum. Concerning the absorption of fluid from the fæcal mass, in the last experiment it was noted that during the first 15 days after the operation the fæces were passed in a liquid condition, resembling the fæcal fluid mass normally found in the ileum. But subsequently to that period the fæces gradually regained their normal consistency. In regard to cellulose, he regretted to say that his experiments were not yet completed but he thought that they might accept the conclusion of the German agricultural chemists—viz., that cellulose was digested by the large intestine. Those, then, were the functions of the large intestine of the dog and of the rabbit and he presumed that they might in a great degree reason from the colon of the dog to that of man. Although they had seen the large intestine to possess great functions and great advantages he could not conceive them to be very great. Indeed, he believed that did the necessity arise life could be maintained without it—that man could live without a colon. Let them consider what exactly would be their loss. Its peristalsis? No; for it would not be required. Loss of fat? 12 per cent. of the whole amount digested was not a great loss, even if they omitted the possible presumption that the small intestine might even in some degree do the work of the large intestine in that respect just as occurred in the case of the absorption of fluid when the large intestine was rendered functionless Absorption of fluid from the fæcal mass? No, for they had seen in the dog and indeed, in man that after a certain lapse of time the small intestine became equal to that task Digestion of cellulose? Yes, but cellulose did not largely enter into their diet and it was by no means a necessary part of it Therefore they might say there would not be any great loss If man could live without his normal colon he certainly could do so in the ca

found the colon was

at all they must be

its very slight aid to the human economy was more than counterbalanced by that one fact—namely that in chronic constipation they had a portion of the colon the cæcum acting as a cesspool where the fæces were stagnating and undergoing chemical decomposition and producing toxic substances which enter into the blood stream and sap the vitality of the patient and speedily send him to his grave He supposed general practitioners would rather attempt the treatment of chronic constipation by drugs and other methods than by surgical operation Drugs might be useful in that class of cases of chronic constipation which had not yet led to structural alterations within the abdomen and into their treatment he did not purpose to enter but however efficacious the medicines they employed he thought the majority of even those cases would sooner or later exhibit pathological changes and given pathological structural changes drugs could avail nothing Indeed they were worse than useless, for they delayed the surgical operative measures which in the end must be adopted Hence in the manner he described operative interference was now the only method remaining

Mr J F PALMER said that they welcomed a radical treatment *of chronic constipation in certain cases* as suggested by Mr Lane which would in a degree restore the normal condition of the parts and practically enable the patient to begin his intestinal life afresh, and then was the time for the medical man to impress upon his patient the importance of cultivating the necessary habits of regularity to secure success in overcoming the trouble In regard to therapeutic measures Mr Palmer advocated warm water and warm olive oil per rectum either alone or both together He suggested that people should eat enough both in quantity and variety and should drink in proportion for a sufficiency of fluid was of the first importance He described the beneficial effects of belladonna and gave details of the action of nux vomica

After Dr SEYMOUR TAYLOR had addressed a few words to the meeting the debate was adjourned to March 21st

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION

Exhibition of Specimens —Discussion on Nasal Obstruction and Mouth Breathing

A GENERAL meeting of this society was held on March 10th at the rooms of the Medical Society 11, Chandos street W Mr W J CHICHELE NOURSE the President, being in the chair

The PRESIDENT said that the illuminated address which was to be presented to Señor Manuel Garcia was on view It consisted of a border and lettering in the Italian style of the sixteenth century with two miniatures—one in the initial representing Music and the other in the medallion at the foot depicting Orpheus playing to the beasts The work was designed and executed on vellum by Mr Charles Randal

Dr SAMUEL BRADFORD showed a case of Excision of the Superior Maxillary Bone for Epithelioma of the Antrum in a boy

Dr V H WYATT WINGRAVE showed a case of Paralysis of the Left Vocal Cord in a youth aged 20 years

Dr ANDREW WYLIE showed a case of Papilloma in the Larynx under treatment by the galvano cautery

A discussion then took place on a paper which had been read at a previous meeting by Dr J SIM WALLACE on Nasal Obstruction and Mouth Breathing

Dr HARRY CAMPBELL said that the chief point in the paper seemed to be Dr Wallace's firm belief that the diet of children was at present too soft The jaws were therefore *insufficiently* exercised and in consequence of this the maxillary apparatus as well as the adjacent chambers of the nose *and the* naso pharynx failed to develop properly, another result of this faulty dietary being that indigestion was set up and this led *secondarily to inflammation in the* nasal cavity, *the naso pharynx, and the tonsils* With these two propositions Dr Campbell declared himself to be in complete agreement and said *that if the* nasal chambers did not develop properly there would obviously be a predisposition to *nasal obstruction* He further suggested that the rhythmical contraction of the pterygoid muscles must tend to stimulate the flow of blood in the naso pharynx and that deficient exercise of these muscles must lead to stagnation of blood and lymph in the naso pharyngeal mucous membrane which was thereby predisposed to disease Children who were *improperly fed* also had a tendency to suffer from intestinal sepsis and thus an unhealthy condition of the alimentary tract was set up bacteria abounded, and the absorption of poisons produced by them as well of abnormal digestive products brought about a chronic toxæmia One of the results of that toxæmia was a diminished power of resistance to disease and a tendency to inflammation of the mucous membranes—a condition which might be called the catarrhal diathesis These children were very likely to suffer from enteritis bronchitis pharyngitis and rhinitis Rhinitis thus induced was a potent factor in nasal obstruction, especially when the nasal passages were ill developed in consequence of the insufficient use of the jaws Adenoids in children he attributed also to the causes already mentioned—namely sluggish circulation in the lining membrane of the naso pharynx and irritation of it by blood charged with toxic products derived from the intestines Primary nasal obstruction in children and the nasal obstruction secondary to adenoids were therefore both of them essentially dietetic conditions

Mr MAYO COLLIER said that he could not altogether agree with the etiology of mouth breathing as explained by Dr Wallace and Dr Campbell He did not think that malformations of the upper jaw and palate in children were due to the nature of their food In India, China and other parts of the East there was a population of at least 400 000 000 persons who he was credibly informed, from the time of birth until they were laid in their graves never consumed anything but rice curry, and fruits, and if that were so it might be expected that the most exaggerated examples of malformations of the upper jaw and destructive conditions of the teeth would be found amongst them Instead of the causes assigned by Dr Wallace and Dr Campbell he thought that something else must be looked

believed would be found in

which in its broad applica

hen it was considered that children were born with perfect upper and lower arches, that their palates were flat like a dessert spoon, that the nasal chambers were well formed and that the jaws had never been used at all, the inference was that there must be some distinct and emphatic cause why things went wrong in after life The alterations in the palate and mouth which were being discussed were not found until the individual attained 10 or 15 or even 20 years of age In a paper which he read eight or ten years ago as a result of the examination of some 1050 cases, he pointed out that distorted upper jaws and deflections of the nasal septum were extremely rarely found before the age of ten years His idea was that the whole of those changes were due to what might be called mal assimilation and liver incompetence Those soft foods, such as bread and milk, which were spoken of by Dr Wallace as being improperly given to young children in place of less digestible and less easily swallowed foods were preparations which contained much albuminous and saccharine material and this required a large amount of oxidation The result was that in the tissues there was collected an immense amount of material which was gout producing and half oxidised Those children were found to suffer not only from catarrh in the nasal passages but from eczema in various parts of the body, diarrhœa bronchitis, and a multitude of other infantile complaints His opinion was that the troubles in the nose and post nasal space were due to toxæmia caused by the half oxidised products floating in the tissues This toxæmia set up a vaso motor paralysis in the nose and the back of the throat and was followed by catarrh which lessened the nasal respiration and that lessened nasal respiration caused a diminution of oxidation whereby the toxæmia was increased. In that way there was a vicious circle produced. With oral respiration there was increased pressure on the palate and upper jaw and the deformities which followed were a direct consequence.

Dr. **B. H. SCANES SPICER** said that in conjunction with Dr. Campbell he had examined a large number of skulls in the Museum of the Royal College of Surgeons of England for the purpose of seeing if the vaulted palate could be detected in the older crania of civilised and savage races, but he did not think that there was a single case of vaulted palate to be found there, a fact which showed that the prevalence of that malformation, now so common in England, was a comparatively modern phenomenon. After referring to the position of the respiratory current in the nose, he mentioned Mr. W. Arbuthnot Lane's theory in connexion with the causation of nasal obstruction and adenoids. In this theory the results in question were attributed to respiratory toxæmia from imperfect oxygenation of the blood causing chronic infection of the respiratory mucosa. He believed that Mr. Collier was the first to suggest that negative air pressure in the respiratory tract was a factor in the production of adenoids. Mr. Collier had always dwelt on the extreme variations of pressure in forced breathing as of especial valency in etiology but he (Dr. Scanes Spicer) was inclined to dwell on the minor differences in manometric pressure between ordinary inspiration and ordinary expiration. He believed that comparatively slight but lifelong variations of pressure exercised more influence in producing (through the medium of suction) congestion behind the obstruction and secondary hyperplasia than those violent variations of pressure which only occasionally took place. In a paper read before the Odontological Society some years ago on the nasal factor in the etiology of vaulted palate he attributed the condition mainly to the arrested development of the nose from disuse in respiration and to the fact that the septum was not pushed down or the sinuses expanded, but he now thought that the modern disuse of the jaws was the more powerful factor, although arrested nasal development had some effect.

Dr. **G. A. SUTHERLAND** said that the food given during the first two years of life among the better classes was far too soft and fluid, but among the poorer classes this was not so, for their children as soon as they were able to chew were given food from the family table. Therefore he did not recognise soft food as a cause of nasal obstruction in the poorer classes, among whom it was nevertheless known to be extremely common. He heartily agreed with Dr. Wallace's view that nasal troubles were the result of chronic indigestion and his (Dr. Sutherland's) opinion was that the chief factor in that indigestion was over-feeding.

Dr. **WYATT WINGRAVE** said that in connexion with mouth breathing and nasal obstruction there was a great necessity for coöperation between the rhinologist and the dental surgeon. Children might be confirmed mouth breathers suffering from spasmodic dyspnœa and different varieties of cough, but on examination it would be found that they sometimes had no adenoids whatever, that the nostrils and the naso-pharynx were small, and that the choanæ would scarcely admit the end of the little finger and that the palate had the shape of a typical Gothic arch. These cases were extremely unsatisfactory to rhinologists because nothing could be done for them beyond using palliative remedies and it would be a great advantage if the coöperation of the dental surgeon could assist in enlarging the nasal and naso-pharyngeal cavities. He could not agree with Dr. Wallace's view that adenoids were caused by nasal obstruction. Adenoids were embryonic vestiges which might undergo enlargement under certain physical conditions, of which nasal obstruction was probably one, but it was not a primary cause of the condition. With regard to the origin of the Gothic arch palate and crowded denture, it was possible that septal distortion and consequent nasal obstruction might be secondary to the Gothic arch.

Mr. **JAMES WIGG** said that in the case of the infant food was often allowed to remain in the inside much too long and he supported the idea that toxæmia or gout was a very potent cause of trouble in children.

Mr. **E. DENNIS-VINRACE** said that if that society could suggest to the school boards what was the most efficient diet for the children it would render a very important service to the nation.

Dr. **WYLIE** spoke in deprecation of the modern system of sending children to school at three or four years of age and said that if school attendance did not commence till some years later there would be less nasal obstruction.

Dr. **WALLACE**, in reply, said that he had been much interested in Dr. Campbell's suggestion of toxæmia. It seemed to emphasise the idea of the relationship between the congested state of the naso-pharynx when there were corresponding pathological conditions of the alimentary canal. With regard to Mr. Collier's remarks as to the conditions of people in Eastern Asia, the food and the feeding of aboriginal peoples had been a subject of great interest to him for many years, and in the cases in which a trustworthy and accurate account of the food had been got it had shown that the conformation of the jaw and the wearing of the teeth corresponded to the amount of mastication which the food stimulated or demanded. There was once a discussion in THE LANCET on the matter in which it was contended that the kafirs in South Africa lived almost exclusively on soft mealie pap. When investigating the matter he had some of that mealie pap sent from South Africa and he found that it stimulated vigorous mastication, although it was made in the form of porridge. It had the same effect even if it were boiled for an hour or two and the effect was similar to that when one ate nuts. It was difficult to swallow nuts until they were finely comminuted and so it was with mealies. Over and above this he had found in Ratzel's "History of Mankind" that five kafirs could devour an ox in one and a half days, eating sinews, entrails, and everything. He investigated some other cases in which it was said that the rice was softened as we softened it. But in China, for example, it was not cooked soft but each grain was whole and separate and the consequence was that when taken into the mouth it stimulated mastication. Moreover, when once a child had got into the habit of masticating he could not swallow without that mastication. Chinese children were given quantities of sugar cane which could not be swallowed. The child sucked and chewed it but the fibrous part was not swallowed; thus the child learnt to separate the fibrous part which was not swallowed from the juices which were sucked and swallowed. Consequently at an early age the Chinese child learnt to masticate his food.

EDINBURGH OBSTETRICAL SOCIETY.

Anti-cancerous Serum.—Lumbar Puncture in Eclampsia.—Malta Fever in Pregnancy.—Heredity in Ovarian Cystoma.—Etiology of Uterine Fibroids.

A MEETING of this society was held on March 8th, Dr. **N. T. BREWIS**, the President, being in the chair.

Professor **A. R. SIMPSON** showed a patient on whom he had used Doyen's Anti-cancerous Serum for Cervical Cancer. The uterus was removed by vaginal hysterectomy. Five injections were given in two weeks before the operation and five after. It had a marked effect in loosening and clearing up the surrounding parts. He also showed a placenta with a cord only three inches long; the cord ended in the membranes about six inches from the placenta and the vessels coursed separately over the membranes to it.

Dr. **J. W. BALLANTYNE** read notes of a case of Eclampsia in which Lumbar Puncture was performed. The patient was a primipara, aged 25 years, and at about the sixth month of pregnancy. Two days before her admission to the Maternity Hospital she was seized with severe and constant pain in the loins. Next day she had a fit, evidently eclamptic, followed by seven others during the night. On her admission to the hospital next morning she was partly unconscious, her temperature was 101° F., and her pulse was 104 per minute and of high tension; the fœtal heart sounds could not be heard. The urine contained granular and hyaline casts and blood corpuscles; it had 2·6 grains of albumin to the ounce and four grains of urea to the ounce. She was treated with hypodermic injections of normal saline solution under the breasts; half a grain of morphine was given subcutaneously and on occurrence of the fits chloroform was administered. Afterwards bromide and chloral mixture was given, also acetate of potassium. The urine increased to 52, 60, and 65 ounces per day but fits again recurred. On the seventh day after admission the spinal canal was twice tapped but on both occasions only a few drops of clear fluid came away. There was nothing like the gush of cerebro-spinal fluid which some observers had described. As labour had evidently commenced it was hastened by the use of a Barnes's bag and Bossi's dilator. There were no more fits. Jaundice set in and became more and more marked, in the end being intense, the pulse became weaker and intermittent, and death took place on the tenth day after admission. Blood counts showed that the leucocytes decreased from 28,000 per cubic millimetre on admission to 13,400 on the fifth day and then gradually increased to 41,900 on the day of death; the red corpuscles showed a decrease from 6,020,000 on admission with 80 per cent. of hæmoglobin to 3,730,000 with 54 per cent. of hæmoglobin on the day of death. The necropsy showed that the liver was undergoing a general fatty change, most marked at the periphery of the lobules; and the kidneys exhibited well-marked chronic parenchymatous nephritis. Lumbar puncture was performed in the hope that by drawing off some of the cerebro-spinal fluid the tension which was considered to be the cause of the fits would be relieved and time thus obtained for other forms of treatment to remove the source of the trouble.—Professor SIMPSON, Dr H. M. CHURCH, Dr. JAMES RITCHIE, Dr. J. HAIG FERGUSON, Dr. J. LAMOND LACKIE, and the PRESIDENT made remarks.

Dr. BALLANTYNE read another paper on a case of Malta Fever in Pregnancy. The patient was 25 years of age and was resident in India when the fever first began. At that time she was four or five weeks pregnant. At the commencement of the fever she suffered from lassitude, constipation, slight enlargement of the spleen, and pyrexia. The temperature rose to about 103·5° F. each evening and fell to normal in the morning. The rise began about noon or 1 P.M. Quinine was administered to the extent of from 25 to 30 grains in the 24 hours but as it caused nausea and vomiting it was next given as intramuscular injections even to the extent of over 40 grains in 24 hours. As this had no discernible influence on the course of the fever the patient's blood was examined and the serum was found to react to the Malta fever test. The quinine was stopped and the patient was advised to take the voyage home to England. Arsenic was tried with but little effect but the temperature became less and afterwards the fever would often be absent for a week or ten days. Along with this improvement the constipation began to yield; at first it required large doses of powerful purgatives to produce even a mild action. Six months after the onset of the fever the blood was again ex- [illegible] it no longer reacted to the Malta [illegible] plicated by the [illegible] set in at the normal period and was of an ordinary character; the child was healthy and well nourished. The case was noteworthy from two facts, one of which was the administration of large doses of quinine both by the mouth and intramuscularly without any oxytocic symptoms, and this in a patient free from malaria. The other fact of importance was that the attack of Malta fever lasted for six months and the temperature was above 103° every evening for six weeks and yet the pregnancy not only progressed satisfactorily but was followed by a normal labour and puerperium, and the child was healthy. G. Levi[1] records 11 cases; in six of these abortion occurred and five pregnancies went to full term with one child stillborn. In only two were the children healthy and in these the fever had attacked the mother late in pregnancy.

Professor SIMPSON read a paper on Heredity in Ovarian Cystoma, illustrated by the history of its occurrence in a mother and two daughters. One daughter, aged 25 years, was operated on in November, 1899, and both ovaries were removed for multilocular cysts, the right ovary, which was the larger one, having its pedicle twisted four or five times. Before the operation this patient had borne two children, one being aged two years and the other four months. Another daughter, aged 19 years and unmarried, was operated on in December, 1902, and both ovaries were removed. The right tumour was formed by one large cyst with some smaller cysts and a healthy portion close to the pedicle; as the left ovary was enlarged and cystic it was removed at the same time. The mother, aged 60 years, had had ten children and was 15 years past the climacteric; she was operated on in February, 1905, for a multilocular ovarian cyst of the right side; the left ovary presented the usual appearance of a healthy senile ovary and it was not removed. Dr. Lever, in Guy's Hospital Reports for 1855, gave a list of seven women, all related, who were the subjects of ovarian disease but the relationship was not stated. Sir James Y. Simpson in his Clinical Lectures stated that he knew of three sisters in a family all affected with ovarian tumours. Dr. John Rose, in THE LANCET of Dec. 22nd, 1866, stated that there were two sisters in the Kidderminster Infirmary with ovarian dropsy and that their mother and another sister had the same. Olshausen had mentioned the cases of two pairs of sisters where the disease was unilateral. Veit, von Winckel, and Pozzi also supported the hereditary disposition. Löhlein had related the history of three sisters who had all been operated on for proliferating cystomata of both ovaries. Martin also had observed two similar examples. As it was the germinal layer that was the seat of the disease the degeneration of this layer involved lessened power of reproduction, so that the married women who suffered from ovarian cystoma were barren in the proportion of 1 in 3 instead of 1 in 9 in the general community. The very development of the disease thus lessened the chances of its descent to another generation.—Dr. BALLANTYNE, Dr. F. W. N. HAULTAIN, and the PRESIDENT made remarks on the paper.

Dr. MALCOLM CAMPBELL read a paper on Pathological Conditions of the Ovaries as a Possible Factor in the Etiology of Uterine Fibroids.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Hysterical Chorea.—Aneurysm of the Innominate Artery.—Pneumonia in Pregnancy.

A MEETING of this section was held on March 3rd, Sir J. W. MOORE being in the chair.

Dr. JAMES CRAIG exhibited a case of Hysterical Chorea in a girl 22 years of age. There was no neuropathic family history obtainable. She was in good health and was occupied as a laundress until two years ago, when she found herself unable to write on account of a shaking in her right hand. The shaking then extended to her head. At the present time she had a rhythmical rotary tremor of the head, coarse in character, particularly when she was under observation, but at times much finer and frequently not to be [illegible] fac[illegible] in [illegible] weakness of muscles were not observed. There was an absence of any of the other manifestations of hysteria and there was no evidence of any organic disease of the nervous system. Rhythmic hysterical spasm was the better name for the condition as the term chorea was misleading.

Dr CRAIG also contributed a short paper on the further history of a case of Aneurysm of the Innominate Artery, reported by him in 1898. The patient had recovered from the aneurysm of the innominate artery, but seven years from its onset he had died suddenly at Wiesbaden from the rupture of an aneurysm of the aorta which was of the size of the head of a newly born child and had ruptured into the œsophagus.—Dr. J. A. MATSON said that the occurrence of perforation into the œsophagus was interesting; out of 68 cases reported by one observer only one had terminated in that way. He had had under his care a case in which perforation into the œsophagus had taken place.—Dr. W. J. THOMPSON said that about six years ago he showed before the pathological section a specimen taken fr[illegible] He was very steady and [illegible] trouble. Death was [illegible] the mouth. The necropsy showed the presence of an aneurysm, of the size of a walnut, situated in the aorta about two inches above the cardiac end of the stomach. It had perforated into the œsophagus. There was no atheroma or disease of the heart.

Dr. H. C. DRURY read a paper on Pneumonia in Pregnancy, illustrated by three cases which he had met with. These were all in the seventh or eight month of pregnancy. The first had double apical pneumonia, the second double basal pneumonia, and in the third the right lower lobe was alone affected. In all three the pregnancy terminated during the disease, the children were alive up to or after birth, though death occurred soon after. When labour was completed the pneumonic symptoms appeared to be relieved and the three intervals ever since. The second patient was a man aged 26 years. He was known to have had a cord-like structure in the neck since early childhood, but up to two years ago it gave him no trouble. It was now a complete branchial fistula which discharged by an external opening about half an inch above the right sterno-clavicular articulation in the line of the anterior border of the sterno-mastoid muscle. The internal opening was in the right palatine arch.—Dr. J. Kerr Love showed a case of Otomycosis (myringomycosis aspergillina). There had been middle-ear discharge for many years but the present disease was of very recent origin. The case was unusual in that the fungous mass occupied the middle ear instead of, as usual, the inner end of the meatus externus. The fungus was found to be aspergillus niger or nigricans.—Mr. A. E. Maylard exhibited a specimen of Lympho-sarcoma of the Neck and Dr. John Anderson showed microscopic sections of the same. The patient was a man aged 24 years. The disease began as a lump on the left side of the neck six months ago. A mass of the enlarged glands weighing one and a quarter pounds was removed about six weeks ago and already there was a large growth in the same position.—Dr. John H. Teacher showed various specimens and cultures from a case of Anthrax occurring in a man aged 32 years. The entire duration of the disease was only 18 hours. It began with indefinite feelings of malaise, then headache developed followed by delirium, unconsciousness, and, near the end, convulsions. Clinical examination revealed nothing but slight tenderness of the epigastric region. At the necropsy small ulcers were discovered in the stomach and intestines and the bacillus anthracis was found in them and in certain of the mesenteric glands which were enlarged and hæmorrhagic. There was a large almost diffluent "septic spleen." The pia arachnoid was the seat of a diffuse hæmorrhage, universal in its distribution but most marked over the vertex of the cerebrum and on the cerebellum The micro-organisms swarmed in the extravasated blood and interstices of the pia mater. In the blood within the vessels they were few in number. The nature of the infection was confirmed by cultures and inoculation of animals. The patient was a paint-grinder and the source of the infection could not be determined

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[1] Archivio di Ostetricia e Ginecologia, XI., p. 535, 1904.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Liverpool on March 17th, Dr. D. Lloyd Roberts being in the chair.—Dr. A. J. Wallace showed a New Instrument described as an "elevating vaginal director," designed to facilitate the making of a vaginal drainage incision from the abdomen. This was an improvement upon the operator's finger as it could be inserted in the vagina by an assistant, who could then push up the posterior fornix to the level of the abdominal incision. Dr. Wallace also gave the clinical features of a case of Inoperable Carcinoma Uteri with Symptoms of Bulbar Paralysis, and Dr. W. B. Warrington described the post-mortem findings and showed sections of the affected portions of the central nervous system. He mentioned that secondary carcinoma in the brain was very rare and that none was found in this case. Thrombosis of the cavernous sinus completely accounted for the paralysis of the third nerve but there were no gross or microscopic lesions to explain the bulbar symptoms. These, he thought, must be attributed to the state of toxæmia produced by the advanced malignant disease.—Dr. Lloyd Roberts showed a Fibromyoma of the Ovary, the parenchyma of the organ being stretched over one portion of the tumour, the other and larger portion of which had a peritoneal covering derived from the broad ligament. Such tumours were rare and were liable to be mistaken for uterine fibroids. The indications for operation were menorrhagia, pain, and the probability that the growth was malignant.—Dr. A. W. W. Lea read a paper on Tuberculous Disease of the Fallopian Tubes and gave an analysis of eight cases treated by removal of the affected organs. He described caseous, fibrous, and purulent types and regarded the condition as more common than was generally supposed. The removal of the tubes usually permitted of a good prognosis; it was not necessary to remove the ovaries unless these were actually diseased, nor was it necessary to remove the uterus as this could be done subsequently should it prove desirable. The paper was illustrated by numerous lantern slides of microscopic sections.—Dr. S. Buckley emphasised the importance of careful pathological diagnosis.—Dr. G. W. Fitzgerald preferred to operate by the vagina and to remove the uterus along with the diseased appendages.—Dr. H. Briggs agreed that the condition was more common than was supposed.—Dr. H. Armstrong, on the strength of 20 years' post-mortem records, confirmed the rarity of ovarian tuberculous disease.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held at Birmingham on March 15th, Mr. E. W. Wood White, the President, being in the chair.—Dr. J. Douglas Stanley showed a case of Intrathoracic Growth.—Dr. C. E. Purslow showed a specimen from a case of Irreducible Prolapse of the Uterus. The patient, the wife of a labouring man, was admitted to hospital on June 4th, 1904, with a large mass protruding from the vulva which had not gone back for six months. The vagina was completely everted and the uterus lay entirely outside the body; near the centre of the posterior vaginal wall was a small aperture from which a little pus exuded on pressure and into which a fine probe could be passed about one inch. Attempts at reduction under anæsthesia after the patient had rested more than a week in bed entirely failed and so the uterus with a large portion of the posterior vaginal wall was excised. The operation was rendered difficult by the bladder being unusually adherent to the anterior wall of the uterus and by chronic inflammatory thickening of the vaginal wall, the portion of the latter on the specimen showing a thickness of at least one inch. The left ovary was found to be converted into an abscess cavity and to be communicating with, and discharging through, the small hole already mentioned in the posterior vaginal wall. The patient made a good recovery and since the operation had been able with the aid of a ring pessary to get about and to perform her ordinary work. The parts shown were the uterus with the vaginal wall attached and the left ovary.—Mr. A. W. Nuthall showed a specimen of Intussusception.—Dr. J. W. Russell read a paper on Paroxysmal Abdominal Pain associated with Symptoms of Epilepsy.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 9th, Mr. W. Horton Date, the Vice-President, being in the chair.—Mr. C. E. Bell read Notes on a case of Removal of an Enlarged Prostate by Operation.—Mr. A. C. Roper read an exhaustive paper on the Clinical Aspect of Cholelithiasis.—In the discussion on the above Dr. H. Davy, Mr. Horton Date, Dr. Harris, Mr. Russell Coombe, Mr. E. J. Domville, and Dr. R. V. Solly took part.—Mr. Bell and Mr. Roper having replied, the proceedings terminated.

Reviews and Notices of Books.

Manual of Gynæcology. By D. BERRY HART, M.D. Edin., F.R.C.P. Edin., F.R.S. Edin.; and A. H. FREELAND BARBOUR, M.A., B.Sc., M.D. Edin., F.R.C.P. Edin., F.R.S. Edin. With 12 Lithographs and 359 Coloured illustrations and woodcuts. Sixth edition. London and Edinburgh: W. and A. Johnston, Limited. 1904. Pp. 736.

SOME seven years have elapsed since the appearance of the last edition of this well-known text-book and the time had therefore come when a good deal of revision was required. The authors have carried out this work very carefully and conscientiously and we notice many additions in various chapters. It is a pity that the opportunity was not taken to replace some of the original rather poor illustrations, such as those representing solid tumours of the ovaries, by better and more modern drawings. In the consideration of the diagnosis of tuberculous peritonitis the recommendation made by Kelly is quoted—namely, that the fine lines of the adhesions should be looked for and an attempt made to start peristalsis of the intestines by a smart tap with the finger. The authors apparently do not believe that much good is likely to result from opening the abdomen in cases of malignant peritonitis and they recommend tapping only. In support of this view the statistics of Estor and Puccle are quoted. Of 372 cases collected by them 28 per cent. died as the result of operation and of those who recovered 59 per cent., had recurrence usually within a year's time, while in only 3·2 per cent. of cases of carcinoma and 12 per cent. of cases of sarcoma was there a prolonged survival. It is interesting to compare the account given of pelvic hæmatocele in this edition and in the last and to notice the very important part now assigned to the various forms of extra-uterine gestation in the causation of this accident. It is difficult to realise that so great a change in our views of the pathology of this subject and in the treatment adopted could have taken place in the last seven years.

Considerable additions have been made to the section *dealing with the operative treatment of diseased tubes.* The authors are in favour of the abdominal route rather than the vaginal one in operating on these cases. The classification adopted by Pfannenstiel in his article on ovarian tumours in Veit's handbook is that given—viz., (1) tumours arising from the stroma of the ovary; (2) those arising from the parenchyma; and (3) combination tumours. Wilms's theory as to the origin of dermoid tumours is quoted as the most probable and, as the authors point out, unless we accept such a theory it is impossible to explain how entodermic structures are met with in these tumours, although it is so difficult to understand what stimulus should make a primordial ovum undergo such a change, analogous as it is to the condition known as parthogenesis. A new section is devoted to the very interesting group of tumours known as adenomyomata of the uterus. The great progress made of late years in the technique of the various operations performed for the removal of the uterus the seat of fibroid tumours has enabled the authors to compress considerably their description and consideration *of the different methods employed.* The account of the operation of supravaginal amputation with extraperitoneal treatment of the stump has been eliminated and the fact that such an operation was still described in the last edition shows only too clearly the necessity for the appearance of a new edition of this work. The question as to whether the whole uterus should be removed or whether the cervix should be left behind is not discussed, as the view is taken that every case of fibroid tumour must be treated on its own merits and that no general rules of treatment can be laid down for all the different conditions which may occur.

It is a pity that in the revision of this edition the authors did not correct the statement on p. 522 that deciduoma malignum is an ordinary sarcoma modified by pregnancy is the opinion still held as to this condition by some of the members of the Obstetrical Society of London. The discussion on the admirable paper read by Teacher before that society on June 4th, 1903, showed that this is far from being the view held by the majority of the members at the present time. The book still maintains its original characters and is one of the best of the English text-books on gynæcology. The only criticism that it is necessary to add is that the accounts of the symptoms of the various diseases tend to be rather sketchy and are not given sufficient importance.

An Outline of the Theory of Organic Evolution. By MAYNARD M. METCALFE, Professor of Biology in the Women's College of Baltimore. New York: The Macmillan Co. 1904. Pp. 204. Price $2.50.

IN a comparatively small book of some 200 pages Professor Maynard M. Metcalfe of the Women's College in Baltimore has contrived to condense the story of organic evolution. This achievement may unhesitatingly be described as a very successful one, the result being due to the following causes; in the first place the author has a very pleasant and easy style of writing; in the second he has provided for the illustration of his subject an unusually liberal allowance of coloured and uncoloured plates; and in the third place he has carefully steered his way through that vast mass of detailed evidence on which depends the proof of the theory of organic evolution. The task which Professor Metcalfe has performed with such conspicuous success is no doubt a very much easier matter to-day than it would have been a few years ago, when few others than trained men of science accepted the doctrine of organic evolution as based on any more substantial foundation than questionable hypothesis. The main premisses of organic evolution are to-day accepted by a large section of the public, so that in preparing a popular treatise on the subject the author can address himself to a sympathetic audience. Technicalities of all kinds have been avoided and any intelligent reader will be able to follow the general line of argument without undue effort. In a large number of instances the pictures speak for themselves and tell their own tale without further explanation in the text.

The theory of organic evolution is explained in Part I. and is considered from the point of view of natural selection, sexual selection, segregation, and the inheritance of parental modifications. These various factors in the progressive evolution of the organic world are freely illustrated by examples derived from both animal and vegetable kingdoms. The manner in which the offspring tends to resemble the parents, the reasons for variation from the parental type, and the destruction in the struggle for existence of those individuals who are not adapted to their environment are clearly explained in the opening chapters. Under the heading of "Sexual Selection" the author shows how the exercise of choice in mating is a primary stimulus for the development of courting habits and the perpetuation of those conspicuous colours, ornamental appendages, and other attractions which are not only pleasing to the opposite sex but which also add to the general sum of human happiness.

In Part II. the observed facts in variation both in the animal and vegetable kingdoms are explained and interpreted by the several operative factors in evolution. A very considerable proportion of this part of the work is devoted to the explanation of the manner in which colour variation is of value as a means of protection. The manner in which mimetic colouration is utilised as a means of aggression is also graphically demonstrated by a series of very beautiful coloured plates. To many readers the short chapter which is reserved for Man in Relation to Evolution is likely to prove one of the most interesting chapters in the book; it represents a short and popular account of some of the most interesting portions of Huxley's and Romanes's larger works; in fact, it bears the same sort of relationship to these classical works that Lamb's "Tales from Shakespeare" bear to the original plays of the great dramatist.

In every way this little volume is to be regarded as a most fascinating account of the natural history of evolution and the only sense of regret that is likely to be felt by more advanced students than those to whom the book is obviously addressed is that it does not take into its purview the evolutionary changes which run a parallel course in the so-called inorganic world.

LIBRARY TABLE.

The Influence of Growth on Congenital and Acquired Deformities. By ADONIRAM BROWN JUDSON, M.D., Orthopædic Surgeon to the *Out-patient Department*, New York Hospital. Profusely illustrated. New York: William Wood and Co. 1905. Pp. 276.—In this volume certain features are presented in a new light which gives them importance as matters that will repay close attention in practice. Among the subjects thus treated are: the application of the weight of the body for the reduction of club-foot, the use of the equine position of the foot to increase the length of a shortened limb, the adoption of symmetrical movements and correct rhythm for removing deformity and excluding lameness, and the manner in which misleading "tumours" are produced by the rotation of lateral curvature. The author emphasises what seems to lie at the base of orthopædic practice, the fact that prevention and cure are to be found in so managing a case and equipping a patient that natural growth will be the principal factor in recovery. The methods of diagnosis, prevention, and treatment advocated are recorded as having proved useful "and as likely to be at least suggestive in the practice of others." The book is very practical and the questions discussed are made clear; to this end the copious illustrations are exceedingly helpful. The index is very full. The book deserves to become popular as a manual.

A Magisterial Handbook. By W. H. FOYSTER, Solicitor and Notary Clerk to the Justices of Salford. London: Effingham Wilson. 1905. Pp. 75. Price 2*s.* net.—The title page of this little book bears a sub-heading which describes it as "a concise outline of the everyday functions of magistrates with tables of offences and matters cognisable by them" and the description is not inapplicable to it. Whether, however, any useful purpose can be served by the tracing of an outline so extremely concise, or to use an epithet more appropriate to the metaphor so "sketchy," is doubtful. There are a sufficient number of text-books which summarise the duties of magistrates and if they are of a somewhat bulky nature no justice of the peace need carry one of them in his pocket. He uses them when in court, where he has a table or bookshelves upon which they may repose when not in actual use. Mr. Foyster's handbook, in seventy-five by no means closely printed pages of large type, gives information which might convey to a foreigner some knowledge of our criminal law with regard to petty offences or it might serve as an analysis to be read over by a student in the hours immediately preceding his examination. Beyond supplying with some precision the maximum penalty for offences over which magistrates have jurisdiction it conveys but little with which the average citizen is not sufficiently familiar for everyday purposes. Even a "concise outline" should contain more than this if it is to be of any practical utility to laymen; for lawyers such a work can hardly be intended.

Urban Police and Sanitary Legislation, 1904. Being a Collection of Provisions contained in the Local Improvement Acts obtained by English Urban District Councils in the Year 1904, after Consideration by the Police and Sanitary Committee of the House of Commons. Compiled and arranged by FRANK NOEL KEEN of the Middle Temple, Barrister-at-Law. London: P. S. King and Son. 1905. Pp. lxxxv.-240. Price 10*s.* 6*d.* net.—In the session of 1904 the Police and Sanitary Committee of the House of Commons had before it 22 Bills, 11 of which, promoted by municipal corporations and by urban district councils, became local Acts conferring upon them enlarged powers for the government of their boroughs and districts. Mr. Keen has collected, collated, and classified under appropriate headings the provisions of the 11 local Acts of Parliament referred to so far as they relate to the regulation of the matters usually defined as "police and sanitary," excluding the other topics dealt with in local Acts of this character, such as street works, lighting and water undertakings, finance, and the acquisition of lands. The Acts selected do not include those promoted by municipal corporations or by the London County Council. The work of the compiler is intended to be a guide to Parliamentary draftsmen and others concerned with the preparation of Bills of the class indicated and to enable these to compare and to select sections and phrases from measures which have been approved and are therefore suitable for adoption as standards for future local legislation. No trouble has been spared in arranging the precedents in such a manner that a model section already embodied in a recent Act may be considered almost at a glance, together with the material or verbal differences distinguishing from it corresponding sections in similar Acts. The ample tables and index contained in the volume should meet the needs of all interested in the professional study of the subject dealt with and should save for all concerned much time, trouble, and research in discovering, as well as in consulting, the necessary authorities.

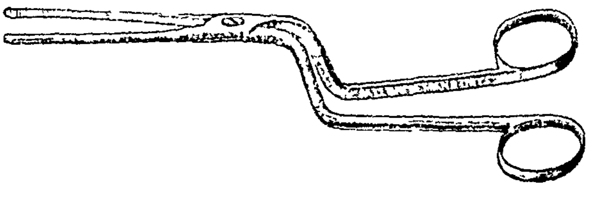
JOURNALS AND MAGAZINES.

Dublin Journal of Medical Science.—The March number opens with a paper by Dr. E. J. McWeeney on a case of chronic lymphæmia which was interesting in that the bone marrow showed no tendency to lymphoid transformation, as well as owing to the fact that an intercurrent attack of pneumonia produced no polynuclear leucocytosis or diminution in the number of lymphocytes present. Mr. R. E Matheson, Registrar-General for Ireland, continues his analysis of the returns of the recent census as applied to Ireland, pointing out among other things a marked decrease in the percentage of illiteracy but also showing that Ireland heads the list in its proportion of deaf-mutes and of insane persons, Scotland coming next, and England last in each category. Dr. Samuel Synge contributes some notes upon Chinese medicines and Dr. J. Francis Dixon discusses a case of chorea insaniens associated with pregnancy.

New Inventions.

FORCEPS FOR NOSE AND THROAT WORK AND FOR OPENING PERITONSILLAR ABSCESS.

THESE forceps are a slight modification of Lord Lister's sinus forceps. Being intended chiefly for nose and throat work they have been made with a crank handle, so that the field of operation is not concealed by the surgeon's hand. It will be found that greater precision and firmness in manipulation are thus secured by being able to manœuvre in a direct line. The extremity is sufficiently blunt not to injure healthy surfaces, but is fine enough to allow of its being pushed through œdematous, necrotic, or membranous tissues. The inner surfaces are roughened so as to permit of grasping foreign bodies in the nose, calculi in the tonsil crypts, &c. I have found these forceps useful for a variety of purposes,—as ordinary nasal dressing forceps, for introducing gauze packing into the accessory sinuses during or after operation, for exploring the sphenoidal sinus, for swabbing the pharynx or treating the tonsils, for seizing the end of the hypertrophied uvula, and so forth. They are also serviceable for packing the wound after the mastoid operation. They will be found particularly useful for opening peritonsillar abscesses. When the abscess is pointing—generally above and external to the tonsil—pressure with the extremity of the forceps will readily detect the site of suppuration and with slight increase in force the point can easily be made to penetrate the abscess. In withdrawing them the two blades should be separated so as to enlarge the opening, as in Hilton's method. These forceps have been in use for several years and are made by Messrs. Allen and Hanbury, Messrs. Mayer and Meltzer, and other manufacturers.



Queen Anne-street, W. STCLAIR THOMSON, *M.D. Lond.*

THE LANCET.

LONDON: SATURDAY, MARCH 25, 1905.

Señor Manuel Garcia.

ALTHOUGH it has been said by some physiologists, we hardly know with what degree of accuracy, that 100 years would be the proper age of man in these latitudes, the actual attainment of that age is still sufficiently uncommon to excite wondering remark. Its attainment by a philosopher whose work has been eminently beneficial to his race is necessarily still more remarkable, even if only by reason of the small numerical ratio borne by such men to their fellow creatures, and it need, therefore, be no matter for surprise that all civilised countries were united on Friday, March 17th, in doing honour to Señor MANUEL GARCIA on the occasion of the 100th anniversary of his birthday. Not only Spain, the land of his birth, and England, the land of his adoption, and Germany, which has contributed so much to the advancement of laryngology, but even Russia and Japan were represented on the occasion and turned for the moment from the realities of war to offer their tributes of laurel to the man who had achieved one of the great victories of peace. The KING, with the graceful and kindly tact which renders him an unfailing exponent of the best feelings of his subjects, initiated the proceedings of the day by conferring the Commandership of the Royal Victorian Order upon the venerable father of laryngoscopy; and this was followed by his investiture by the Spanish Chargé d'Affaires with the Royal Order of ALPHONSE XII. From the German EMPEROR he received at the same time distinction even more marked than any which Royal orders can confer, in the shape of the "great gold medal for science," hitherto bestowed only upon Professor VIRCHOW, Professor KOCH, Professor EHRLICH, and Professor MOMMSEN, while the offerings and addresses presented to him by the scientific bodies and societies of the world were almost uncountable. The last of them, a portrait painted by Mr. SARGENT, R.A., and subscribed for by international contributions from the many personal friends of Señor GARCIA, was a gift which brought the proceedings of the morning meeting held in his honour to a fitting close.

The scene of the ceremonial being in England it is hardly needful to say that a dinner was necessary to its entire completion and this dinner afforded to Sir FELIX SEMON, who proposed the principal toast, an opportunity of sketching the career of the guest of the evening and of describing the successive steps by which he was led to the discovery that the larynx might be rendered visible by a combination of mirrors and that the actions of its several parts in phonation might thus be studied. When Señor GARCIA was occupied, said Sir FELIX SEMON, with the solution of the great problem of the production of sound in the human larynx his scientific mind was forced to the conclusion that facts ought to be substituted for the hypotheses which were in vogue in the middle of the last century and that facts could only be ascertained by inspection of the healthy living larynx when engaged in the act of singing. He was unaware that the problem had occupied the attention of medical minds for nearly a century and that although none of his predecessors had found the solution, some of them, notably AVERY, and BABINGTON, who succeeded in obtaining a glimpse of the glottis in 1829, had not been far from doing so. It was only after many years of thinking upon the subject that one day in 1854, when strolling in the Palais Royal, GARCIA saw in his mind's eye the position of the mirrors which would render the larynx visible; and, as he has himself described in a charming fragment of autobiography, he rushed into the shop of CHARRIÈRE, the well-known instrument maker, and bought for six francs a dental mirror which had been one of the failures of the London Exhibition of 1851. Having procured a hand-glass he hurried home, warmed the little mirror, placed it in his own throat below the uvula, threw the rays of the sun upon it by means of the hand-glass, and on his first attempt had the immense satisfaction of seeing his own glottis wide open. The results of his observations were presented to the Royal Society in a paper entitled, "Physiological Observations on the Human Voice," which was published on March 22nd, 1855, the birthday of a discovery which was destined to revolutionise our knowledge of the larynx in health and disease. How far the former knowledge has been of practical utility in Señor GARCIA's own profession, how far, that is, it has conferred upon teachers of singing and elocution increased powers of training the vocal organs of their pupils or of preserving them from erroneous methods of phonation, it is somewhat beyond our special province to inquire, but at least we have not been made acquainted with any discoveries in this direction which are at all comparable with those bearing upon the investigation and treatment of disease. It cannot be doubted, of course, that a teacher of philosophical mind would render his experience in the highest degree fruitful, and no one can question that Señor GARCIA's many illustrious pupils, among whom JENNY LIND, MATHILDE MARCHESI, JOHANNA WAGNER, ANTOINETTE STERLING, the Misses MACINTYRE, ORRIDGE, LARCOM, and THUDICHUM, JULIUS STOCKHAUSEN, BATAILLE, and CHARLES SANTLEY were mentioned by Sir FELIX SEMON at the dinner, would be of one mind in the conviction that the benefits which they had derived from his instruction would be incomparably greater than any which would have been likely to accrue to them from teaching based upon tradition or "experience" alone. Such benefits, great as they presumably were, and eminently conducive to the enjoyment of countless audiences, must still be looked upon as subordinate to the application of the invention along lines which the inventor himself was not qualified to pursue, the lines of medical and surgical discovery and manipulation.

From this aspect of the question we think it is somewhat to be regretted that no endeavour seems to have been made to associate the great name of CZERMAK with the honours of the day. GARCIA is not more incontestably the father of laryngology as a whole than CZERMAK is the father of its applications to the study and the treatment of disease, applications which, it will be remembered, were made early and extensively in this country. The instrument itself was improved by Czermak who brought it to London during the course of the great exhibition of 1862 and gave many demonstrations to the profession. He revealed for inspection and treatment many previously unsuspected forms of throat disease and not only enabled surgeons to see and to remove growths springing from the vocal cords but also disclosed certain forms of paralysis to which the cords are exposed, sometimes from disease of the brain, sometimes from pressure upon their nerves by aneurysms and other swellings within the chest. All branches of the medical profession may unite cordially with musicians in doing honour to the philosopher to whom both callings owe so much; but our debt, or rather the debt of the public through us, is by far the more considerable of the two and our recognition of the master must not render us forgetful of the great disciple by whom the applications of the laryngoscope were first extended along paths which could not have been followed by the inventor.

Plastic Surgery.

As the learned Mr. Isaac Bickerstaff has observed, "the nose is a very becoming part of the face"; and its value in this respect is never fully appreciated until it is lost. Such a deprivation, however it may have been brought about, entails on the sufferer extreme misery. The absence of a nose is so utterly obvious that it must be seen by everyone and the effect on the patient may be much greater than might have been anticipated. "The patient consequently shuns society and every appearance in public and often is oppressed with a self-loathing and abasement almost amounting to the blackest despair." A nose may be lost by accident or through gangrene from cold and Maisonneuve has described a case in which the organ was congenitally absent but undoubtedly the absence of a nose is in many cases to be attributed to a less reputable cause and it is not improbable that this popular ascription of the origin of the lesion is, in part at least, the explanation of the very great mental effect of the loss of a nose. It must, however, be recognised that syphilis is not responsible for a large number of the cases; in many lupus is the cause. In some parts of the world, especially Italy and India, it has been customary to employ removal of the nose as a form of punishment, sometimes judicial, but chiefly as a mode of carrying out private revenges. Especially in some districts of India is it considered a suitable form of punishment for a husband to inflict on a wife of whose conduct he does not approve. Among the Romans this penalty was not at all rarely inflicted, both by the law and by private animosity. Inasmuch as the evil was especially prevalent in certain countries it would not be unreasonable to expect that methods of treatment should first arise there and so it proved; for countries which were pre-eminent in possessing numbers of suitable subjects for operation were the first in which operations were devised and practised for the relief of the deformity.

The earliest notice which we can discover of any attempt to repair this important lesion is to be found in Celsus. In the seventh book of his work, "De Re Medica," he mentions the practice of repairing noses by sliding flaps from the cheek and the description is sufficiently full and accurate to enable the operation to be performed. Except for a few slight references we find nothing definite after Celsus until 1442 when Manzano seems to have employed a method for restoring a lost nose. Benedictus in 1539, in his very elaborate work "Omnium a Vertice ad Calcem Morborum Ligna, Causae," the title of which shows its all-comprehensiveness, describes fully the method of restoring the nose by means of a flap taken from the arm but he does not approve of the operation. In 1548 Gilbert Cousin published a work called "Narrationum Sylva" and in this he speaks of a certain Branca de Catani who re-made noses, ears, and lips. In 1573 Andreas a Cruce *wrote a book called "Chirurgia Magna" and in it he speaks* with disapproval of the operation. Gasparo Tagliacozzi, better known by his Latinised name Taliacotius or, as it is often written, Tagliacotius, published in Venice in 1597 a large folio volume entitled "De Curtorum Chirurgia per Insitionem," and a second edition appeared at Frankfort in 1598 under a much more elaborate title. Taliacotius devotes no small amount of space to a dissertation on the importance of the nose and he quotes in support of his contention the opinions of many writers. He describes most minutely the method, always called by his name, of fashioning a new nose or other defective part from a flap of skin raised from the arm of the patient. A bridge of skin was first dissected up of the required width and length and under this was passed a piece of lint, and when granulations had fully formed the upper end of the bridge was separated and the flap of skin was inserted in the required position, the arm being retained by an apparatus in such an attitude as to prevent any traction on the new flap. After some days the attachment of the flap to the arm was divided and the arm was released. Many illustrations are given showing the mode of performing the operation and the instruments used and in addition the figures of several persons on whom the operation had been performed; if we may judge by these illustrations the results were extremely successful. The Taliacotian operation, as it was called, became very widely known and was much employed. From our knowledge of the descriptions given by one or two previous authors it is certain that an operation identical in all essentials had been devised some years previously and it seems that Branca de Catani performed the operation many times, even if he did not invent it. Nevertheless, the credit of the method is generally attributed to Taliacotius and his name is given to it.

It is not improbable that the wide extension of syphilis in Europe in the sixteenth century, with the consequent great increase in the number of the noseless, contributed to the popularity of an operation designed to efface the ravages of a discreditable disease. So striking a proceeding as the replacement of a lost nose was very naturally seized on by poets and wits and from that time onward, even to the present day, we find references to it. The lines in "Hudibras" are well known but in these we find a fallacy which had a very wide circulation. At first the skin for the new nose was always taken from the patient's own arm and this is the true Taliacotian operation, but it was soon suggested as an improvement that the reparative flap should be supplied by some other person. This method was never much employed as it was necessary to fasten together for some ten days the patient and the supplier of the skin. It was in this form that the Taliacotian operation made its appearance in popular literature. Soon certain theories arose as to the source and the fate of the transferred skin. It was said that the gluteal region furnished the most suitable skin for the purpose, on account of its toughness, but this is probably a poetical addition to the operation. Further, it was held that when the grantor (if we may employ legal phraseology) underwent any vicissitudes, however long it might be after the operation, similar changes would occur in the nose of the grantee. Should the grantor fall ill the nose would suffer too; a fever in the original possessor of the piece of skin would give rise to a localised inflammation in the transplanted organ; and if perchance the giver of the skin should die, the nose would not fail to recognise its true allegiance and would die also and we are even told that it was considered to be the correct thing to send the nose to be buried with its original owner. As SAMUEL BUTLER says in "Hudibras":

> "But when the date of nock was out,
> Off dropt the sympathetic snout."

We have no evidence to show that this idea was founded on fact. One of the most recent tales founded on the Taliacotian operation is ABOUT'S "Le Nez d'un Notaire."

The method was not received with universal approval, for GABRIEL FALLOPIUS, who wrote in 1606, said that he would prefer to remain all his life without a nose rather than to submit to such an operation, but he was thinking probably of the pain and the discomfort. In 1611 THOMAS FIENUS spoke highly of TALIACOTIUS's work and the method has been employed to some extent up to recent times. It has, however, been displaced greatly by a return to the operation described by CELSUS and by the introduction of the "Indian" method. We have mentioned above that in India there exist many opportunities for an operation for the restoration of a lost nose and therefore it is not surprising that in that country a method had been devised for this purpose. Nothing was known in Europe of any Indian method until in 1792 during the war with TIPPOO SAHIB several persons who had been taken prisoners by him were deprived of their noses. When liberated some of these had the nose restored by a Mahratta surgeon. It was then found that an operation for the restoration of a lost nose had been performed in India apparently for hundreds of years. The operation was introduced into this country by J. C. CARPUE who in 1816 published "An Account of Two Successful Operations for Restoring a Lost Nose." In this method the flap is taken from the forehead and this is the procedure usually adopted at the present time in this country.

The ultimate results of the operation are not always as brilliant as they first appear; a nose that soon after the operation is prominent and perhaps possesses a Roman curve may in a few months settle down and become comparatively inconspicuous, but, as LISTON said, "the worst made nose is infinitely superior to the horrid cavern which previously struck the passers-by with pity and disgust." The appearance of the nose is of the chief importance but with reference to the functional value of the new nose the same author described the result in a certain case: "One of my patients I have seen enjoying a pinch of snuff in which he largely indulged, apparently with as much gusto as the oldest and most experienced nose could possibly have imparted." In many cases, especially when the mutilation has followed syphilitic and tuberculous disease, very fair results can be obtained by means of an artificial nose attached to a pair of spectacles, for it is difficult in such cases to be sure that the disease will not return. We have entered somewhat fully into the history of rhinoplasty, for it was the first of the plastic operations to attain to any extensive employment, but within recent years plastic surgery has grown to large proportions and is now widely employed in many parts of the body. In THE LANCET of March 4th we published an article by Mr. C. R. B. KEETLEY in which he describes many recent advances in this department of surgery. We have now at our disposal several methods of transplanting skin. We can slide or turn a flap of skin from one part to an adjoining part of the body, as in the Celsus method of rhinoplasty or in the Indian operation, or we can, as in the Taliacotian operation bring it from a limb. We can, moreover, now, with suitable precautions, transfer bodily a piece of skin, including its whole thickness, from one part to another with due aseptic precautions and in this method another person may conveniently supply the material. Skin grafting, too, has increased in usefulness and in addition to the older method of REVERDIN, devised in 1869, we have that introduced by THIERSCH. Thus the surgeon is provided with many means of covering raw surfaces which were unknown to his predecessors, so that he is enabled to carry out many procedures hitherto impossible. In plastic surgery in its widest sense lie some of the greatest future advances of our art and it is not possible at the present day to do more than to speculate as to what may be in store for us in this direction.

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Plague in India.

THE serious news which our Indian correspondent sends regarding the mortality from plague in that country indicates that no progress has been made in the control of the disease. On the contrary, the situation in India is becoming worse year by year and not only threatens to be, but is already, one of the greatest catastrophes of modern times. In January of this year over 100,000 deaths were recorded from plague in India. In February there were another 100,000, and 34,000 and 35,000 deaths are the numbers which have been reported during the past two weeks. Thus a greater disaster has occurred to our Indian population since the commencement of 1905 than has happened to the Russian army in Manchuria. Have those responsible for the welfare of our Indian empire fully realised the gravity of the situation either from its humane or political aspects? As regards the humane side, it is obvious that active measures proportionate to the greatness of the issues at stake require to be taken. Are these being organised and carried out? We doubt if the reply that can be given is satisfactory. It is true that an inquiry is to be undertaken by the Lister Institute of

Coombe, 9, Lord-street West, Southport," still appears in the official list? We happen to be aware that he who was George Augustus Coombe very many years ago changed his name and is now Sir George Pilkington. Want of attention to such a matter as this opens wide the gate for personation. Turning to the Dental Register we find an increase of 58 names over the number on the Register for 1904. The number of persons registered solely on the ground of having been in practice at the time of the passing of the Dentists Act now amounts to 48·90 per cent. of the whole, while the number of licentiates in dental surgery of one of the authorities of the United Kingdom for the first time exceeds that of all others—viz., 50·15 per cent. The small percentage (0·95) remaining represents the American and colonial practitioners and practitioners who, in addition to being registered as in practice, are possessed of some registered medical or surgical qualification. It may be added that the number of licentiates in dental surgery who are possessed of medical or surgical qualifications, or both, continues to grow, the 2374 licentiates possessing between them 282 registered medical or surgical qualifications and three higher dental qualifications.

CURRENT THEORIES OF THE HEREDITARY PROCESS.

THE eighth and last of a series of lectures[1] on the above subject was delivered by Professor W. F. R. Weldon, F.R.S., at University College, London, on Feb. 14th, a further extensive series of experiments by Czermak on peas and beans being made the basis of a test of the Mendelian theories of segregation and gametic purity. Czermak crossed two races of peas characterised by cotyledons the growth of which was of the epigeal and hypogeal type respectively. The hybrid progeny of the crossing was found to consist of 30 plants which showed the epigeal habit as regards their cotyledons, 32 which developed the hypogeal habit, and 18 which were of an intermediate type, "a very imperfect segregation," said Professor Weldon. In the third generation none of these three types of hybrids bred true, each produced when fertilised by its own kind a mixed progeny of members of all the three kinds. Czermak made a further series of experiments on a white-flowered pea (*pisum sativum*) which he crossed with a red or purple species (*pisum arvense*). The hybrid progeny which resulted were all typically red, like *pisum arvense*. They were examples of the dominance of the red colour and as this colour had long been known to prevail in many stable and "good" species of peas such a dominance was to be regarded as an instance of atavism. These hybrids, however, were not "pure," for on inter-breeding from them different coloured individuals were obtained. Thus, of a total of 397 plants produced by inter-breeding: 239 were of the red type, 75 were rose-coloured, and 83 were white, a proportion of nine red, three rose-coloured, and four white, which could not be reconciled with the Mendelian formula. Czermak suggests that, if, however, white and rose were postulated as the atavistic or ancestral colours of the two races of peas, the facts would more closely conform to Mendel's formula. A further series of these experiments was carried out by Czermak on the three types of plants (239 red, 75 rose-coloured, and 83 white), each type of plant being fertilised with others of its type. Of the red plants thus treated some produced red and others white and rose-coloured offspring. Of the white plants the offspring were mostly white, while the rose-coloured plants in the majority of cases gave only a rose and white progeny. The results obtained in the last three series of experiments were such as not to be explained on any Mendelian formula. Czermak also experimented with ordinary kidney beans of different colours, bronze and white. The crossing of these varieties produced a hybrid progeny of beans with coats of dark brown colour mottled with black spots (488 seeds) and "tortoise-shell" markings and 161 white seeds. The mottled seeds when sown gave rise to both "coloured" and white-seeded beans. Of the coloured seeds 52 per cent. were of the mottled "tortoise-shell" appearance and 48 per cent. were of a uniform bronze colour, a distribution of colour which could not be reduced to any Mendelian formula. The white seed bred true. The experiments were carried out for four generations and amidst varying results one conspicuous character asserted itself in the fourth generation—viz., all mottled beans obtained in the fourth generation bred true, the process of mottling having become dominant in several strains. These were illustrations of the kind of researches which made it difficult to accept the general formula of segregation of Mendel or the hypothesis of gametic purity. A formula of inheritance propounded and developed by Francis Galton gave better results. The Galtonian theory postulated the presence of "elements" in the germ cells of one generation, which were of two kinds—viz., active or dominant elements and groups of elements, which determined the heritable characters of the progeny or second generation, and latent or recessive elements which passed through the bodies of one or more generations without appearing to affect them. By investigation of records of human family histories conducted on a large scale by Galton and his fellow workers a law of heredity has been formulated (Galton's law) which the extensive biometrical investigations of Karl Pearson have shown to be very approximately expressed by a mathematical formula. This "law of ancestral heredity" is that the two parents contribute between themselves one-half of the total heritage of the offspring, that the four grandparents contribute one-quarter, the eight great-grandparents one-eighth, and so on. Thus the sum of the ancestral contributions is expressed by the series ($\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16}$ ......), which, being equal to 1, expresses the whole heritage. If the chromosomes of the conjugating germ cells divided always transversely into equal segments such divisions would be always quantitative and the Mendelian hypothesis of gametic purity would be always realised. But if the cleavage of chromosomes were horizontal qualitative differences would appear in the divided parts of the chromosomes and "mixture" of characters would invariably appear when different races or varieties were crossed. The most recent and careful researches seem to favour the view that both processes (quantitative and qualitative division of chromosomes) occur and that by varying segregations and varying dominances "blending" of characters and "mosaic" hybrids of all kinds are possible among plants and animals.

TEACHING THE TRAWLERS.

ALL that affects the food of the people interests the medical profession. We have pleasure in calling attention to a promising development of the work of the Lancashire county council in conjunction with the sea-board counties from Cumberland to Cardigan, the duty of which it is to maintain the Lancashire and Western Sea Fisheries Board and to see that the by-laws are duly observed. At Piel Island, near Barrow, a fishery school has been established in what was formerly a "marine residence." The life-history of the plaice, the sole, and other fish is taught to classes of selected fishermen in the spawning months of March to May. During this time "breeze-tanned, brawny fishermen" may be seen bending over microscopes learning the life-history of the creatures that will some day make up a day's catch. The course lasts a fortnight and then "they go back understanding why steam trawling should not be allowed within the three-mile limit, especially with shrimp nets, and why the six-inch net, which will catch a half pound sole, is quite small enough." Recently members of the joint committee saw at the hatchery some 15 fishermen hearing and also understanding the teaching given by members of the staff. The following anecdote shows the practical bearing of the teaching: "A persistent trawler on prohibited ground was prosecuted time after time without avail. At last he was given a practical demonstration of the harm he was doing and finally taken to the 'school' for a fortnight's teaching and convinced of the error of his ways." After their schooling the men go back and enlighten their comrades. This educative work, initiated by Professor W. A. Herdman, F.R.S., and personally directed by Mr. Andrew Scott and Mr. James Johnstone at the Fisheries' School, promises to be of great value in checking the almost incredible waste of immature fish that has hitherto been the rule.

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[1] Abstracts of the first, second, third lectures were published in THE LAN (p. 181), Feb. 4th (p. 307) and 25th (p. (p. 657), and 18th (p. 732), 1905, respectively.

HYGIENE AND THE METROPOLITAN POLICE COURTS.

IN our issue of Feb. 11th, p. 378 (that is to say six weeks ago), we had occasion to remark in an annotation under the above heading that "the interior of a metropolitan police court, sanitarily speaking, is very seldom prepossessing, the walls and benches are grimy, and the accommodation rarely affords the calculated 'health space.' The experience of those who occasionally attend a metropolitan police court is invariably disagreeable. There is usually present a very large representation of the 'great unwashed' and it is with these that the medical man, the man of law, the expert witness, and other respectably inclined persons are compelled to 'hob-nob.' ...... Ventilation is nearly always a negligible quantity, as is evident from the fœtor which commonly pervades a court." We were not aware when writing these lines that at least one unhealthy, insanitary, and incommodious metropolitan police court was just about to be abandoned in favour of a new building designed in accordance with hygienic requirement and altogether in the direction of reform indicated in our article. A fortnight ago we received an announcement from Scotland Yard to the effect "that the new Tower Bridge police court, which is to take the place of the existing Southwark police court, will be opened for business on the 25th instant," and we were invited to send a representative to see the court before the opening day, "having regard to the terms of the article" and to our remarks on the subject from the sanitary point of view. We may say at once that the new Tower Bridge police court is a decided step in the direction of reform and not the least important feature of it is that two justice-rooms are provided, so that the present objectionable method (of which we complained) of bringing non-criminals into close contact with criminals, it is hoped, will be abolished. To keep cleanly disposed persons waiting in the court while a number of petty or criminal offences are being tried or about to be tried is intolerable and opposed to all sense of decency and respect. It is absurd that a case, say, under the Sale of Food and Drugs Act, involving the elucidation of technical points and the attendance of professional witnesses, should be placed side by side with a case of criminal offence, an occurrence which leads to the inevitable mixing of the witnesses engaged in both cases. We are glad to learn that the new police courts at Shoreditch and at Clerkenwell are being constructed on similar lines. On the whole, the sanitary arrangements at the new Tower Bridge police court are satisfactory, the courts are light and airy, and the arrangements for ventilation and warming are excellent. For the latter the low-pressure system of hot water is adopted and at each radiator there are air inlets, the warmer air inducing a flow of fresh air from the outside. The ventilation and the lighting of the court can be easily controlled from the magistrate's chair, to the left of which are a number of switches operating electric fans and electric lights. The accommodation for witnesses is good but it is somewhat limited for the general public. The benches and the furniture are of fumed oak. The public waiting hall at the entrance is admirably designed, lofty, and roomy. The cells, 30 in all, are well lighted and provided with warming apparatus and in most instances water-closets, the working of both being controlled from the outside. The floors of the cells are of asphalt and the walls have a high dado of glazed tile. The architect of the new court is Mr. J. Dixon Butler, the police surveyor, and the work, costing altogether £45,000, has been carried out by Messrs. Mowlem and Co. If our future police courts are constructed on this commendable plan witnesses and others will no longer resent being called upon to attend on the score that the environment is unhealthy and filthy, as has too long been the case.

PNEUMOCOCCIC ARTHRITIS IN A NEWLY BORN CHILD.

PNEUMOCOCCIC arthritis has been recognised only in recent years. In 1901 Dr. E. J. Cave recorded the first case in this country and exhaustively reviewed the subject.[1] He described pneumococcic arthritis as essentially a disease of adult life; out of 31 cases he found that only two occurred in children, at the ages of five and eight years respectively. In the *Archives Générales de Médecine* of Feb. 28th M. Nattan-Larrier has reported from the clinic of Professor Dieulafoy at the Hôtel-Dieu, Paris, a case, apparently the only one on record, in which pneumococcic arthritis was observed in the newly born. A male infant was born after a difficult but otherwise normal first labour on Sept. 5th, 1904. He was the subject of hare-lip and cleft palate. On the 8th a plastic operation was performed on the lip. He progressed favourably until the 12th, when there was a little sero-purulent discharge from the orifices of the sutures. When the latter were removed on the 15th union was found to be very incomplete and the wound was covered with pus. On the 20th the edges of the wound were greyish-red and covered with pus. The general condition was bad, there were vomiting and fœtid stools, and he had lost weight. On the 24th his mother noticed that he cried when placed on the right side or when the right arm was touched and that the right shoulder was red and swollen. On the 25th the swelling was greater and the arm was immobile. On the 26th he was taken to the hospital. He was wasted and pale and the fontanelles were depressed. There was considerable swelling of the right shoulder-joint which was of the size of a mandarin orange; the overlying skin was red and œdematous and showed dilated veins. Deep fluctuation was felt at the anterior border of the deltoid. Purulent arthritis was diagnosed. Disseminated râles were heard all over the chest. The spleen was palpable. The temperature was 100° F. in the morning and 101·5° in the evening. On the 27th the general condition was worse, the skin was dry, the eyes were sunken, the temperature was 104·2°, and death took place. At the necropsy thick viscid greenish pus—typical pneumococcic pus—was found in the right shoulder-joint. The synovial membrane was thickened and reddish and covered in places by an adherent fibrino-purulent layer. The articular cartilage was roughened and eroded. The lungs were everywhere congested and œdematous but especially at the bases. There were no signs of pneumonia or broncho-pneumonia. Microscopical examination of the pus showed disintegrated leucocytes and a large number of diplococci which on staining and on culture were proved to be pneumococci. Pneumococcic arthritis usually is secondary to pneumonic or bronchopneumonic infection (in 28 cases out of 32). In this case neither was present and the source of infection evidently was the wound in the mouth, for the pneumococcus was found in the pus. It will be remembered that the organism often occurs as a saprophyte in the mouth and therefore infection of a wound might easily take place.

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[1] THE LANCET, Jan. 12th, 1901, p. 82.

THE UMBERTO I. PRIZE.

A PRIZE is awarded quinquennially in Italy in memory of H.M. King Umberto I. The subject of competition is orthopædic surgery and the adjudication is made by an international committee of three members. This year the adjudicators are Professor Bassini of Padua, Professor Mikulicz of Breslau, and Mr. Bernard Roth, F.R.C.S. Eng. There are 14 competitors for the prize, of whom nine are German, two are English, two French, and one American.

FRENCH CONGRESS OF CLIMATOLOGY AND HYGIENE OF TOWNS.

THE French Congress of Climatology and Hygiene of Towns, which was founded by Dr. Huchard in 1904, will hold its second meeting in the end of April, commencing at Arcachon on April 24th, spending the next four days there, and proceeding to Pau on the evening of the 28th. Professor Renaut of Lyons will preside. The subjects to be considered in the Section of Climatology will be the climatology, sanatoriums, and seaside hospitals of the French Atlantic coast, the treatment of tuberculosis, and the climate of Pau. During the meeting at Arcachon excursion parties will visit the forest and places on the coast. At Pau fêtes will be organised by the municipality; there will be an excursion to Biarritz on April 30th and one to Hendaye Sanatorium and Fontarabia on May 1st. Medical men, sanitary engineers, and chemists are eligible as titular members of the congress and pay a subscription of 20 francs; medical students and wives and children of titular members are eligible as associate members for whom the subscription is ten francs. A reduction of 50 per cent. is granted by all the French railways to both classes of members. Titles of communications should be sent not later than April 1st to the general secretary, Dr. A. Festal, Villa David, Arcachon. Applications for membership, together with the amount of the subscription, should be sent not later than April 5th to the general treasurer, Dr. Déchamp, Villa Tibur, Arcachon.

PREGNANCY IN A CASE OF ANTE-LATERAL FLEXION OF THE UTERUS MISTAKEN FOR EXTRA-UTERINE PREGNANCY.

IN the *Gazette Hebdomadaire des Sciences Médicales de Bordeaux* M. Fieux and M. Chavannaz have reported the following case. A married woman became pregnant for the first time at the age of 21 years. Labour was terminated by the application of the forceps for uterine inertia. At the age of 25 years she again became pregnant and labour was completed normally. After this confinement she suffered from gastro-intestinal troubles characterised by marked dilatation of the stomach and frequent attacks of hepatic colic. At the beginning of 1903 she had missed three periods and the breasts had enlarged. She consulted an accoucheur to confirm her belief that she was pregnant. He diagnosed salpingitis and passed a sound. Six days later a fœtus measuring three and a half inches was expelled. After this menstruation was regular until March, 1904, when it was expected on the 25th. Not until April 8th was there a slight discharge which on the 10th increased considerably. The hæmorrhage was accompanied by severe pains and the expulsion of what her husband, who was a medical man, regarded as a piece of membrane. The os was soft and patulous. The hæmorrhage and the expulsion of membrane continued until April 18th when it ceased and the patient resumed her ordinary life. On May 26th hæmorrhage recurred and the discharge was dark red. On the 27th there was acute pain in the lower abdomen on the left side with syncope for ten minutes. The discharge continued until June 1st. After this the general health became bad; the face was drawn, vomiting frequently occurred, and the pulse was small. The lower abdomen was constantly painful, sometimes on the left and at other times on the right side. A tumour of the size of a Tangerine orange was felt in the hypogastrium on the left of the median line. On the 6th this tumour became the seat of painful crises. Measurement of the uterine cavity showed that it was eight centimetres deep and this operation was not followed by any ill result. On the 12th M. Fieux saw the patient in consultation. *The diagnosis of extra-uterine pregnancy seemed to be clear.* To the left of the middle line was a tumour of the size of a small orange, rounded, painful, and scarcely moveable. It was hard and never appeared to have shown change of consistency. The os was softened and pushed backwards and a little to the right. The anterior and left fornices were obliterated by the tumour which bulged into the pelvis. A deep groove separated the tumour from the part of the uterus accessible to the finger in the vagina. It seemed that the uterus could be slightly oscillated by the finger in the vagina, while with the hand on the abdomen the tumour was felt almost completely fixed. On the 25th the abdomen was opened and the tumour was found to be the body of the uterus flexed forwards and to the left. It was placed in a good position without difficulty for there were no adhesions. A three months' gravid uterus was then evident. The right ovary contained a cyst of the size of a pigeon's egg and was removed. Good recovery followed, though on the fourth and fifth days after operation there were pains resembling those of labour. At the time of the report the pregnancy was in the ninth month and was pursuing its normal course. M. Fieux and M. Chavannaz point out the great resemblance of the case to one of extra-uterine pregnancy both in the history and the physical signs but they call attention to one point in which the bimanual examination was not satisfactory. The independence between the supposed tumour and the body of the uterus was not evident to the hand placed on the abdomen. They recall the advice of Varnier: "It is above rather than below that the independence between the body of the uterus and a pelvic tumour should be felt in order to affirm that it is juxta-uterine."

THE ANNIVERSARY DINNER OF THE MEDICAL SOCIETY OF LONDON.

THE 132nd anniversary dinner of the Medical Society of London, which was held on March 15th at the Whitehall Rooms, was attended by a large and representative gathering of Fellows and by several distinguished guests. Some excellent speeches were delivered, the most prominent note in which was that of confederation. Sir William S. Church emphasised the advantages which would accrue from an amalgamation of the medical societies of the metropolis and expressed a hope that any difficulties standing in the way would be successfully overcome. He believed that this would be possible to arrange without necessarily destroying the individuality and special characters of the various component bodies. Sir Arthur W. Rucker, in responding for the guests, spoke in similarly strong terms of the project for centralising the teaching of the preliminary scientific subjects which has been energetically taken up by the

University of London with a view to giving the medical student in London advantages equal to those enjoyed by the students in large provincial universities. Judging from the applause with which the exposition of both schemes was greeted it would seem that each had the hearty approval of the audience.

THE HEALTH OF THE KING.

ON Saturday, the 11th inst., His Majesty received a chill, probably when driving in his motor car. Some bronchial catarrh with a slight rise of temperature and increase in the pulse-rate ensued so that it was found necessary by his medical attendants to advise him to remain indoors in an equable temperature. We are glad to say that His Majesty has progressed satisfactorily and on Wednesday was able to go out.

ANTE-NATAL INJURIES.

A VERY interesting question was raised in a case before the Exeter magistrates when a woman, in applying for a separation order said that her last child had been born with black eyes and a discoloured face as the result of her husband's violence. The medico-legal question involved is one of much interest. What is the usual effect on the fœtus in utero of traumatism applied to the abdomen of the mother? The amount of injury which a pregnant woman may sustain and yet give birth at full term to a healthy child is astonishing. One of the most remarkable cases is that recorded by Corey. The patient, a woman three months pregnant, was tossed by a cow. There was an abdominal wound through which protruded the great omentum, the descending and transverse colon, most of the small intestine, and the pyloric end of the stomach. Three and a half hours after the accident the viscera were replaced under an anæsthetic and the edges of the wound were pared and sutured. The woman made a perfect recovery and gave birth at full term to a healthy and uninjured child. Tiffany, who has collected a number of such cases, quotes one of a woman who at the eighth month of pregnancy was almost buried by the fall of a clay wall and received a number of wounds on the head, 32 stitches having to be inserted. In spite of this the pregnancy continued to full term and the patient gave birth to a healthy female child. The escape of the fœtus from injury in such cases is no doubt to be explained by its protected position in the mother's abdomen and by the presence of the liquor amnii. Unhappily in many instances of severe abdominal injuries the outcome is not so fortunate and that such injuries may result in serious damage to the child is only too certain. Neugebauer, for instance, relates the case of a woman who, when near full term, committed suicide by jumping from a second-floor window. She ruptured her uterus and a dead fœtus with a fracture of the parietal bone was found lying free in the abdominal cavity. A great many of the recorded cases, however, especially in the older literature, in which various injuries, for example, fractures and dislocations of the fœtal bones, are described, must be received with scepticism, as such conditions are more often due to defects of development than to direct injury to the fœtus in utero. An instance of this kind is no doubt the case recorded of a woman who at the seventh month of pregnancy fell and struck her abdomen against a tub. She was delivered at full term of a child who had a deep cleft in the cheek involving the anterior part of the helix and antihelix of the left pinna and extending forwards as far as the nose. The external auditory meatus was also obliterated. This was in all probability not a case of injury at all but an example of an intermaxillary fissure of the face. Such a fissure usually starts at the angle of the mouth and pursues an outward and upward course towards the ear. It is most commonly met with on the left side, as in this case, and is often associated with various deformities of the external ear. It is usually asserted that intra-uterine fractures are due to external violence but this is far from always the case. Numerous examples of fractures involving the long bones and the cranial bones can be collected, especially from the older literature. Gurlt has recorded a large number of such cases and his paper proves that they are by no means uncommon. Their explanation, however, is not so simple. In many instances they are met with in association with other deformities or complete or partial absence of some of the other bones. The view put forward by Ballantyne with regard to these conditions is probably the correct one—namely, that the great majority are really due not to external violence but to the result of amniotic adhesions. Further support is given to this view by the fact that not infrequently a cicatrix has been found over the site of the fracture and this is explained by the supposition that a band of the amnion was attached at this point and produced by its traction distortion of the soft cartilage of the developing bone and as a result the appearance of a healed fracture. In the same way it is probable that most of the recorded cases of intra-uterine dislocations are also not the result of direct trauma but are due to anomalies of growth from the pressure exercised by an ill-developed and unseparated amnion. The curious cases of so-called recent wounds of the skin which are met with from time to time in newly born babies, and which have always been the cause of a great deal of curious speculation, must be explained in the same way and are in reality due to the rupture of an amniotic adhesion during parturition. The tearing through of such an adhesion close to the skin would give rise to a raw area. The Exeter magistrates apparently believed the story of the woman who applied for their assistance and it is possible that they took a correct view of the case. That severe injuries inflicted upon the mother may affect the fœtus in utero is certain and it would be rash to assert that in certain circumstances, as, for example, a deficiency of the liquor amnii, even comparatively slight violence could not cause damage to the unborn child. At the same time in considering such cases the medical man must always remember that a very large number of so-called injuries are in reality faults of development and are due to trauma it is true, but to trauma produced by the pressure of an undeveloped amnion and not to trauma the result of external violence.

A PRIZE of £100 and a silver cup have been offered by Mr. Edgar Speyer, a member of the General Council of King Edward's Hospital Fund for London, and a generous supporter of the Fund, for the best essay on "The Economical Management of an Efficient Voluntary Hospital." The Prince of Wales as President of the Fund has approved Mr. Speyer's action and has consented to present the prize to the successful essayist. The competition is only open to the paid secretaries and assistant secretaries of voluntary hospitals in the United Kingdom of Great Britain and Ireland. Further particulars and conditions will be supplied on application by the honorary secretaries of the Fund, 81, Cheapside, London, E.C.

THE fourth Congress of the German Society of Orthopædic Surgery will meet at Langenbeck House in Ziegelstrasse, Berlin, on April 25th, the day before the meeting of the German Surgical Society.

THE King has been pleased to appoint Dr. Noel Dean Bardswell, at present director of the Mundesley Sanatorium, to be medical superintendent of the King Edward VII. Sanatorium. It is understood that Dr. Bardswell will visit foreign sanatoriums for some little time before commencing his work at the King's Sanatorium, which, it is hoped, will be opened in the early part of 1906.

IN reference to our leading article upon the case of Miller *v.* Miller and Fowler we should have pointed out that Dr. Fowler's case was conducted throughout to its triumphant issue by the London and Counties Medical Protection Society, Limited, whose assistance was sought by Dr. Fowler at the beginning of the case.

Lord Strathcona will take the chair at the festival dinner of the National Hospital for the Paralysed and Epileptic on Thursday, April 13th, in the Whitehall Rooms of the Hôtel Métropole, at 7 P.M. Communications should be addressed to Mr. Godfrey Hamilton at the hospital.

THE annual meeting of the Coal Smoke Abatement Society will be held, by permission of Mr. Frederick Harrison and Mr. Cyril Maude, at the Haymarket Theatre, London, on Thursday, March 30th, at 3.30 P.M. His Grace the Duke of Fife, K.T., will preside.

THE death occurred last week of Miss Jane Catherine Shaw-Stewart who assisted Miss Florence Nightingale as a nurse during the Crimean war and was afterwards matron-superintendent of Netley Hospital, which position she held till 1868.

THE GARCIA CENTENARY.

Señor Manuel Garcia, the eminent teacher of singing, through whose labours laryngoscopy has become one of the most important handmaids to the medical profession in its battle with the dread diseases of the throat, celebrated the hundredth anniversary of his birthday on March 17th, when representatives of music and science from all parts of the world assembled at the rooms of the Royal Medical and Chirurgical Society, 20, Hanover-square, London, W., to do him honour. Among those present were Madame Garcia and Miss Garcia.

As Señor Garcia entered the room at noon wearing the insignia of the honorary Commandership of the Royal Victorian Order conferred upon him by the King, a volley of cheers greeted him from the assembled company. This hearty reception he acknowledged by bowing and immediately afterwards seated himself in the chair upon the dais which had been specially placed there for him as a seat of honour.

Sir **FELIX SEMON**, chairman of the Garcia committee, then announced that His Majesty the King had just received Señor Garcia at Buckingham Palace in order to express to him his congratulations and his recognition of all that Señor Garcia had done for medicine and music. At the same time the King had conferred upon him the honorary Commandership of the Royal Victorian Order. His Majesty, at the conclusion of the interview, expressed a wish to be personally represented at the banquet, and said that he would desire his Lord-in-Waiting, Lord Suffield, to attend as his representative.

The Marquis **DE VILLALOBAR** (the Spanish Chargé d'Affaires) then delivered a congratulatory message from the King of Spain and invested Señor Garcia with the Order of King Don Alphonse XII.

Professor **FRÄNKEL** said that the genius of Señor Garcia had thrown light on the dark places of the larynx and the source of the living human voice. In recognition of his merits the German Emperor had conferred upon him the great gold medal for science. This rarely awarded distinction he now had the pleasure of presenting to Señor Garcia at the request of the Minister for Public Instruction.

An address from the Royal Society was then presented by Sir **ARCHIBALD GEIKIE** (principal secretary), Professor **FRANCIS DARWIN** (foreign secretary), and Dr. **HALLIBURTON**, F.R.S. The address was as follows:—

> The Royal Society of London join very cordially in congratulating Manuel Garcia on the celebration of his 100th birthday. The President and Council recall with much pleasure [illegible] Society afforded in their proceedings [illegible] for publishing to the scientific world [illegible] paper in which Señor Garcia laid the foundation of the experimental study of voice production and, at the same time through the laryngoscope, provided the starting point for a new department of [illegible] The Royal Society trust that Señor Garcia [illegible] to come to enjoy in good health the esteem [illegible] ment and his high personal character hav[illegible] and sealed on behalf of the Royal Socie[illegible] Knowledge) WILLIAM HUGGINS, President.

Sir **ARCHIBALD GEIKIE** (corresponding member of the Prussian Academy of Sciences) read the following telegram:—

> To the first investigator of the human voice *by a new method* which for all time has bestowed a signal service on art, on science, and on *suffering humanity*, the Royal Prussian Academy of Sciences sends on his 100th birthday its most respectful congratulations.—WALDEYER, Secretary.

An address was next read from the University of Königsberg which had conferred on Señor Garcia the honorary degree of Doctor nearly half a century ago.

An address was then presented from the Victoria University of Manchester by Professor **STIRLING**, F.R.S., Dr. W. **MILLIGAN**, and Dr. S. **MORITZ**, one from the Medical Faculty of Heidelberg, and another from Señor Garcia's old pupils, among whom were Mr. Santley, Madame Blanche Marchesi, and Herr and Fräulein Stockhausen.

Mr. **OTTO GOLDSCHMIDT**, the husband of Jenny Lind, said that his late wife to the end of her days venerated Señor Garcia who helped her to take the position in the musical world which she attained.

An address from the Royal Academy of Music was presented by Mr. Thomas Threlfall (chairman), Sir Alexander Mackenzie (principal), Mr. Walter Macfarren, Mr. Edward E. Cooper (honorary treasurer), Cavaliere Randegger, Mr. John Thomas, Mr. F. Walker, and Mr. F. W. Renaut (secretary), and an address from the Royal College of Music, was presented by Sir Hubert Parry (principal), Sir Walter Parratt, Mr. Henry Blower, Sir C. Villiers Stanford, Dr. C. Harford Lloyd, Mr. Eaton Faning, Mus.Doc., the Hon. Spencer Lyttelton, C.B., and Mr. Frank Pownall.

A large number of messages of congratulation were also sent by British and foreign laryngological societies and associations.

Dr. **BOTELLA** (Madrid), the official delegate of the Spanish Government and of the Spanish Laryngological Society, said that the laryngoscope had put within the range of science many diseases the existence of which could never have been suspected, had made possible their treatment, and had saved from suffering and death many lives. The Spanish Government sent its enthusiastic congratulations and the Spanish Laryngological Society begged Señor Garcia's acceptance of the office of "President of Honour."

The address from the Laryngological Society of London, of which Señor Garcia is the oldest honorary member, referred to him as "dear and revered master" and expressed the wish that "we may often have the pleasure and privilege of seeing the venerable father of laryngoscopy amongst us."

It was announced that several foreign societies had conferred their honorary membership upon Señor Garcia.

The proceedings were brought to a close by the presentation to Señor Garcia of his portrait painted by Mr. Sargent, R.A.

In returning thanks Señor **GARCIA** (addressing the Spanish Chargé d'Affaires) said: Sir, will you tell my King for me how deeply grateful I am to him for thus remembering that in this country, which has sheltered me so long, he has a loyal and a loving subject? Will you express my overwhelming sense of this great honour and convey to him my reverent—if a subject may be so bold—my loving thanks? You, Sir (addressing Professor Fränkel), will undertake of your great courtesy to make known to His Majesty the German Emperor my deep sense of the honour he has conferred on a stranger and you will ask him to accept my grateful thanks. You, Sir (addressing Sir Archibald Geikie), who represent the illustrious English society that first gave me a hearing (the Royal Society); you, Professor Stirling, by whom the learning of England's second capital (the University of Manchester), sends me greeting (at this point Señor Garcia handed the MS. of his reply to Sir Felix Semon, requesting him to finish reading it)—you who have come from distant Königsberg to recall the grateful memory of those who gave the unknown man a place among them, you who represent the world renowned Academy of Sciences of Berlin among the members of which are some I count dear friends, and you dear Sir who bring me the greeting of a city of youth whose very name seems to set joy bells ringing, you Sir, from Heidelberg how shall I thank you all if your good will should fail to interpret my poor faltering words? You doctors laryngologists dear friends to whom the little instrument to which such kind allusion has been made owes all its power for good you representatives of the great music schools of London in one of which I passed so many years working happily beside brother musicians and to the other of which I have so often come to mark with pride our own great art of music, you too my pupils among whom it rejoices me so keenly to welcome faces missed for many years and found again to-day while others have been with me near and dear to you all thanks from an old heart that he did not know what youth it still possessed till it expanded to embrace you all This portrait from the hand of this great master which grew in happy hours too few for me since they passed so rapidly in his companionship shall be my pride and joy in the days to come (Here Senor Garcia resumed his speech) If you will bear with me a moment longer I should like to say one little inadequate word of thanks to him from whose initiative this wonderful demonstration has sprung my friend Sir Felix Semon *with whose name I link that of an institution dear to me* beyond all others the Laryngological Society of London and its chosen representative that social Atlas the Garcia Committee

In the afternoon there was a special sitting of the Laryngological Society of London at which the numerous distinguished representatives of the learned societies were present A large number of pathological specimens drawn from the medical museums specially selected and arranged by Dr J H *Pegler, the* curator to the society were exhibited Among the naked eye exhibits were the following —Mr R Lake Pachydermia of the Larynx in a man aged 24 years The glottis was much *stenosed and completely* closed in one situation (Royal College of Surgeons Museum) Dr E Clifford Beale Lymphoma of the Larynx involving the epiglottis the ventricular band and the arytenoid cartilage of the left side (reported in THE LANCET of Oct 15th, 1887) (Great Northern Central Hospital) Mr Charters J Symonds Carcinoma of the Larynx complete extirpation (Guy s Hospital Museum) Sir Felix Semon Carcinoma of the Larynx partial [illegible] cell carcinoma of the ventricle [illegible] e late Mr Montague Williams) [illegible] um) Mr H T Butlin Carci [illegible] l excision of the true and false vocal cords for carcinoma of the under surface of the vocal cord in a *man* aged 50 years (St Bartholomew s Hospital Museum) Mr P R W de Santi Papilloma of the Septum Nasi removed from a man aged 89 years no recurrence (Westminster Hospital Museum) Mr Butlin Œsophageal *Diverticulum* removed by operation from a man aged 50 years (St Bartholomew s Hospital Museum) Mr Arthur H Cheatle contributed a microscopical section of Polypoid Growth of Lymphoid Character springing from the Right Supratonsillar Fossa (published in the Proceedings of the Larynological *Society* vol xi with coloured drawing)

In the evening at the Hotel Cecil Senor Garcia was entertained at dinner There was present a large and distinguished company of ladies and gentlemen.

After the loyal toasts had been duly honoured the Chairman (Mr CHARTERS J SYMONDS) called upon the Marquis DE VILLALOBAR *to read* a message from the King of Spain who had conferred upon their distinguished guest the *Grand Cross* of the Order of *Alphonse* XII The message was as follows —

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Mr Charters Symonds resuming said that he had heard a whisper that the honour conferred by the King of Spain carried with it the title of his Excellency

The toasts of The King of Spain and of "The German Emperor having been honoured SIR FELIX SEMON proposed the toast of Senor Manuel Garcia He said that *to very* few human beings was it given to attain the patriarchal age of 100, fewer still lived to that age *in full possession* of their mental and *bodily faculties*, rarest of all was it that men who had made their mark in the world should thus be favoured In our own days he only knew of two similar events—the centenaries of Sir Moses Montefiore and of Professor Chevreul That night they witnessed the unusual spectacle of two liberal professions which while always friendly, ordinarily had few points of contact—music and *medicine—uniting* to vie with one another to do honour to their great centenarian Referring to the invention of the laryngoscope with which the name of Senor Garcia was so intin [illegible] no exaggeration to call [illegible] of mankind The toast [illegible] and the company sang

Replying with emotion Senor GARCIA said that to all those who had assembled to honour him he could say nought, nought except this God bless you, every one

At the conclusion of the dinner a congratulatory telegram was received from the Prime Minister

MEDICINE AND THE LAW

Dustbins on the Kerbstone

A RECENT prosecution at the South Western police court is of considerable interest to many householders and to local sanitary authorities The complainant was Mr J W Baines a barrister and assistant legal adviser to the Local [illegible]

[illegible] asking for the removal of refuse from his residence The difficulty arose out of a by law prepared by the *London* County Council and approved by the Local Government Board requiring occupiers within a prescribed area under a *penalty to facilitate the removal of house refuse by placing* it in receptacles on the public footway Householders in the district in which Mr Baines lives received at the close of last year notices from the borough council that on and after Jan 1st 1905 the refuse of houses in specified roads would be removed under this by law between 7 and 9 A M In Mr Baines s case and no doubt in the cases of many of his neighbours in Putney this necessitates the carrying of the whole of the refuse from a villa of a substantial size down a carriage drive as well as across the footway to the kerbstone at some time *presumably not much later than* 7 A M Mr Baines declined to order his servants to do this and instead invited the council to remove the refuse for itself under Section 30 of the Public Health (London) Act 1891 The borough council in its turn declined basing its refusal on the County Council by law referred to above, and Mr Baines issued a summons against it After considerable argument from counsel Mr Francis gave his decision in favour of Mr Baines and imposed a fine of £1 upon the council with 25 guineas costs offering at the same *time to state a case for an appeal to the Divisional* Court He did not hold that the County Council by law was bad but that it was not intended or suited for universal application It was in his opinion made to cover certain cases and the way in which the council had tried to enforce it was wrong in that it had refused to remove the household refuse from the premises in question *He also regarded the placing of dustbins on the* kerbstone as an obstruction of the highway Considerable sympathy with Mr Baines is no doubt felt by many persons whose residences are similarly situated to his and not unreasonably The object of the council is no doubt to effect an economy of trouble *time and money* in the removal of dust and other refuse from houses The bin placed upon the *kerbstone* unquestionably *does this* particularly in streets of continuous houses some of which perhaps contain many tenements and to a certain extent the system has the advantage of preventing accumulations of offensive matter indoors On the other hand the dustbin on the kerbstone and the present *plan of emptying it* by hand are by no means ideal from a sanitary point of view as any observer on a windy day can *satisfy himself* From Mr Baines s *point* of view it is easy to see that to have the refuse of a large house carried down a drive by the house*holder s domestic* servants is difficult and almost impossible in many circumstances It is not at any time women s work and in wet weather or in snow they would be still more unfitted to perform it Even in large houses where men servants are kept the butler and the footman would hardly relish being turned into dustmen. The work, in fact, is such that men specially employed to perform it are practically necessary, whether a local council employs them or the householder. The appeal upon the case which apparently Mr. Francis is to state will be watched with much interest, as the possibility of enforcing the County Council by-law universally within the County of London is no doubt one of the issues involved.

The Prevention of Live Burial.

The London Association for the Prevention of Premature Burial has prepared a Bill which presumably will be introduced in the House of Commons by a private member and doubtless will share the fate of many similar documents. It contains proposals which, if for no other reason than on account of the expense involved, will fail to commend themselves to ratepayers. It empowers local authorities to provide "waiting mortuaries," warmed, lighted, and ventilated, for the reception of bodies should the surroundings in the home of the deceased not be suitable for the purpose. In these waiting mortuaries the bodies are to lie until the requirements of the proposed Act are complied with and they may be furnished with a hall for bodies of no particular classification, with an apartment for infectious cases, another for cases that may require judicial action, a post-mortem room with laboratory and apparatus for resuscitation, and quarters for a resident medical superintendent. The Bill also proposes that there should be qualified medical practitioners appointed by the Secretary of State as death verifiers to hold office in fixed districts and to give their whole time to the work without taking private practice. The method of certification, the duties of death verifiers, and various other matters, including rewards for persons who resuscitate apparently dead persons, are contained in 16 sections, one of which provides that the proceedings to be taken under the new law shall not be rendered unnecessary even by the fact that a coroner's inquest shall have been held. All offences against the provisions of the Bill are to be misdemeanours and one of the offences which may render a medical officer of health liable to indictment reads somewhat quaintly. He may if he thinks fit refuse permission for the body to lie in the house where death took place, in which case it will have to go to one of the mortuaries mentioned above, but "if the medical officer of health, having received such a request and undertaking as aforesaid, shall remove the body without having delivered a written statement of his reasons or shall insert in such statement frivolous or unintelligible matter, he shall be guilty of an offence against this Act." The London Association for the Prevention of Premature Burial may find the opinions of those who differ from it unintelligible and may even encounter what seems to it to be frivolity before such a Bill as that under consideration becomes law; but frivolity in a medical officer of health when performing new and responsible functions in addition to his already onerous duties need hardly be anticipated, nor are these competent and carefully selected officials likely to be unintelligible, even without the fear of prosecution to stimulate them to lucidity of expression.

Looking Back.

FROM

THE LANCET, *SATURDAY*, March 24, 1827.

I wish, however, that you would consider this point, how important a thing it is that there should be a true balance between the quantity of circulating fluids, and the powers that circulate those fluids. If *perspiration* were to be suppressed, why the blood would be redundant with water, but then in that case the kidney takes up the secretion. The kidney prepares phosphoric acid; and I suppose I need not try to convince any gentleman present that there is no phosphoric acid in the blood, if there was it would coagulate the blood; there is *soda* in it. What is there then to be said of this secretion? The albumen must be admitted to be there; it must be admitted that there is phosphoric acid in the kidney; and what are we to say with respect to that? Why, the secretion is a new formation—that the phosphoric acid is a new production; and then the question is, how is this effected? This is the grand problem proposed a long time back, and perhaps not answered, you will say, at present—How, from one kind of blood, can such dissimilar substances be got? And the old anatomists were looking to the arrangement of the vessels, to the tortuous course of the arteries and their branches, to find this out; but I defy any man to conjecture what use can result from muscular formation save that of filtration: it would spread that which was in it, but it could never make a new compound. Now Haller himself seemed to conceive that the result of these things was very much the result of vital feeling, for he has quoted the case of a hysterical female secreting nothing but colourless urine, watery urine, but he has let this nervous fit be suspended, and the kidney has again performed its functions and proper urine been secreted, more loaded too with animal substance and salts on account of the temporary suspension during the hysterical fit, therefore vital action has a great deal to do with it. But it was John Hunter who proved that vital action was the cause of all this: it was proved with respect to what we know takes place with regard to poison; a specific incision is made, a specific application of poison is made, and a specific secretion takes place. But if you were to say, how are these things prepared? I think no man in his senses can deny, but that it is by electrical operation; that electricity is the great agent of nature for the purpose of composition and decomposition of all surrounding substances, and we cannot doubt that the same agent inheres in animal bodies. A man who doubts of this, certainly could never have rubbed a black little *kitten* in the dark, or pulled off a black silk stocking in the dark; there is no doubt of electricity being thus employed. But I say it would be absurd to doubt that this was the agent for producing composition and decomposition in animal bodies after what Sir Humphrey Davy has told us. I cannot express my opinion on this subject now, in any different way to what I am accustomed to do. If any man had told me, in the early period of my life, that I should live to see chemical action explained, I should have said, well, I shall certainly not die at a less age than that of *Methusalem*. (Laughter.) But it has been done, and by Sir Humphry Davy; he showed that it depended on the matter it possessed. I was present at his lectures, when I saw performed what formed the ground of the papers that were given by him to the Royal Society, and which I had read, but the reading of them certainly did not produce that impression on my mind which the ocular demonstration of his performance did. I saw the thing done, and therefore I had conviction brought home to my mind. When I saw him make some *potash* pass through sulphuric acid, and come out potash on the other side of the dish, I said, it's wonderful! it's wonderful indeed! Why, who would have thought it! Who could have thought that a person could have mixed potash with sulphuric acid, and that it should have remained the same! Why, it is counteracting nature by using her own agents. Who could have thought it! Put potash into sulphuric acid, and what is the result? Why, that the most violent actions take place till they combine together, and then they are very sociable. On seeing this, I could not but think, that if I had been lecturing to the class Sir Humphry Davy was then lecturing to, which was principally composed of *ladies*, I should have said, now ladies, this is as wonderful as if I were to place a barrel of gunpowder before you, and, presenting you with some hot embers, you were to throw them into the powder, and they were to come through it without igniting it. Then I do not doubt but it is electrical, but electrical under the influence of the nervous system, and all the functions of the body are governed by that system.[1]

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[1] Excerpt from "M[illegible] Physiological, Pathological, and Surgical Observations [illegible] *Course of Lectures* at St. Bartholomew's [illegible].

FOREIGN UNIVERSITY INTELLIGENCE.—*Berne:* Dr. Fritz Veiler-Bruggiser has been recognised as *privat-docent* of Internal Medicine.—*Gottingen:* Dr. Max Borst of Cologne has accepted the offer of the chair of Pathological Anatomy.—*Gratz:* Dr. Adolf Sachsalber, *privat-docent* of Ophthalmology, has been granted the title of Extraordinary Professor.—*Naples:* Dr. Pietro Imbriaco has been recognised as *privat-docent* of Diseases of Traumatic Origin.—*Tübingen:* Dr. Finkh has been recognised as *privat-docent* of Psychiatry and Dr. Ottfried Müller as *privat-docent* of Internal Medicine.

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS.

CHAPTER V.[1]

THE GRIEVANCES OF THE MEDICAL PROFESSION (*continued*).

Hospital Abuse.—The Birmingham Hospital Saturday Fund.—Working Men's Subscriptions.—The Municipalisation of Hospitals.—The Place of the Provident Dispensary.

NEXT to the evils of contract practice perhaps those of so-called "hospital abuse" weigh most hardly on the general practitioner and here, again, the subject has been so much written upon and so thoroughly threshed out that nothing more than a brief recapitulation of admitted facts is necessary. But however threadbare the subject may appear it must receive notice here, because, firstly, no record of the present state of the medical profession can be complete and, secondly, because from year to year the abuse grows and takes on fresh features, though the substance of the abuse in all instances is the same.

Hospital Abuse.

Everyone knows that many institutions which are avowedly and necessarily supported by charity admit to their wards or their out-patient departments for gratuitous advice and treatment sufferers who can pay for medical assistance. The extent to which this occurs is very large, and under such methods four sets of people are defrauded—the charitable public, the honorary staff of the hospital, the general practitioner, and the genuine poor; the charity is used for purposes for which it was not designed, the medical profession loses fees for medical service, and the class of sick persons to whom hospital aid is due is elbowed aside. The abuse is of quite old standing. 36 years ago Joseph Sampson Gamgee, the well-known Birmingham surgeon, founder of the Hospital Saturday Fund and a most liberal and enlightened thinker, pointed out the bad management prevailing in the out-patient departments of hospitals. He complained that the treatment consisted in the mere administration of physic in all cases, to the neglect of full inquiry into the cause of the disease and of well-considered advice for restoration to health; he did not mean to blame those responsible for the treatment, for he must have been aware that the circumstances which justified his words were brought about by the permanent overcrowding of the departments. Since this date the evil has grown worse. The number of out-patients attending the 92 London hospitals has been shown by Mr. C. S. Loch, secretary of the Charity Organisation Society, to have increased from 1,082,259 in 1887 to 1,448,026 in 1897 and to 1,584,987 in 1900. Mr. Loch submitted these figures to the meeting of the British Medical Association held in Manchester in 1902, at which meeting a valuable discussion took place which revealed the evil as on the increase in many parts of the kingdom, and there is no evidence to show that any arrest has taken place. The number of hospitals, particularly of special hospitals, has increased; the number of beds has been raised in existing institutions and special departments have been added, while in many cases there has been no corresponding addition made to the *personnel* of the medical staff. As a result the thorough performance of their work cannot always be expected from the medical staff and a valid excuse for the scamping of duty has been established in the very highest department of medical practice. From the north and south of England, and as much from such great towns as Manchester and Birmingham as from London, the complaints of general practitioners now come that the competition of the hospitals, especially of the *out-patient* departments of hospitals, is ruinously unfair. From the more populous centres in Scotland and Ireland, especially from Belfast, we hear the same story. The abuse has not grown up as the result of any apathy on the part of the medical profession, for general and consulting practitioners alike have seen the evil rising and have taken some measures, if no very vigorous ones, to repress it. In 1899, for example, a conference on hospital reform was promoted in London at which Sir William Broadbent, Mr. Timothy Holmes, and Mr. C. H. Warren, secretary of the Metropolitan Provident Association, spoke, as well as medical men representing such typical medical centres as Liverpool, Manchester, Birmingham, Bristol, and Brighton. The various efforts that had been made by means of inquiry into the pecuniary position of patients were detailed, the use and abuse of letters of recommendation and the charge of fees to the patients were inquired into, and the widespread nature of the evil was made manifest. The conference was not a marked success. Attendance at the meeting was small and certain of the individual speakers had no great grasp of their subject. They did not seem to recognise that hospital abuse is only one feature of a general want of organisation in the medical profession and so wasted time in proving the already proven.

Hospital abuse, like the abuse of contract practice, is an expression of the uncertainty among medical men as to their professional aims, so that what one man considers to be philanthropy another considers to be mischievous weakness. Hospitals and their medical staffs claim credit for their work and subscriptions from the public on the ground of the numbers seen at the out-patient departments. The quondam students at those hospitals and pupils of those consultants declare that their most harmful rivals in practice are just the institution and the staff from whom they have the best right to expect help. It has been said that Joseph Sampson Gamgee, in addition to being an energetic medical reformer, founded the Hospital Saturday Fund. The Hospital Saturday Fund is an admirable charity in its way, but if its developments could have been foreseen, with their bearing upon the question of hospital abuse, no medical man would have founded it. Attention has been called often to the fact that in some towns the working-class vote predominates in the management of hospitals and this is a fact the bearings of which have not yet been brought home to the medical profession. There is no reason why working men should not contribute their share to the public charities but that is not the way in which they view their subscriptions to hospitals. The public have been accustomed to subscribe to friendly societies, to medical aid clubs, to slate clubs, and to trade unions and similar institutions of all sorts. In each and every case the money which they give comes back to them in hard cash or in services rendered, and, further, they generally have a vote in the management of the funds which they thus raise. Consequently they imagine that if they support the hospitals they should not only have a vote in the management of the hospitals but that the hospitals are bound to render them services in exchange for the money subscribed. The workmen do not give to the hospitals as an act of charity but they pay so as to wipe out the charitable aspect of the institution. They propose to purchase, as it were, a right of entry to the hospital and a right to be treated, not as the recipients of charity, but as provident people who have insured themselves against the risks of sickness or accidents. This is the feeling that undoubtedly prevails, though it has not yet been formally inscribed in any document, agreement, or covenant. THE LANCET in a series of articles on hospital abuse has given a very full account of the growth and development of the Birmingham

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[1] Chapters I., II., III., and IV. were published in THE LANCET of Feb. 18th (p. 447) and 25th (p. 517) and March 4th (p. 593) and 18th (p. 736), 1905, respectively.

Hospital Saturday Fund.[2] From these it is apparent that some eight years ago 75 per cent. of the workmen of Birmingham subscribed to this fund and that they raised about £15,000 in the year. There is good reason to suppose that the sum which is now subscribed by them amounts to little short of £20,000. As most of the money is raised by means of penny weekly subscriptions and as the total population of Birmingham, including women and children, is very little over half a million, it is safe to say that the vast majority of the working men are subscribers. When working men know this they must feel that they are masters of the situation, especially as with the increase of working class support there has been, and will be, a decrease in the amount of subscriptions received from the wealthier classes.

In certain industrial districts in the north of England the workmen subscribe such large sums that not only do they conceive that they are paying for the treatment they receive but maintain that they have a right to govern the hospitals. This is the direct beginning of the municipalisation of our charitable institutions, for if the majority voluntarily tax themselves to obtain control of the hospitals they will soon demand that the minority should be coerced into paying their share of the required contributions. The subscription would thus be converted into a tax and the municipal administrators would manage the general hospitals as they already manage the hospitals for the treatment of the insane and for the isolation of infectious cases. This may represent the extreme outcome of the present situation but unless the hospitals take measures to obtain the bulk of their financial support from the wealthy and well-to-do classes it is the obvious issue. And here some may say, What of it? They point to the financial condition of some noble hospitals in the centre of rich cities and ask if it would not be better to end the perpetual begging of these great charities by placing them at once upon the rates. To medical men the only answer possible is, No. When grave doubts as to the purity of hospital administration existed, as they did half a century ago, the movement towards rate-supported hospitals was a natural one. In those days the wealth of some of the hospitals, especially the London hospitals, the value of some of the lectureships, and the nepotism of some of the managers, made the suggestion of public control reasonable. Alas, that wealth has in most cases gone and with fair competition for appointments and meagre payment for lectureships have vanished the arguments for municipalisation of the charities. And it should be observed that medical opinion on this matter has been backed by shrewd and influential leaders of men, men of the unequalled social experience of His Majesty the King, men of the bottomless purses of Lord Rothschild and Mr. Beit, men of the business instincts of Sir Sydney Waterlow and the late Sir John Maple. They have all seen that the poverty of the hospitals ought to be met and allayed by charitable offering, so as to preserve the present relation of the hospitals towards the public. A big general hospital supported by the rates and therefore governed by the municipality would inevitably get out of touch with its medical officers. Men would obtain junior and senior staff appointments at the hospital for other than the excellent reason that their scientific work was the best available at the time of the vacancy; the medical profession would be unrepresented or powerless at the meetings of the governing body and would speedily find themselves unable to do their beneficent work without constant friction or submission to a position of complete subservience. Over and over again it has been demonstrated that medical work must suffer if all initiative is taken away from the medical profession, and that a hospital cannot be managed without the medical staff having a proper voice in the management. The honorary staff of a hospital under existing conditions obtain this voice; in their wards they are the main authorities, in the choice of their fellows they have much influence, and in the choice of their subordinates they have almost the power of nomination. A member of the honorary staff of a hospital feels his high and honourable responsibilities. He gives his services because he has those responsibilities and is repaid by public consideration. The public know of him that he has been chosen for his attainments and character by men of his own profession and that he is in more than a nominal sense a trustee for the conduct of a great charity. He owes it to the public, to his colleagues, and to himself to do his work without stint, and almost without exception he pays his debt. Would the public or the sick poor obtain services of the same quality if the medical staff of our hospitals were appointed by a municipal body, with all the liabilities of such bodies to political influences and social and private bias? No one who has thought about the matter can have a shadow of doubt what the answer must be.

Hospital abuse comprises under a brief title large questions, larger than have been recognised by many who have talked and written at length upon the matter. Hospital abuse is one expression of a desire on the part of the public to obtain medical assistance at the lowest possible price and it is as part of a general organised resistance to such tactics that the remedy must come. For the present the question has entered into a vicious circle and every step aggravates the difficulty. The workmen giving such large sums in the aggregate do not see that they are not contributing their just quota and are not really paying for service rendered. They give pence but think in terms of thousands of pounds. The more hospital abuse prevails the more disinclined will the well-to-do classes be to subscribe, for the knowledge is spread that the money of the charitable subscribers is being misapplied. The amount given decreases and this leads the managers of hospitals to rely more and more on the subscriptions of the working classes and to refrain from making inquiries when cases of abuse come before them. It is towards breaking this vicious circle that efforts should be directed. The agitation against hospital abuse has led to a few reforms here and there but such sporadic attempts at remedy do not meet the case. What is required is education of public opinion. The public should be helped to understand the fact that machinery to some extent really exists to deal with the whole situation only it is improperly used owing to the eccentric ignorance that prevails among all classes. An injured man or a sick woman turns at once to the nearest hospital for aid, the out-patient department becomes grossly crowded, and the real sufferers are thrust to the wall by applications for assistance justified neither by the plight of the patients nor by their circumstances. The public should be taught to regard the family practitioner as the first source of help, and where their means do not permit of their employing him in a private capacity they should avail themselves of provident dispensaries which are properly conducted and other legitimate forms of combination. The public and the general practitioner should alike regard the out-patient departments of hospitals as the poor man's consulting rooms and only such cases should be drafted to these departments as present difficulties in their treatment. Combination among the public has long been seen by the medical profession to be the solution of the problem of medical assistance for poor people; it is only unfair combination, leading to a necessary lowering of professional standards, to which objection is offered. In order that provident dispensaries may take the place of the out-patient departments of hospitals, as far as the necessitous sick are concerned, some increase in their number and some standardising of their methods are required, but if the genuine economy of a reasonable use of such institutions were more widely perceived there would be no difficulty in these improvements. The exact place of the general practitioner's surgery, the provident dispensary, and the out-patient department in a general scheme for the treatment of the sick poor should be defined and understood; then, and *perhaps then only, shall we begin to solve the problems of* hospital abuse and to remedy the evils of immoral combination. When, in addition, the public perceive that the gift of pennies, even though systematically given and amounting in the aggregate to a large sum, does not confer a legal right to obtain the gratuitous services of the staff of the hospitals, and when, as a matter of course, there is an understanding between the local practitioners and the staff of the neighbouring hospitals, whereby the practitioners may feel assured that the hospitals will not wilfully take their poorer patients from them, two of the glaring grievances of the medical profession will rapidly abate.

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[2] THE LANCET, Sept. 18th, 1897, p. 745.

(To be continued.)

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8920 births and 4740 deaths were registered during the week ending March 18th. The annual rate of mortality in these towns, which had been 15·7, 17·1, and 17·2 per 1000 in the three preceding weeks, declined again to 15·8 per 1000 last week. In London the death-rate was 15·6 per 1000, while it averaged 16 0 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 3·9 in Bournemouth, 7·8 in Walsall, 8·1 in Hornsey, 8·4 in Grimsby, 8·5 in Walthamstow, and 9·0 in King's Norton; while the highest rates were 22·3 in Rochdale, 22·7 in Southampton, 22·8 in Middlesbrough, 23·9 in Stockton-on-Tees, 25·1 in Barrow-in-Furness, and 27·4 in Portsmouth. The 4740 deaths in these towns last week included 430 which were referred to the principal infectious diseases, against 365 486, and 471 in the three preceding weeks; of these 430 deaths, 181 resulted from measles, 108 from whooping-cough, 45 from diphtheria, 41 from diarrhœa, 36 from scarlet fever, 17 from "fever" (principally enteric), and two from small-pox. No death from any of these infectious diseases was reg[illegible] nemouth, [illegible] on, Coventr[illegible] he highest [illegible] West Bromw[illegible] on-on-Tees, [illegible] nal mortality from measles occurred in Portsmouth, Southampton, West Bromwich, Leicester, Nottingham, St. Helens, Bolton, Sheffield, York, Middlesbrough, Stockton-on-Tees, and West Hartlepool; from whooping-cough in Willesden, Tottenham, and Preston; and from "fever" in West Bromwich. The mortality from scarlet fever, from diphtheria, and from diarrhœa showed no marked excess in any of the large towns. One fatal case of small-pox was registered in South Shields and one in Tynemouth, but none in any other of the 76 towns. The number of small-pox patients [illegible] treatment in the Metropolitan Asylums [illegible] th, was 33, against 16, 15, a[illegible] preceding weeks: nine new cases were admitted during the week, against seven, four, and three in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 1987, 2002, and 2036 at the end of the three preceding weeks, had further risen to 2042 at the end of last week; 262 new cases were admitted during the week, against 224, 290, and 303 in the three *preceding* weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 335, 353, and 361 in the three preceding weeks, declined again to 304 last week, and were 71 below the number in the corresponding period of last year. The causes of 63, or 1·3 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Croydon, West Ham, Leeds, Hull, and in 42 other smaller towns; the largest proportions of uncertified deaths were registered in Ipswich, Birmingham, Coventry, Liverpool, St. Helens, Manchester, Sheffield, Sunderland, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·3, 17·4, and 18·6 per 1000 in the three preceding weeks, declined again to 18·2 per 1000 during the week ending March 18th, but was 2·4 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 11·5 in Leith and 12·2 in Paisley to 19·6 in Aberdeen and 22·3 in Greenock. *The 610* deaths in these towns included 17 which were referred to whooping-cough, 13 to diarrhœa, ten to measles, eight to diphtheria, three to "fever," and one to scarlet fever, but not any to small-pox. In all, 52 deaths resulted from these principal infectious diseases last week, against 63, 60, and 58 in the three preceding weeks. These 52 deaths were equal to an annual rate of 1·6 per 1000, which was 0·2 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 27, 27, and 31 in the three preceding weeks, declined again last week to 17, of which 13 occurred in Glasgow and two in Greenock. The deaths from diarrhœa, which had been 16 and 17 in the *two preceding weeks, decreased to 13 last week and included* five in Glasgow, four in Dundee, and three in Edinburgh. The fatal cases of measles, which had been seven, eight, and six in the three preceding weeks, increased again last week to ten, of which seven were registered in Glasgow and three in Edinburgh. The deaths from diphtheria, which had been, six, two, and three in the three preceding weeks, further rose to eight last week, and included fo[illegible] Glasgow, and two in Paisley. T[illegible] which had been eight, four, and [illegible] weeks, rose again to three last week, and included one case of typhus in Aberdeen. The deaths referred to diseases of the respiratory organs in these towns, which had been 116, 114, and 153 in the three preceding weeks, declined again to 140 last week, and were 45 below the number in the corresponding period of last year. The causes of 14, or more than 2 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·5, 30·7, and 25·2 per 1000 in the three preceding weeks, further fell to 23 8 per 1000 during the week ending March 18th. During the past four weeks the death-rate has averaged 26·3 per 1000, the rates during the same period being 16·5 in London and 15·7 in Edinburgh. The 173 deaths of persons belonging to Dublin registered during the week under notice were 10 below the number in the preceding week, and included eight which were referred to the principal infectious diseases, against five, eight, and two in the three preceding weeks; of these, four resulted from measles, and one each from scarlet fever, from diphtheria, from "fever," and from diarrhœa, but not any from small-pox or from whooping-cough. These eight deaths were equal to an annual rate of 1·1 per 1000, the death-rates last week from the principal infectious diseases being 1·0 in London and 1·7 in Edinburgh. The fatal cases of measles, which had been three, three, and one in the three preceding weeks, rose again last week to four. The 173 deaths in Dublin last week included 26 of children under one year of age and 47 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons showed a slight decline from the respective numbers recorded in the preceding week. Two inquest cases and two deaths from violence were registered; and 62, *or more than a* third, of the deaths occurred in public institutions. The causes of 11, or more than 6 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: R. Hardie to the *Egmont* and for Malta Dockyard; H. W. A. Burke to the *Commonwealth* on commissioning; E. B, Pickthorn to the *President*, for three mo course; R. T. A. Levinge to the *Montagu;* and J. F. Hall to the *President*, to be lent to R.N. Rendezvous temporarily. Surgeons: A. C. Bean to the *President*, for three months' hospital course; H. C. Ross to the *Commonwealth;* and L. Lindop to the *Ganges.*

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel C. White (retired), now re-employed at St. John's Wood Barracks, will revert to retired pay in May and until then has been granted sick leave. Lieutenant G. S. C. Hayes and Lieutenant C. Bowle have left for a tour of duty in India. Lieutenant-Colonel J. M. Reid has been appointed Medical Inspector of Recruits on the staff of the Southern Command and has been posted to the Administration Headquarters, Radnor House, Salisbury. Lieutenant-Colonel H. Scott (retired), A.M.S., has been transferred from Yarmouth to London for duty in connexion with the recruiting staff. Major M. L. Hearn has been appointed Senior Medical Officer, North China.

IMPERIAL YEOMANRY.

Montgomeryshire: Surgeon-Captain F. E. Marston resigns his commission (dated March 18th, 1905).

VOLUNTEER CORPS.

The Electrical Engineers (Volunteers): Surgeon-Lieutenant C. H. Leaf to be Surgeon-Captain (dated Feb. 28th, 1905).

Rifle: 1st Volunteer Battalion the Queen's (Royal West Surrey Regiment): Surgeon-Captain R. J. Swan, from the 1st Surrey (South London) Volunteer Rifle Corps, to be Surgeon-Captain (dated March 18th, 1905). 1st Volunteer Battalion the Suffolk Regiment: Supernumerary Surgeon-Major G. S. Elliston [illegible] Senior Medical Officer, [illegible]) to be Surgeon-Lieutenant-Colonel and to remain seconded (dated March 18th, 1905). 4th [illegible] Volunteer Battalion the Sherwood Fo[illegible] and Derbyshire [illegible] F. H. Appleby [illegible] -Colonel, Senior Medical Officer, [illegible] unteer Infantry Brigade) to be [illegible] and to remain Supernumerary [illegible]

THE ROYAL NAVAL COLLEGE, OSBORNE.

The Medical Consultative Board of the Admiralty, consisting of Mr. G. H. Makins, C.B., Dr. W. H. Allchin, and Dr. H. D. Rolleston, accompanied by Mr. J. H. Fisher, has visited Osborne College to report upon the existence of a mild form of conjunctivitis which has been prevalent among the boys. The Director-General of the Royal Navy Medical Service was also present and it is gratifying to know that the conjoint report in regard to the sanitary state of the College was highly satisfactory.

COLOUR BLINDNESS AND THE ARMY AUTHORITIES.

According to a recent ruling of the War Office which has appeared in the press it seems that colour blindness will no longer be a bar to a candidate seeking a commission in His Majesty's army. Previously to the promulgation of this order the reverse was the case. Colour blindness was regarded as a disqualification and those who could not pass the requisite colour tests failed at the required medical examination. It seemed but reasonable to suppose that the War Office authorities knew what they were about and that colour blindness might have been found to interfere with an officer's duties on field service, in the matter of signalling, for example; but whether it did or did not or was likely to have that effect was a point which should obviously have been settled in the first instance and before any order on the subject was issued. As it is, a number of army candidates have been rejected by medical boards in the past who need not have been had the present ruling been in force, whereat the rejected candidates and their parents and guardians naturally feel aggrieved and complain.

RECRUITING IN GERMANY IN 1903.

An abstract of the report on recruiting for the German army in 1903, which was presented to the Reichstag on Nov. 20th last, appears in the *Archives de Médecine et de Pharmacie Militaires* for the current month. The total number of young men whose names were inscribed on the lists for examination by the various recruiting boards throughout the country during the year 1903 was 1,072,819. Of these, 125,000 either refused to appear or could not be found, 1167 were excluded, 41,828 were discharged, 478,164 were sent back subject to re-examination in the following year, 28,769 had already entered either the army or the navy as volunteers, while 397,891 were accepted as fit for service. The distribution of the latter was as follows: Landsturm, 98,992; army reserve, 82,786; navy reserve, 1329; active army, combatants 203,913, non-combatants 3670; active navy, combatants 4337, non-combatants 2864. The total number of volunteers during 1903 was as follows: army, 49,226; navy, 3381. Education in Germany has advanced of late years. Twenty years ago 2·03 per cent. of the recruits were illiterate; in 1903 the general percentage was only 0·05. Western Prussia furnished the highest percentage (0·25), next to it came Eastern Prussia (0·16), then Posen and Brandenburg (0·03), while in Pomerania the percentage of youths unable to read and to write was no more than 0·01.

THE WAR IN THE FAR EAST.

There is a comparative lull in the fighting in the Far East at the present time with practically no news from Manchuria. There are signs of exhaustion on both sides and time is required to get up the necessary supplies and remove the sick and wounded towards their respective bases. The pursuit of the Russian army to Harbin nevertheless continues but it seems doubtful whether the Japanese can pass their enemy on the way there. All the accounts that have been published descriptive of the occurrences that followed the evacuation of Mukden agree in the breakdown of the Russian medical and hospital arrangements and the consequent terrible sufferings of the sick and wounded, to say nothing of those who were starving and exposed to cold owing to the inadequacy of the commissariat and transport to cope with the stress and strain of the situation. The inevitable congestion, too, on the Siberian line has of late become terrible and the supply difficulty must be an ever-increasing one for the Russian forces in the field.

M. V. D. Bidrin, the manager of the Moscow Red Cross contingent at the seat of war, has telegraphed to his committee that in obedience to a special request he had detached an operating wagon and sent it to the extreme limit of the railway near Fushun. During six days as many as 60 operations that could not be delayed were performed in it. The detachment, consisting of the lady doctor Gedroitz and the sisters of mercy Bikovoi, Ponomarevoi, Zacharovoi, and Rosenplater, worked for 20 hours out of the 24 and refused to leave in spite of his warning that they might be cut off. All remained till the last moment.

THE WOUNDS INFLICTED BY THE JAPANESE SMALL-BORE RIFLES.

In a late number of the *Vratch* Dr. J. Seldowicz gives an interesting account of his experience while acting as surgeon in chief of No. 10 hospital at Tieling in Manchuria. His observations with reference to the injuries inflicted by the Japanese small-bore rifles confirm the deductions in favour of conservative surgery in such cases which were drawn during the South African war. His hospital was sufficiently close to the field of battle to admit of the reception of the wounded soldiers while they were still retaining the dressings that had been applied at first-aid stations. On June 4th last a train reached No. 10 hospital at six o'clock in the morning containing 150 men who were wounded on June 2nd in an engagement at Wafankoo. They had been compelled to find their way as best they could on foot for between 20 and 30 kilometres and had then to support a journey by rail of nearly 300 more. In spite of this and notwithstanding the fact that many among them had penetrating wounds of the thorax and of the abdomen, their general condition was excellent. At first sight it seemed as though they were merely slightly injured. On further examination operative interference was found to be necessary in five cases only. Four men with projectiles superficially lodged were relieved of them under cocaine, while the fifth had a crushed finger amputated. Penetrating wounds of the thorax were treated simply by antiseptic dressing, with rest and the internal administration of codeine. In some instances it was clear that the lung was implicated but the patients nevertheless did well and ultimately recovered perfectly. Dr. Seldowicz consequently feels disposed to classify penetrating gunshot wounds of the thorax among favourable injuries. In three cases where the pelvis was entered a similar conservative course of treatment was adopted with equal success, although in one of them the cavity of the abdomen had also been entered by the projectile. Wounds of the buccal region did well likewise under simple antiseptic measures, notwithstanding the proneness to suppuration so often seen when the mouth has been injured. Several of the invalids had joints more or less shattered by bullets but all recovered with useful limbs. Finally, Dr. Seldowicz comes to the conclusion that the projectile of the Japanese small-bore rifle may be classified as a "humanitarian" projectile, the effects it produces in the human organism being generally unattended by grave disorder.

RUSSIAN MEDICO-POLITICAL MANIFESTO.

On March 8th at the close of a sitting of the St. Petersburg Society of Hospital Doctors (called to consider the threatened invasion of cholera), which was numerously attended, the society carried a threefold motion setting forth that only a united society could hope to cope successfully with the expected invasion of cholera; but that the present conditions paralyse united action and make it impossible to arrest the scourge or to limit the number of its victims; that serious consequences of such a visitation are only to be feared on account of distrust in society which cannot be removed because of the limitations to which the press is subjected and of the absence of freedom of speech; and that more dreadful and extensive cholera riots may occur than in 1892 and that the most important immediate question is the introduction of radical reform.

It is notified that the promotion of an officer of the Indian Medical Service to the rank of major may be accelerated if he produces, while in the rank of Captain, satisfactory evidence of progress in any branch of knowledge which is likely to increase his efficiency, such as obtaining a higher degree or a special qualification of repute, or by furnishing proof of having pursued with diligence and advantage serious study of an approved subject. The period of acceleration that may be granted is fixed at six months provisionally.

It has been decided that the London Military District shall be provided with a completely equipped bearer company and field hospital for training all ranks of the Royal Army Medical Corps in field duties.

Correspondence.

"Audi alteram partem."

APPARENT RECOVERY FROM PRESUMABLY MALIGNANT DISEASE OF THE MOUTH.

To the Editors of THE LANCET.

SIRS,—I have read with interest the case of malignant disease of the mouth reported by Dr. W. Gordon of Exeter in THE LANCET of March 18th, p. 713, having seen a case of apparent epithelioma of the tongue in my practice last year which disappeared entirely and the patient died subsequently from other causes. Unfortunately, as in Dr. Gordon's case, I was unable to have a portion of the growth submitted to microscopical examination.

The following brief notes of the case may be of interest. It occurred in a lady, aged 98 years, totally blind from cataract, toothless, and bed-ridden for the past six years. The beginning of June last year she complained of sore throat, the fauces were very red and swollen, as was also the tongue. She complained of difficulty in swallowing, which caused her much pain, the pain shooting into the ears, especially into the left ear. There was no enlargement to be found of the submaxillary or cervical glands. A small ulcer appeared on the side of the middle third of the tongue on the left side about three millimetres in diameter. I was from home the last fortnight in June until the end of the first week in July and on my return found a ragged ulcer, two-thirds of an inch in extent and a quarter of an inch deep, on the site of the previous small ulcer, with hard cartilaginous borders, the outer border being especially raised and hard. My locum-tenent and I diagnosed the growth to be malignant and this opinion was confirmed by one of the leading Birmingham surgeons who pronounced it as a case of epithelioma and, taking into consideration the age of the patient, agreed that operative interference would not be advisable. The only treatment adopted was boric acid mouth washes and painting over the painful parts with 5 per cent. of glycerine of [illegible] To make a long story sh[illegible] appeared and all the painful [illegible] and throat being normal by the beginning of November. The patient subsequently died at the end of December from general failure.

The question naturally arises, Is it possible that well-marked cancer may disappear spontaneously in some cases irrespective of so-called specific or other methods of treatment? and if so, Are there other authenticated cases on record?—questions which might well be answered by those who have special exp[illegible]

I ar[illegible]

[illegible] OSHUA.

Great Malvern, March 20th, 1905.

EXCESSIVE URIC ACID AS A CAUSE OF MIGRAINE.

To the Editors of THE LANCET.

SIRS,—I have read with great interest a paper by Dr. W. A. Turner on the Nature and Treatment of Epilepsy in THE LANCET of March 18th but would crave a few lines to point out that he is not quite correct with regard to some of the facts as known to me and that in a paragraph near the end of his paper he comes within measurable distance of contradicting himself. On p. 710 he says: "Haig suggested that there was a definite relation between excess of uric acid in the blood and such maladies as migraine and epilepsy, but treatment directed upon this theory has not proved of greater value than other methods of treatment [illegible]" [illegible] that in my experience [illegible] somewhere between 500 and 1000 cases, I should not be over the mark if I said that in all who carried out the treatment correctly for a sufficient length of time the successes amounted to 75 per cent.; in fact, I only know of as many cases as I could count on the fingers of one hand where diet treatment has failed and these, I believe, merely require further investigation to demonstrate the cause of its failure. Then it has been acknowledged by others that abstinence from meat cures migraine.[1] With regard to epilepsy I have had far less experience, but here again among cases which come under treatment in the early years of their trouble quite a large percentage have been completely cured, and of those that come at various later periods many greatly improve, so that both in the diminution of the frequency and severity of the attacks and in the power to dispense altogether with bromides the good results have practically paralleled very closely those with migraine.

On p. 711 Dr. Turner says: "The dietary which has been found most serviceable consists of milk, fresh butter, eggs, fruit, vegetable[illegible] as far as possible eliminated." [illegible] the single exception of e[illegible] white, or even the whole [illegible] is exactly the diet that I have for years been advocating and I should thoroughly agree with him as to the elimination of salt from the food. It is my constant practice to leave it out not only in migraine and epilepsy but in all uric acid troubles and in many of those who live on my diet the desire for salt more or less quickly disappears.

I am, Sirs, yours faithfully,

ALEXANDER HAIG.

Brook street, W., March 20th, 1905.

THE CLASSIFICATION OF INSANITY.

To the Editors of THE LANCET.

SIRS,—To follow Dr. Goodall through his very detailed criticism of the articles on kinds of insanity, &c., that I have been contributing to the *Journal of Mental Science*, would occupy an amount of your space that I can scarcely expect you to place at my disposal, even if it were worth while. Dr. Goodall sets himself to prove that I am inconsistent. By taking a few words here from an author's one book, and a few words ther[illegible] the passages from their con[illegible] not difficult to show that a [illegible] writer I know, who is likely to come consistent through such a trial, is Euclid. And when it is done, what is achieved? The writer is shown to be inconsistent. But perhaps he considers consistency a virtue of low rank in comparison with candour. Perhaps he thinks that it shows less courage and less honesty to maintain with obstinacy an opinion once expressed, than frankly to admit that he has been mistaken. Dr. Goodall contrasts bits of the classification proposed in my articles with bits of the classification formerly proposed in my text-book, and shows that the two are inconsistent. Sirs, they are inconsistent. Dr. Goodall omits to mention that, in these articles, I have myself subjected my own previous classification to destructive criticism, and discarded it. It is not wonderful if the two classifications disagree. Further, criticism directed against my second classification, and making no reference to the purpose of the classification, is misdirected. The articles dealt with certain statistical tables. The classification was made to fit these tables. Things are excluded from the classification, not because they are necessarily inappropriate to some classification, but because they appear in others of the tables criticised, and are therefore redundant in this classification; or because they do not admit of trustworthy statistical treatment. In short, the classification is offered *secundum quid*, and Dr. Goodall treats it as if it had been offered *simpliciter*, a device of notorious fallacy. Dr. Goodall sneers at my statement that "often, but by no means always, there is a septic element in the case" of insanity connected with the puerperium, and implies that I ought to have given exact figures. As he appears to have read my articles, he might have gathered from them that I have no great confidence in the statistics hitherto collected; and one of the sets of figures, given by him in reproof of my inexactness, is worthless on the face of it. He contrasts the "full and orderly" description of senile insanity, given by Weygandt, with my "attenuated" description of the same. My text-book was avowedly written, not for psychiatric experts, but to give to students of general medicine a succinct account of insanity. In such a book a "full" description would be out of place. If Dr. Goodall intended to imply that my "attenuated" description is also disorderly, it would have been more candid to say so, and to point out the disorder. In the pursuit of science, little is gained, I think, by epithetical criticism.

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[1] See, for instance, Dr. W. P. Herringham, St. Bartholomew's Hospital Journal, 1897, vol. i., p. 99.

I am, Sirs, yours faithfully,

March 18th, 1905. CHAS. MERCIER.

TO MEDICAL FREEMASONS.

To the Editors of THE LANCET.

SIRS,—May I through the medium of your widely read columns appeal to medical men, and more especially to medical Freemasons, who are subscribers to the different Masonic charitable institutions for their votes and influence on behalf of the candidates whose names are given below and who are up for the next elections in April and May? The response to similar appeals in THE LANCET in the past has been so liberal as to lead us to hope that all the candidates may be successful. The votes so collected should reach such numbers as to insure this complete success and by organisation alone can such a result be obtained. It is with the object of thus organising the collection and distribution of votes that this appeal is made by the St. Luke's Medical Lodge of Instruction and is supported by the London Hospital Lodges' Joint Committee. Certainly the candidates have especial claims upon medical Freemasons and any votes on their behalf will be gratefully received by our treasurer, Dr. J. Eyre, Wandle House, Wandle-road, S.W., or by myself.

Royal Masonic Institution for Girls (election on April 13th).—Eileen Torrens, daughter of the late James Torrens, M.D., M.Ch., of Bridgnorth, Salop; and Mary Trevor Webster, daughter of the late Trevor Webster of Bawdley, Worcestershire.

Royal Masonic Institution for Boys (election on April 14th).—Alfred Montague Burns, son of the late Alfred Hugh Burns, L.R.C.P. Irel., L.S.A., of Margate; Charles Robert Hughes, son of the late David Arthur Hughes, M.R.C.S., L.R.C.P., D.P.H., of Barmouth, N. Wales; and Cyril Ernest Hockley, son of the late Edward Robert Hockley, surgeon dentist, of Northfleet, Kent.

Royal Masonic Benevolent Institution for Aged Freemasons and Widows of Freemasons (election on May 19th).—Joseph Rickets, L.R.C.P., L.M. Edin., L.F.P.S. and L.M. Glasg., of 8, Hornby-avenue, Bootle; Elinor Gartley, widow of th late John Alexander Gartley, dental surgeon, of Glouceste road, Kew.—I am, Sirs, yours faithfully,

HAROLD S. SINGTON,
Secretary, St. Luke's Medical Lodge of Instruction.
44, St. Mary's Mansions, W., March 14th, 1905.

PERITONITIS: A BACTERIOLOGICAL STUDY.

To the Editors of THE LANCET.

SIRS,—In view of the interesting results obtained by M L. S. Dudgeon and Mr. P. W. G. Sargent in their bacteri logical study of peritonitis I feel disposed to ask a questi of them. Do they regard their results as disproving th possibility of an appendicitis due to the bacillus influenza Several clinicians have attempted to classify some cases appendicitis (or perityphlitis) as of influenzal origin, an have suggested that such may in part account for the allege increased prevalence of the complaint. In this connexion discussion at the Académie de Médecine on July 5th, 1904, is of interest, as is also an observation by Mr. H. C. Allinso of King's Lynn on a case of extreme congestion in th cæcal region which he considered to be of influenzal origin.[1]

Perhaps the cases examined by Mr. Dudgeon and M Sargent were not such as might even have been su pected to be of influenzal origin. Perhaps the cultur methods adopted were not such as would favour the growt of the bacillus if present. But some of us must have not of cases which make us unwilling to give up the theory th as the influenza bacillus may cause severe gastric symptom so it may at times cause an appendicitis.

I am, Sirs, yours faithfully,

A. CHRISTIE REID, M.B., Ch.B. Aberd.

Thurnscoe, near Rotherham, March 14th, 1905.

THE REMISSION OF INCOME TAX O INSURANCE PREMIUMS.

To the Editors of THE LANCET

SIRS,—In THE LANCET of March 11th, p. 663, there appea an article entitled "Hints on Income Tax Assessment," in th course of which your contributor mentions the deduction income tax from insurance premiums. I beg leave to ca your attention to the following sentences which occur in h paragraph on this subject. "It is important to notice this connexion that it is only premiums paid to an Engli insurance company or to an approved colonial compa which may be deducted. Thus a premium paid to American or other foreign company would not be allow for."

This statement is, unfortunately, misleading, althoug absolutely correct as far as the Inland Revenue authoriti are concerned. The British Government, for reasons be known to itself, chooses to remit the income tax only home and colonial office premiums. But I am sure that fairness you would wish to complete the information yo have given by letting your readers know that my ow company, the Mutual Life Insurance Company of Ne York, offers the same benefits and grants the sa privileges as regards income tax to its policy-holders they would receive if insured in a purely British compan I am well aware that the recovery of income tax is important consideration to many people when taking o insurance policies and it is for this reason that I take t opportunity of correcting a statement which is apt to crea a totally wrong impression in the minds of your readers regards the Mutual Life Insurance Company of New York.

I am, Sirs, your faithfully,

D. C. HALDEMAN,
General Manager.

March 18th, 1905.

*** We publish Mr. Haldeman's letter but he is n justified in calling our remarks "misleading." A compan by private arrangement with its clients, may place the clients in any position that it likes. The general regulatio of the Inland Revenue authorities remain as we quot them but there is nothing to prevent a company from co tracting itself outside the regulations.—ED. L.

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[1] See THE LANCET, July 23rd, 1904, p. 257.
[2] Brit. Med. Jour., July, 1903.

THE MEDICAL CONTROL OF SCHOOLS AT NEW YORK.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

IN spite of the ever-increasing influx of immigrants and the consequent crowding and overcrowding the city of New York can boast of a decreasing death-rate. Of course, many causes contribute to bring about this happy result. It is, however, quite safe to say that of the various measures taken the most recent and probably the most successful are those which have for their object the prevention of schools becoming centres of infection and of contagion. In England the President of the Board of Education has appointed, with the concurrence of the President of the Local Government Board, an inter-departmental committee not only to inquire into the feeding of school children but also "to ascertain and report on what is now being done, and with what result, in respect of medical inspection of children in public elementary schools." In these circumstances the experience acquired at New York on almost identically the same lines is likely to prove of use and of interest. The elaborate series of precautions now enforced at New York were not devised in a day. As is usually the case in such matters they were slowly evolved and extended as experience proved the need of each successive development. It was in March, 1897, that the medical supervision of the schools of the city of New York was placed under the control of the department of health. This is the equivalent to placing the sanitary control of schools in England under the medical officer of health and the health committee of the borough or town council. In October, 1896, the New York sanitary authorities caused an investigation to be made and a report to be presented on the influence exercised by schools in the spread of epidemics. The homes of the children absent from school were visited. It was then ascertained that many of these absentees were suffering from infectious or contagious diseases. There was also and not infrequently good cause to suspect that the complaint had been caught while attending school, particularly as other members of the same household were found to be at school in spite of the sickness which prevailed in their homes. In some cases of diphtheria a child would return to school as soon as the more acute symptoms had disappeared. Some of these children were traced to school and a culture was taken from the throats of those who had returned to school because they were suffering only from slight sore-throat. Bacteriological examination clearly revealed the presence of the Klebs-Löffler bacilli. The same danger occurred in regard to scarlet fever and, with the inquisitiveness of children, it was found that the peeling from the hand had been passed round a class-room for inspection.

The report containing these and many other conclusive facts was submitted by the board of health to the board of estimate, or presumably what would be called in England the finance committee of the county or borough council. The finance authority with commendable promptitude voted a subsidy sufficient to pay 150 inspectors at a salary of £6 per month. These inspectors had one or two schools to visit each school day at about 9.30 A.M. As the children arrive at the school the teachers stop and send to an office any child whom they suspect of being unwell. The children thus detained do not enter the class-room but are kept in a sort of quarantine till the arrival of the inspector. The schools are all connected by telephone with the central offices of the department of health. The school inspector on examining the children detained by the school teachers is thus able to telephone to headquarters, so that a physician may be sent at once if there seems to be a case of contagious disease. If the suspicions first of the school teacher and then of the inspector are confirmed by a medical officer sent by the department of health the authorities of the school are duly informed so that they may exclude all members of the patient's family and inspectors visit the child's home to see that the patient is properly isolated. A district sanitary inspector then takes over the charge of the case which he has to visit at least once a week. The sanitary inspector shows the family how they are to isolate the patient and pastes a notice on the door of the apartment warning all who may be about to enter as to the nature of the contagion within. Further, it is the duty of the inspector to call on all the other [illegible] them of [illegible] family a[illegible] sleeps at the back and close to a shop or place of business the patient must be removed to the hospital or the business closed. In either case the premises must be fumigated before business is resumed. When the patient is sent to the hospital then the other children may go to school after the disinfection of their home. But such regulations would be set aside by many thoughtless or ignorant people if there were no stringent means of enforcement. At New York, if the patient is allowed to leave the room where he is isolated or the shop is opened for business, or if the notice is removed from the door, a police officer—and there is a special corps of policemen known as the health squad reserved for such purposes—is appointed to watch over the case. He puts up another notice which has an addendum to the effect that the patient will be forcibly removed if there is any further infringement of regulations. This seems a rather mild proceeding. In England wilful exposure of infected persons may be punished by a fine not exceeding £5 and imprisonment not exceeding three months. Yet it is stated that forcible removal of such cases to a hospital is not a frequent occurrence at New York.

If the school inspector suspects the presence of diphtheria he has with him all that is necessary and at once takes a swab from the throat or nose. On a blank form, likewise ready to hand, he inscribes: (1) the number of the swab, whether it is the first, second, or third specimen taken; (2) the school number; (3) the date on which the swab was taken; (4) the name of the child; (5) the address of the child; (6) whether exudate is present in the throat; (7) how long sick; and (8) the address, the name, and the telephone number of the school inspector. The child is, of course, excluded from school till the answer has been received from the bacteriological laboratory. The specimens are taken in the morning and therefore are in the hands of the bacteriologists by 2 P.M., when the examination commences. There are two culture slips. Each is affixed to a separate tube and kept in an incubator all night. The next morning they are examined and according to the result marked "L. present," or "No L.," or "Doubtful, another culture required." In the latter case, of course, the pupil is not allowed to return to school till the further examination is completed. Formerly all such protective measures depended on the acuity of the school teachers and they rendered great service but had not the necessary authority to exclude doubtful cases. Now, on the contrary, the medical inspectors very rigorously exclude these doubtful cases. Also carefully prepared lists are sent every day to every school so that the teachers may see at a glance all cases reported to the department of health and find if any are likely to attend their schools. If a child from an infected home is present the fact is thus at once detected and the child is immediately sent away. In this manner the children have been to a large extent protected from contact with such diseases as measles, diphtheria, scarlet fever, and so forth. Under this system and during the school year, September, 1901, to June, 1902, consisting of 194 school days, 47,679 visits were paid to 266 schools, with an average attendance of 260,182 pupils. Of these 87,730 were examined and 9703 were excluded from the schools. The diseases and complaints reported were as follows: measles, 85 cases; diphtheria, 94; scarlet fever, 34; whooping-cough, 174; miscellaneous, 526; contagious [illegible] and body, 4125; [illegible] miscellaneous

The great defect of this system is [illegible] first and most difficult diagnosis depends upon the perspicacity of the school teacher. It is the correctness of the earliest diagnosis which alone can save the school from the danger of infection and yet it would be manifestly unfair to blame a school teacher if he failed to detect early symptoms. Therefore a better organisation was planned and put into operation in September, 1902. Inspectors were appointed, approximately one inspector for every 5000 children. If the distance between the schools is greater than usual then a smaller number of children are assigned to the inspector of such a district. Each inspector has to visit all his schools before 10 A.M. He then has to examine all children isolated by the teacher for fear that they may be sickening with some contagious disease. He must further examine all children who have been absent from school for a few days and all children excluded from school attendance. When this is terminated the inspector proceeds with his periodic inspection of all the children. This inspection is carried forward under certain fixed regulations. The inspector must on entering a class-room place himself with his back to a window. The children then march past him in single file. On no account must he touch any of the children. The children are taught to pull down their own eyelids and to open their mouths wide. If there is anything suspicious the children are sent to the office, where they are subsequently and thoroughly examined. Thus there are two sorts of examination, first, that of the children who are suspected of being ill and consequently have not been allowed to enter the class-room; and secondly, that of the children who are believed to be in good health and who are in the class-room. The latter are not inspected every day. The inspectors visit each day different class-rooms and so divide this work as to be able to see every apparently healthy child about once a week. When there are any signs of measles, scarlet fever, diphtheria, small-pox, varicella, whooping-cough, rötheln, mumps, or acute catarrhal affections of the eyes, nose, and throat, the pupil is given an exclusion card on which are inscribed his name, age, residence, and the number and address of his school. This card is placed in a special envelope provided by the department of health and sealed. With this the child is sent home and no one but the parents or the guardians of the pupil has the right to open the envelope. In cases of measles and scarlet fever the school inspector telephones to the central office of the department and a medical officer is despatched by the sanitary authority to confirm or otherwise the school inspector's diagnosis and thus to justify the subsequent rigorous measures which have to be enforced and which have been described above. The inspector must also visit at their own homes all children who have been absent for a few days from school for no known and sufficient reason. By this means a great number of unreported cases of contagious disease are discovered. Thus by visiting absentees from Nov. 2nd, 1903, to May 12th, 1904, no less than 561 cases of measles and 107 of German measles were discovered, together with 70 cases of scarlet fever, 81 of chicken-pox, 19 of diphtheria, 25 of whooping-cough, 24 of mumps, two of pneumonia, and three of typhoid fever.

While the school inspectors thus penetrate into the homes of absentee pupils and often make useful discoveries, other inspectors not connected with the schools, such as the tenement house inspectors, also report any case of contagious disease which they may encounter to the department of health which in its turn warns the school authorities. In this manner many more cases have been reported, so that, judged by the statistical results, it would seem as if there had been a considerable increase in sickness. But as the death-rate does not increase in proportion it may safely be inferred that there has only been increased efficiency in notifying cases and not in the actual number of cases. Of the enormous amount of work done the following figures give an idea. For the school year 1902–03 there were 188 days during which a daily average of 287,592 pupils attended 263 schools. These schools were visited 62,298 times, the pupils were examined 6,236,336 times, and 41,826 were excluded in consequence of ill health. The diseases for which these children were excluded were 510 suspected cases of diphtheria of which 416 proved to be true cases. There were 45 cases of suspected scarlet fever of which 22 were genuine. Measles gave 94 true out of 168 suspected cases and varicella 528 out of 673 pupils excluded. Then there were 201 cases of pertussis, 4728 miscellaneous cases, 8678 cases of pediculosis, 25,264 cases of contagious eye diseases, and 1561 of contagious skin diseases.

Perhaps one of the greatest practical difficulties is the presence of vermin. Thus the very complete and able report of the New York city department of health on the question of the schools states that on the first day at the beginning of the year for which the figures have just been given no less than 1886 children were sent away for pediculosis. This, it is pointed out, caused the greatest indignation among the parents. Those parents whose children had been excluded were angry and those whose children had not been excluded were still more angry, so that everybody was discontented. The majority of the parents were indignant that their children should be brought into contact with other children whose heads were not clean. So great was the clamour that the authorities started an investigation in order to ascertain what precautions were taken to separate
the children's outer garments. It was found that the accom
modation provided was far from satisfactory. The idea
would be a separate wardrobe locker for each child and i
default it was suggested that it would be better for eac
pupil to put his overcoat on a shelf under his desk than t
hang it up promiscuously on pegs with other children'
clothing. As a result of the publicity given to this questio
some improvements are taking place. Then the prevalenc
of contagious diseases of the eye led to inquiries as to th
methods employed for keeping free from infection the pens
pencils, and drawing materials used by the pupils. Eac
school inspector received the following form which h
was requested to fill up: "School number. Number o
classes in school. Number of classes using envelopes
Number of classes using antiseptic pencil-holders. Numbe
of classes using individual boxes or bags. Number of classe
in which each pupil has his or her own pencil; no collectio
or distribution at all. Number of classes in which pencil
are marked for identification but collected in a common box
Number of classes in which pencils are collected and distribute
indiscriminately each day." The information obtained i
response to these questions was not encouraging. Th
majority of the principals and the teachers had neve
thought of these questions at all. They had not displaye
any concern as to the care of pencils, &c., from the sanitar
point of view. But there were some teachers who used i
their own classes modern contrivances for keeping separatel
each child's writing materials. For this purpose the depart
ment of health recommends the use of a large manilla en
velope. The child's name can be written on the outside. Thes
envelopes are distributed to their owners at the beginning o
the class and the pencils, &c., are placed inside after th
class is over. When this is done and the envelopes are fastene
with a clasp they can be collected and stored away. But i
is preferable for each child to have a drawer in his desk an
to place the envelope in that drawer. In consequence of th
report which had been drawn up when the inspectors ha
filled in the form quoted above the Board of Educatio
purchased a large quantity of manilla envelopes, distribute
them to the teachers, and called upon them to see that th
pupils' pens and pencils were kept inside these envelopes an
not mixed together. As for the school books, those that hav
been used by children suffering from contagious disease mus
all be destroyed. Thus much greater care is now take
to prevent school materials, books, pencils, &c., becoming
vehicles for the transmission of disease.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Hospitals: Annual Reports.

THE 125th annual report of the General Hospital wa
presented to the governors on Wednesday last. An advers
balance of £1297 on the year's working was reported despit
the fact that, through the generosity of Sir John Holde
who has provided a laundry at Erdington, the annual ex
penditure on washing has been considerably curtailed. Th
deficit was attributed to a falling off in the subscriptions an
to the new method of distributing the Hospital Sunda
Fund. Formerly the hospital received every third year th
whole sum subscribed during that year; now the hospita
receives a definite proportion of each year's total, a
arrangement by which it is the loser. Dr. E. Rickards wa
warmly thanked for his valuable services, extending over
period of 30 years, and he was elected an honorary consultin
physician. The endowment of three beds during the year i
memory of deceased friends was remarked upon with satis
faction and gratitude and a hope was expressed that s
excellent a method of commemoration would find numerou
imitators. The report contained the interesting statemen
that only four hospitals in the whole of the United Kingdom
treated a larger number of out-patients annually. This wa
explained as due to the fact that the staff of the hospita
was frequently called upon to attend to trivial injuries an
to patients who could well afford to call in medical practi
tioners. At the Queen's Hospital a more satisfactor
condition of affairs obtained, for while the work i
both the in-patient and the out-patient departments ha
increased the subscriptions had also increased. On accoun
of the great pressure put upon the accommodation by th

large number of patients it was felt that some extension of the premises must be made and with that in view the committee of management has secured certain adjoining property The appointment of Mr Priestley Smith as honorary consulting ophthalmic surgeon was confirmed and warm testimony was borne to his valuable services during the long period he has been connected with the institution The Moseley Hall Convalescent Hospital at its annual [illegible] the amount of work and in [illegible] tter are still inadequate to [illegible] balance on the year being £259 At the meeting a desire was expressed that shelters in the grounds should be erected for tuberculous patients In each of the above annual reports it was suggested that the inhabitants of the neighbouring towns who benefited largely by the charities might subscribe more generously than they do at present

The Birmingham Hospital Saturday Fund

The executive committee of the Birmingham Hospital Saturday Fund was able to report at its annual meeting that a larger sum had been subscribed during the last year than ever before in the history of the fund, the sum raised was £18 643 There was a balance of over £1000 on the year s work. In addition to giving £10,000 yearly to the various Birmingham medical charities this excellent fund supports three convalescent homes at which no less than 2591 men, women and children have resided during the year To clear off a debt of £10,000 on one of the homes the committee has promoted an exhibition of the industrial arts of Birmingham by means of which it hopes to raise a substantial sum

The Adjourned Licensing Sessions

In a former letter it was stated that the members of the licensing committee had decided to "report ' 36 houses in Birmingham as possessed of licences which might with advantage to the city be removed At a later and final meeting this number has been reduced to 27, 16 of which are in the Floodgate street area where it is stated there is at present one licensed house to every 112 persons Of the nine licences which it was decided not to proceed against two have already been surrendered and the objections to the others were withdrawn In deciding which to "report attention was paid to the number in the neighbourhood and to the reputation and sanitary condition of the houses Whether all the 27 houses will have their licences removed or not depends now upon the amount of compensation to be paid and on the size of the fund

The Birmingham Board of Guardians

In order to remove pauper children from workhouse associations and also to relieve the pressure upon the accommodation the board of guardians has been recommended by a committee which has had the subject under consideration to purchase a site for the accommodation of those children particularly whose parents are known as ins and outs from the frequent periodic visits which they make to the workhouse In connexion with the projected labour colony for Birmingham a deputation from the Birmingham Aston and King s Norton unions is to pay a visit of inspection to the colony at Poplar

The Treatment of Sewage at Wednesbury

A new system of filtration has been instituted at the sewage farm belonging to Wednesbury The filter is made of coal has a superficial area of 500 square yards and is capable of dealing with 75 000 gallons per day According to Dr A Bostock Hill the percentage of purification effected is probably as high as at any works under similar conditions in the country It is stated that fish turned into the effluent are thriving in it

The Health Committee and ' Humanised Milk

Reverting to the proposed supply of "humanised milk in Birmingham the authorities although impressed by the advantage of the scheme carried out by the Liverpool corporation, are of opinion that it will involve too great an expenditure of public money They have been unable to come to any arrangement with the local milk vendors who consider that at the price at which the milk must be sold the profit would be insufficient The further consideration of the subject has been deferred

The Health of Birmingham

The death rate for the week ending March 4th was 16 2 and the zymotic death rate was 1 4, the increased mortality was due to whooping cough and pulmonary tuberculosis No fresh case of small pox was notified, there were four patients suffering from this disease in the hospital For the week ending March 11th the death rate was 16 8 and the zymotic death rate was 0 9 One fresh case of small pox was notified and removed to the hospital The number of patients in the scarlet fever wards showed an increase from 195 to 204

March 21st

LIVERPOOL

(FROM OUR OWN CORRESPONDENT)

Dr A T H Waters's Jubilee of Membership of the Liverpool Medical Institution

AT the ordinary meeting of the Liverpool Medical Institution held on March 16th an address of congratulation to Dr A T H Waters on the attainment of his jubilee of membership of the society was moved by the President (Dr James Barr) seconded by Dr William Carter, and carried by acclamation The terms of the resolution were as follows —

> We the member [illegible] on wish to offer to Dr Alderman [illegible] ere congratulations on his attai [illegible] this institution of which he is [illegible] trust that he may be long spar [illegible] of a ripe and mature age We fully recognise the importance of his valuable contributions to medical literature which secured for him a wide reputation and shed lustre on the Northern Hospital, the Royal Infirmary and the Liverpool Medical School with which institutions his life-work had been closely associated Dr Waters has witnessed and shared in the great improvements which have taken place in medical practice during the past half century and he still shows the same keen interest as of yore in the advancement of the profession of which he is an honoured and a distinguished member He took an active part in the growth and development of the British Medical [illegible] honoured at [illegible] d general [illegible] ng spared

Extensions at the University of Liverpool Generosity of Mr F K Muspratt

At the last meeting of the Council of the University an offer was received from the president of the Council (Mr F K Muspratt) to provide for an extension of the chemical [illegible] cost, including equipment of [illegible] to say, was gratefully accepted [illegible] vote of thanks to Mr Muspratt was passed recognising the services rendered both by himself and by other members of his family in promoting the study of chemical science in Liverpool The following contributions for the extension and maintenance of the chemical department were also acknowledged by the Council —£100 a year for five years from the United Alkali Company, £100 from Mr George Wale of West Kirby, and £100 from Mr Thomas Threlfall of London

Country Hospital for Children at Heswall Gift of an Operating Theatre

About the middle of last year the committee announced that £30 000 had been collected of which £20,000 were for building and the balance was for a maintenance fund By a resolution passed in 1901 no building operations were to be commenced until £30 000 had been collected and it was expected that building operations would be commenced in the spring of 1905 It was intended at first to erect the central block which was estimated to cost £25 000 and which with slight alterations would accommodate from 60 to 70 beds [illegible] £20 000 will only partly provide for the central block [illegible] the necessary funds [illegible] t wards as it [illegible] plications and feels confident from the [illegible] the good results obtained from the small scale on which it is at present working at West Kirby that such a hospital is very urgently needed The committee hopes to receive building tenders in about six weeks The hospital will be unique in character and form Its shape will be that of the letter H the crosspiece representing the central block, consisting of dining rooms playgrounds &c while the wings will contain the wards When completed the building will be capable of containing 200 beds In response to an appeal made by Colonel Montgomery at the town hall last week, in his capacity as chairman of the Liverpool Country Hospital for Children, for a donation of £1000 in order to provide a clock tower for the new building about to be erected at Heswall, or for a similar sum to fit up and to complete an operating theatre, already a gratifying result has taken place. Mr. Holbrook Gaskell has intimated his intention of contributing £1000 towards the erection and complete furnishing of such a theatre. It is not too much to expect that a donation for the clock tower may soon follow.

Children's Convalescent Home, West Kirby.

The need of a nurses' home attached to this convalescent home is felt more and more and as the lease of the house at present rented for the nurses has not long to run the committee expressed the wish at the annual meeting of the supporters of the institution that an effort should shortly be made to raise £2000 for the erection of a permanent nurses' home on the grounds of the institution and connected with the main building. The number of children admitted to the home last year was 1191. The average number of cots occupied was 107. The total number of days spent by the children in the home during the year was 38,945. The year began with a debit balance of £182 and on Dec. 31st last the debt was £162. Subscriptions show a slight increase.

March 21st.

WALES AND WESTERN COUNTIES NOTES

(From our own Correspondents.)

Swansea Asylum.

When the Glamorgan asylum was established at Bridgend in 1864 it served the whole county, the population of which at that time was about 350,000. In 1901 the population numbered 860,000 and one result of this very considerable increase has been the decision of the county council to keep the Bridgend institution exclusively for patients from the administrative county. The Cardiff corporation is building a new lunatic asylum for Cardiff lunatics and the Swansea corporation has had notice to provide for those in Swansea. In connexion with the latter town it has been suggested that additions might be made to the recently erected Brecon and Radnor Asylum at Talgarth so that Swansea lunatics could be accommodated there. Talgarth is about 50 miles from Swansea and there is direct railway communication between the two places. The town clerk of Swansea has reported upon the proposal and he suggests that the 360 beds at Talgarth should be increased to 650, of which number the counties of Brecon and Radnor should be entitled to 350 and the county borough of Swansea to 300. The capital cost to Swansea of this scheme would be about £84,000, or some £40,000 more than Swansea is to receive from Glamorgan upon the dissolution of the partnership between the county borough and the county.

Bristol Hospitals.

The Bristol Royal Infirmary was established as long ago as 1735 and at the annual meeting of the board of management it was reported that the income received during 1904 exceeded that of the previous year by £750. There is still, however, an accumulated debt of £15,500. One very pleasing incident of the year was the receipt of a legacy of £142 from a former in-patient who, after devoting a small sum for the erection of a tombstone to her father and mother, made the trustees of the Royal Infirmary her residuary legatees.—The annual report of the Bristol General Hospital, which was established nearly 100 years after the infirmary, records an income for 1904 of £13,218 and an expenditure of £12,654. The number of in-patients treated was 2344, or 250 more than in the previous year.

Brentry Homes for Inebriates.

The management of the inebriates' homes at Brentry, near Bristol, has from time to time met with some adverse criticism. For several years there was a loss upon each year's working and in 1902 there was an accumulated debt of over £6000. The county and borough and district councils in the districts from which patients were sent to the homes contributed varying sums to extinguish the debt and the institution is now in a much more satisfactory condition. The report for 1904, which has just been issued, shows that the weekly cost per head of each inmate was only 13*s.* 8*d.*—a sum which compares favourably with that expended in similar institutions. The medical superintendent (Dr. David Fleck) gives an encouraging report of the work done during the year. He states that 41 of the 69 patients discharged from the homes during 1904 are doing well and appear to be cured completely.

Cardiff Infirmary.

Since the year 1862 successive mayors of Cardiff have each contributed 50 guineas to the funds of the Cardiff Infirmary but no contribution has hitherto been made directly from the corporation rates. As the result of an application from the secretary of the infirmary the corporation decided on March 13th to subscribe 200 guineas to the institution. A motion was proposed to make the grant an annual one but in the end it was decided to leave the corporation free each year to continue the contribution or not.

Visit of the Prince of Wales to Cardiff.

It is announced that the Prince and Princess of Wales will be the guests of Lord Windsor at St. Fagans at the end of June and that on June 28th the Prince, who is Chancellor of the University of Wales, will lay the foundation-stone of the new University College buildings in Cathays-park, Cardiff.

Health of Aberystwith.

In his recently issued annual report the medical officer of health of Aberystwith (Dr. A. Thomas) draws attention to the great scarcity of houses for working men in the town The water-supply is ample, the storage supply being equal to a ten months' supply, even reckoning a daily consumption of 25 gallons per head of the population. The birth-rate in 1904 was 24 per 1000 and the death-rate was 13·4 per 1000

The Queen Victoria Jubilee Convalescent Home, Bristol.

One of the last public ceremonies attended by the late Queen Victoria was in connexion with the opening of the convalescent home situated on the downs above Bristol. One of the principal reasons for the establishment of the home was to free the beds of the general hospitals in the city and during last year 504 patients were received from the Royal Infirmary and 482 from the General Hospital, while 577 patients came from elsewhere. The weekly cost per head was 14*s.* 9*d.*

The Devon County Council and the Treatment of Pulmonary Tuberculosis.

At the meeting of the Devon county council held on March 16th it was stated that the council did not at present propose to take any further steps towards the provision of a hospital for Devonshire for the treatment of pulmonary tuberculosis.

March 20th.

SCOTLAND.

(From our own Correspondents.)

Girgenti Inebriate Reformatory.

This reformatory, which is also known as "Girgenti Home," is under the control of the corporation of Glasgow and is situated at Irvine in Ayrshire. It is licensed for females only, and has accommodation for 58 inmates who are sentenced for three years under Section 24 (1) of the Inebriates Act of 1898 which authorises the detention of habitual drunkards who commit certain specified offences for the fourth time within a year. The report for the year ending Dec. 31st, 1904, shows that there were 39 inmates in the home at the beginning of that period and that there were 10 new admissions during the year. The first inmate was admitted to the home on Jan. 29th, 1901, and during 1904 the sentences of three years' detention expired in the case of 29 inmates who were accordingly discharged. Inquiries made as to the conduct of these women subsequently to their discharge led to them being classified as follows: doing well, nine; hopeful, six; doubtful, seven; and hopeless, seven. During the year four patients were transferred to the State reformatory at Perth on account of their refractory and pugnacious behaviour. The expenditure was equal on the average to £72 14*s.* 1*d.* per inmate per annum. The report by Dr. John Cunningham of Stewarton, medical officer of the home, refers at considerable length to a "special drug treatment" for inebriety but no information is given as to its nature.

Extension at the University of Aberdeen.

The building of the extension of Marischal College goes on apace. At a meeting of the University buildings committee on March 14th an important improvement of the plans of the masonry, which will have the effect of enhancing the appearance from the quadrangle of the architecture of the main gateway and the portion of the buildings in which the library is to be situated, was agreed to. The parapet over the gateway, instead of being plain as originally proposed, is now to be panelled and the flanking towers are to have 22 feet added to their height and are to be finished with granite domes to harmonise with those of the existing towers on the north and the south sides of the quadrangle. The pediment over the gateway is to be brought further forward than was originally intended in order to show better the rich moulding of the parapet, while the altering of the pitch of the pediment will also show the dome-capped towers to better advantage. The masonry of the front wall facing Broad-street has now reached the top of the fourth floor and there now remains only that of the fifth floor to be erected. It is expected that the whole of the masonry will be completed by the autumn.

Appointment of an Aberdeen Graduate.

Dr. Arthur Robertson Cushny has been appointed to the chair of pharmacology and materia medica at University College, London. Dr. Cushny is the fourth son of the late Rev. John Cushny of Speymouth and afterwards of Huntly and graduated with highest honours at Aberdeen in 1889, carrying off the Thomson travelling scholarship and the Murray medal, besides numerous other distinctions. After two years spent at the Universities of Berne and Strassburg, mainly in the study of pharmacology, he was offered and accepted the chair of materia medica and pharmacology at the University of Michigan. Of his work there the *Journal of the American Medical Association* says: "During his 12 years of residence in this country he has made many valuable original contributions to the science of his special subject. Some of his most important papers have been those bearing on the action of digitalis, caffein, &c. He has recently contributed to the English *Journal of Physiology* a series of researches on the physiology of, and the effect of medicinal agents on, the kidneys. He has made valuable contributions on the physiology of the mammalian heart and the interpretation of pulse tracings. His text-book on pharmaco[illegible] and has already passed [illegible] from this country [illegible] the most thorough scientific investigators in medical science." Dr. Cushny will enter on his new sphere of work in London in May.

March 21st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish Medical Association.

Surgeon-General G. J. H. Evatt's report upon the position of dispensary medical officers is still a subject of dispute. The author has recently addressed a letter to the daily papers in justification of the attitude which he has taken and of the statements which he has made. He claims that his report should be published in full. The same opinion is expressed by some members of the Irish Medical Association, while others point out in the press that the report has never been adopted by the association and that it might well remain as a record of Surgeon-General Evatt's opinions on Irish medical affairs.

City of Dublin Hospital.

The annual meeting of the friends and supporters of the City of Dublin Hospital was held on March 14th. The Hon. Mr. Justice Barton occupied the chair and there was a large attendance which included Her Excellency the Countess of Dudley. Mr. Arthur Benson in seconding the adoption of the report said that although there was accommodation for 140 beds they were only able to maintain 100 owing to insufficient funds.

Royal Veterinary College.

His Excellency the Lord Lieutenant visited the Royal Veterinary College on March 16th and was received by the President, Sir Christopher Nixon, M.D. R.U.I.

Viceregal Visit to the Richmond Hospital.

His Excellency the Lord Lieutenant paid a visit to the Richmond Hospital on March 16th and was received by the board of governors and by the members of the medical staff.

The High Sheriff of Belfast.

As announced in THE LANCET of March 4th a medical man, Councillor Henry O'Neill, M.D. R.U.I., J.P., barrister-at-law, has become High Sheriff. His first duty as High Sheriff has been to try to bring the Belfast court-house into a decent sanitary condition. Early on the day in which the Belfast assizes opened he accompanied the sanitary staff of the city corporation over the whole place and had it thoroughly cleaned and disinfected.

Dispensary Medical Officers' Salaries.

The medical officers of the Coleraine union have asked the board of guardians to reconsider the scale of salaries proposed by them. This scale is for dispensary and workhouse medical officers—minimum salary, £90, increasing by £10 at the end of every five years' service until a maximum of £140 is reached. The Local Government Board has also advised the guardians to reconsider their proposal after further conference with the medical officers, as the scale proposed would not treat fairly medical officers who have large and populous districts and who have long periods of service. The guardians have decided to reconsider the matter on April 1st.

March 21st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Hepatico-gastrostomy.

AT the meeting of the Surgical Society held on March 8th M. Tuffier related the case of a woman, aged 39 years, on whom he had performed the operation of hepatico-gastrostomy on account of chronic jaundice. On opening the abdomen the gall-bladder was found to be distended by a colourless liquid and evidently did not communicate with the bile-duct. Between the hepatic duct and the common bile-duct there was a small tumour. M. Tuffier incised the hepatic duct and made an anastomosis between it and the anterior wall of the stomach. Eight days later a biliary fistula appeared and the patient left the hospital in an advanced state of cachexia.

Inoculation of Leprosy in the Monkey.

At the meeting of the Academy of Sciences held on Feb. 20th M. Charles Nicolle gave an account of some experiments on the inoculation of leprosy which he had carried out in monkeys. One was a Chinese bonnet monkey and the other was a macaque monkey. They were inoculated in the ear with fragments of tissue from a generalised case of tubercular leprosy. On the sixty-second day nodules appeared in both monkeys at the site of inoculation—namely, on the ear. Two weeks later one of these nodules was excised and was found to contain Hansen's bacilli. The bacilli-bearing cells were smaller than those which have been found in specimens excised from human beings but M. Nicolle attributes this to the lesions in the monkey having been at a very early age.

The Dangers of Overfeeding in Cases of Suspected Tuberculosis.

At a recent meeting of the Therapeutical Society M. Bardet read a paper on the above subject. He cited the case of a patient who on account of loss of weight and some pulmonary symptoms was considered to have tuberculosis and who was therefore sent to Montreux. Here he mended rapidly so that the local practitioner denied the existence of tuberculosis. Returning to Paris he continued his overfeeding and had no cough or at least only a "hysterical" (*quinteuse*) or nervous cough. Nevertheless he suffered extremely, being prone for many months to crises lasting for variable periods of time signalised by wandering pains which were most commonly felt in the neck, the jaw, or the upper part of the back. So severe were these pains that his medical advisers began to suspect the existence of tuberculous disease of the spine. The real explanation, however, turned out to be auto-intoxication from overfeeding in a patient affected by latent dyspepsia. This condition it was which gave rise to the cough and the neuralgia. Whenever he lost weight the cause was dyspepsia. M. Bardet therefore put him on a strict regimen. According to the patient's statements the total amount of his food could be estimated [illegible] mean of 5000 calories per diem [illegible] M. Bardet considered that he [illegible] calories and 60 grammes of [illegible] patient had gained three [illegible] kilogrammes in weight while the cough and the pains disappeared. M. Bardet argued that this case showed

ROYAL METEOROLOGICAL SOCIETY.—An interesting exhibition of meteorological instruments arranged by this society was held from March 14th to 17th in the library of the Institution of Civil Engineers, [illegible] street, Westminster. The chief feature was th[illegible] of recording instruments and also the methods adopted for ascertaining the meteorological conditions in the upper air. The instruments used by Mr. J. Glaisher, F.R.S., in his famous balloon ascents for the British Association for the Advancement of Science, 1862–66, were placed in position on the board as used in the car of the balloon. Mr. W. H. Dines exhibited the kites and meteorograph used by him at Crinan and Mr. W. S. Bruce showed the camera and meteorograph used with kites in the Scottish Antarctic expedition. The thermometers, anemometers, and sunshine recorders used on board the *Discovery* in the recent National Antarctic expedition were also exhibited as well as a number of beautiful water-colour drawings of sky and cloud effects in the Antarctic regions made by Dr. E. A. Wilson. Mr. J. L. Thomas exhibited a life-size "dummy" dressed in the remains of the clothes of a man who was struck by lightning near Cardiff on July 17th, 1903. M. Richard of Paris showed a collection of most of his self-recording instruments and Mr. Halliwell of Southport exhibited his new rain-gauges, anemometers, and evaporation tank. The Royal Meteorological Society arranged in a railed-off inclosure a typical climatological station. The Meteorological Council also showed in position the photographic barograph and the Beckley self-recording rain-gauge which were recently in use at the Fort William observatory. Many other instruments were shown as well as a large collection of photographs, records, drawings, maps, &c., illustrating meteorological phenomena.

AMBIDEXTERITY IN ART.—On March 16th, in the rooms of the Royal Statistical Society, Adelphi-terrace, London, W.C., Sir William Richmond, K.C.B., delivered a lecture on Ambidexterity in Art, being the second lecture in the series the delivery of which has been arranged by the Ambidextral Cultural Society. In his opening remarks the lecturer referred to an extraordinary feat performed by Sir Edwin Landseer who drew the profile of a stag's head with its antlers complete with one hand while with the other he outlined the profile of a horse. This, Sir William Richmond thought, clearly showed that Sir Edwin Landseer must have been able to use both sides of his brain separately and he admitted that he had tried to repeat the experiment and had failed. As evidence that ambidexterity was taught among the ancients he said that the Spartans were compelled to use the sword, the shield, and the spear equally well with either hand, while a modern instance of an ambidextrous nation is the Japanese. Ambidexterity, Sir William Richmond then pointed out, was of the greatest importance to a musician and especially to the organist who had also to use his feet in the execution of his art, so that probably nothing was more difficult to attain than the proper control of the limbs in organ playing. To the artist, and especially to the sculptor, ambidexterity was almost a necessity if he would excel in his art. Not only could one hand be rested while the other was working but in some cases the use of the left hand was required to produce the best work. To educate the left hand required perseverance and as an example of what could be done by perseverence he mentioned two cases. The first was that of a congenitally armless painter who copied the "Descent from the Cross," the colossal picture by Rubens, with his feet alone. The second was the case of a young man, paralysed in all his limbs, who learned to draw and even to engrave on copper using his lips, teeth, and tongue. A copy of a work of Albert Dürer, a seated figure known as the "Man of Sorrows," engraved in this astonishing manner, was handed round for inspection when those present who were acquainted with the original pronounced the copy to be a perfect replica. Sir William Richmond then referred to the ambidexterity of Leonardo da Vinci and showed to what a large extent in various handicrafts the Italians of the present day used their left hand, this being a survival of ancient custom, in which connexion he thought that it would be an interesting experiment to see whether an Italian child learned to become ambidextrous sooner than an English child receiving similar training. He concluded by expressing his belief that the work of the Ambidextral Cultural Society was of the greatest importance and thought that a deputation should wait upon the Board of Education to urge its views being [illegible]. The lecture was illustrated by drawings [illegible] of using the left hand without previous [illegible] much amusement being caused by the lecturer's [illegible] which was made with both hands simultaneously, and which portrayed a figure whose arms were differently posed. Thus the right hand of the sketch held a stick while the left, in a different position, held a cigar. This was a difficult feat, the difficulty, of course, lying in the fact that not only were the artist's two hands working simultaneously but they were working independently. The next lecture of the series will be given on April 12th, at 5 P.M., in the rooms of the Royal Statistical Society, by Mr. E. Noble Smith who will take for his subject "Ambidexterity in Surgery."

CENTRAL MIDWIVES BOARD.—The members of the Central Midwives Board met on March 16th at 6, Suffolk-street, Pall Mall, London, S.W., Dr. F. H. Champneys being in the chair. The first business on the agenda was the hearing of the charges alleged against Margaret Solley, a certified midwife, that on Jan. 29th, 1905, at the Cardiff police court, she was convicted of letting lodgings to seamen without being licensed in accordance with the by-laws of the corporation of Cardiff, her application for a licence for such purpose having been previously refused on the ground of her bad character. It was also alleged that she had harboured women of immoral character. The midwife in question attended the meeting of the Board and strenuously protested against the charges. The Board decided that her name should be removed from the roll of midwives. The Board next heard the charge alleged against H. E. Clementson, a certified midwife, that on Oct. 22nd, 1904, while in attendance on a woman in labour she was drunk and thereby incapable of performing her duties as a midwife. This midwife sent a letter to the Board protesting her innocence. The Board decided that her name should be removed from the roll. The Board then considered the applications of candidates for the inspectorship and Dr. Lucy Beatrice Clapham was elected.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.—The members and friends of the Irish Medical Schools' and Graduates' Association [illegible] dinner on March 18th, in the Grand [illegible] Strand, London, W.C., the President of the association, Sir William Whitla, being in the chair. The loyal toasts having been duly honoured, Dr. J. H. Swanton, chairman of the council of the association, introduced Captain Thomas Campbell Mackenzie, D.S.O., R.A.M.C., to the President who asked Lady Whitla to present to Captain Mackenzie the Arnott memorial medal. The medal was granted to Captain Mackenzie for saving life at sea. On his way home from Mauritius during the passage through the Ionian Sea on Sept. 22nd, 1904, one of the crew fell overboard and though the sea was running high and a strong wind was blowing Captain Mackenzie dived fully dressed over the ship's side and securing two lifebelts which were thrown to him lashed the drowning sailor to one, retained the other himself, and waited rescue. The order was given to stop the vessel but owing to the rough sea and the speed of the boat the two men in the water were soon lost to sight and it was 40 minutes before they were found and taken on board in a very exhausted condition. The Director-General of the Army Medical Service wrote stating that Captain Mackenzie was already distinguished for his gallantry and devotion to duty with the Irish Brigade in South Africa and was a credit to his country and to the Irish medical schools. Captain Mackenzie modestly acknowledged the honour in a few brief words, declaring that it was only just his luck that he was present when the accident occurred and that any other man would have done just the same. The toast of "Our Defenders" was intrusted to Mr. J. Gubbins Fitzgerald and was acknowledged by Inspector-General W. H. Lloyd, R.N., Director-General A. H. Keogh, and Colonel Leese. The President of the Royal College of Surgeons in Ireland (Mr. A. Chance) proposed the toast of "Our Guests" and deplored the fact that certain medical schools in London required holders of Irish degrees to take further degrees before they stood a chance of election on the medical staffs. Mr. T. Lough, M.P., in acknowledging t[illegible] terms to the condition [illegible] officers. Mr. J. Tweedy, [illegible] Surgeons of England, at very short notice gave the toast of "The Association" and described how successful it had been.

The President duly acknowledged this toast on behalf of the association and the proceedings terminated.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Hasenfeld, *privat-docent* of balneology in the University of Budapest.—Dr. Johann Hjort, an eminent Norwegian ophthalmic surgeon.

LITERARY INTELLIGENCE. — The Walter Scott Publishing Company, Limited, announce the publication of a work, "Science and Hypothesis," by M. Poincaré, the well-known French mathematician and *savant*. The work is prefaced with an introduction from the pen of Joseph Larmor, M.A., D.Sc., secretary of the Royal Society. —Tourists about to visit Sicily will find a variety of information on local subjects in *La Sicile Illustrée*, a monthly journal of about 32 pages published by S. Marraffa Abate and Co. of Palermo. The languages used in the paper are principally Italian and French with a smaller proportion of English and German. It is the official journal of the Association Sicilienne pour l'Avantage Économique.—Messrs. J. and A. Churchill are about to publish a work by Dr. James Taylor, entitled "Paralysis and other Diseases of the Nervous System in Childhood and Early Life." A feature of this book will be the numerous reproductions of [illegible] lucidating the text. Another [illegible] es of Children," by Dr. J. F. [illegible] will be issued by the same [illegible]

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.—The annual meeting of the governors of this institution was held on March 21st, among the governors present being the Duchess of Albany. Mr. J. Danvers Power, who presided, in moving the adoption of the report, said that every possible recommendation of the committee appointed in 1901 had been complied with, while economies making a total of £2800 had been effected during the year. The hospital was now well worked in every way, the requirements of the medical staff had been satisfied in every way, and the nursing staff had been [illegible] being undertaken by the [illegible] tion which would be of gr [illegible] hospital was bankrupt. Great reductions had been made in expenses, without any sacrifice of efficiency, for the cost per bed, which had been £94 in 1903, was now only £81, but those responsible for its management required at least another £5000 per annum to carry on their work properly. At the conclusion of the meeting the Duchess of Albany expressed a hope that, since the condition of the hospital had been brought before the public, both as to its improved efficiency and its needs, the public would rightly appreciate and realise the importance of the same.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Training and Registration of Nurses.

Mr. CLAUDE HAY has introduced a Bill to provide for the better training and registration of nurses and for the voluntary registration of private nursing homes. The proposals are "backed" by Sir ARTHUR BIGNOLD and Mr. H. D. GREENE.

The Proposed Abolition of Compulsory Vaccination.

A Bill for the abolition of compulsory vaccination has made its appearance this week. Its sponsor is Mr. BROADHURST who is receiving the support of Mr. THOMAS BAYLEY, Sir JOHN ROLLESTON, Mr. CHANNING, Mr. CORRIE GRANT, and Mr. LEVY.

Dogs and Vivisection.

Following upon the series of questions on vivisection that have been put in the Commons since the session commenced Mr. ELLIS GRIFFITH has promoted a Bill for the prohibition of experiments upon dogs. Among those who are interesting themselves in the matter are Colonel LOCKWOOD, Colonel SANDYS, Mr. CHANNING, Mr. FIELD, Mr. TOMKINSON, and Mr. WEIR.

The Physical Condition of School Children.

The terms of reference to the inter-departmental committee on this subject which the President of the Board of Education has appointed in [illegible] ament Board are [illegible] being done and [illegible] ildren in public elementary schools; (2) and further, to inquire into the methods employed, the sums expended, and the relief given by various voluntary agencies for the provision of meals for children at public elementary schools, and to report whether relief of this character could be better organised without any charge upon public funds both generally and with special regard to children who, though not defective, are from malnutrition below the normal standard.

The London County Council General Powers Bill.

When this Bill came before the Commons on March 16th two instructions to the committee which will have to consider the Bill in detail were carried. The first was adopted by a majority of six and it was that the committee should omit the clause which would enable the Council from time to time to make representations to the Local Government Board as to the manner in which the Sale of Food and Drugs Acts, 1875 to 1899, are administered within the county. The second was to the effect that the committee should substitute in Part 4 of the Bill the medical officer of a borough council for the medical officer of the County Council. It was urged by Mr. CLAUDE HAY that matters connected with milk-supply and the dangers arising from milk-borne disease were much more likely to be effectively dealt with by the medical officer of the district than by the medical officer of the County Council. The instruction was agreed to by a majority of 14.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 15TH.

The Higher Education of Nurses

[illegible] hether the [illegible] ence to the [illegible] the select [illegible] nto the registration of [illegible] l: The Board of Trade [illegible] the objectors to, the [illegible] the Higher Education [illegible] ropose to come to any [illegible]

The Number of Commissioners in Lunacy.

[illegible]

Vaccination Exemption Certificates.

Mr. WEIR asked the President of the Local Government Board [illegible] certificates received during that year may be stated approximately as 39,750. The numbers in 1902 and 1903, respectively, were 33,632 and 37,259.

The Consumption of Methylated Spirit.

Mr. JOSEPH DEVLIN asked the Chief Secretary for Ireland whether his attention had been called to the mischief wrought amongst the working class in Derry city and county by the consumption of methylated spirit, and whether, in view of the consequences proceeding therefrom, he would take steps to have restrictions placed on the sale of this article and to warn the people of the dangers arising from its use.—Mr. LONG replied: The attention of the Board of Inland Revenue has been directed to the practice of drinking methylated spirit in Londonderry. It is an offence under the Spirits Act, 1880, to sell such spirit as a beverage. The officers of the Inland Revenue are using their best endeavours to procure evidence which will sustain proceedings under the Act in this respect and the police have been instructed to afford them every assistance in the matter.

THURSDAY, MARCH 16TH.

The Feeding of School Children.

Mr. JAMES HOPE asked the Secretary to the Board of Education whether he hoped during the present session to introduce legislation [illegible] the feeding of children in public elementary schools — [illegible] ot intended to introduce any such [illegible]

The Dismissal of Medical Officers in Scotland.

Mr. CATHCART WASON asked the Lord Advocate whether his attention had been directed to the numbers of cases of dismissal of medical [illegible] thereby by the poor and [illegible] of the Local Government [illegible] e fact that the Medical Association had [illegible] applicants against accepting appointments in certain parishes; and whether, in all the circum- [illegible] The honourable Member has himself introduced a Bill on the [illegible] session. subject and, as he is aware, the question is a very controversial one.

Vivisection in Glasgow.

Mr. WEIR asked the Home Secretary whether he would state how many animals were inoculated with the rabies virus in the performance of the two experiments carried out by Mr. R. M. Buchanan at the Veterinary College, Glasgow, under the Cruelty to Animals Act, 1876, referred to in the government inspector's report for 1903; and the number of animals used for the purpose of vivisection under the above Act for the years 1903 and 1904.—Mr. Akers-Douglas replied: In the two experiments in question two rabbits were inoculated, not with rabies virus, but with emulsion of the brain of a dog which had been killed by the police on suspicion that it was rabid. The experiments were carried out at the Glasgow Public Health Laboratory, not at the Veterinary College. In answer to the second part of the question I have to say that the returns for 1904 are not yet complete. In 1903 the number of experiments performed was 19,084, of which nearly 17,000 were inoculation or feeding experiments. The number of animals used for the purpose of these experiments cannot be precisely stated but it is slightly less than the total number of experiments.

Cats and Dogs for Vivisection.

Sir Frederick Banbury asked the Home Secretary whether he was now in a position to make a further statement as to the purchase of cats and dogs from persons convicted of stealing these animals for the purposes of vivisection.—Mr. Akers-Douglas answered: I fear I cannot add anything to the answers on this subject which I gave on the 23rd of last month. I have no information showing that cats and dogs are purchased for the purposes of experiment from persons who have been convicted of stealing those animals.

The Report on Physical Deterioration.

Sir John Gorst asked the First Lord of the Treasury whether the Government would refer the report of the Departmental Committee on Physical Deterioration to a Select Committee of the House of Commons.—Mr. Balfour said: In answer to my honourable friend I have to say that so far as the report to which he refers relates to public elementary schools a departmental committee has been appointed to obtain precise information as to the extent of the evils complained of, and I think in the meantime the course which he suggests would not be desirable. I should like to reserve judgment on that until the departmental committee has reported.

Mosquito-Proof Sleeping Rooms.

Mr. Cathcart Wason asked the Secretary of State for the Colonies whether in view of the established relations between malaria and mosquitoes he would cause inquiry to be made as to the expediency of erecting mosquito-proof sleeping rooms for the employés on our West African railways.—Mr. Lyttelton said: The quarters provided for railway employés in Sierra Leone and Lagos include mosquito-proof rooms. As regards the Gold Coast I have no information but I will make inquiry. I may add that mosquito nets have also been supplied by the Government but I understand that some change has recently been made in Lagos and I will inquire about it.

MONDAY, MARCH 20TH.

The Physical Condition of School Children.

Sir John Gorst asked the Secretary to the Board of Education whether on the occasion of his visit to the Johanna-street Board School he found any children unfit to attend to the duties of the school in a proper way; whether he had any reason to think that Dr. A. Eichholz in his evidence before the Commission on Physical Deterioration exaggerated the proportion of such children; and whether public money was still spent at this school in providing instruction which the children could not from their physical condition attend to.—Sir William Anson replied: On the occasion of my visit to the Johanna-street Council School the children were attending to the duties of the school in a proper way, but I think that many of them might with advantage have been provided with a curriculum more suited to their capacities. I am not in a position to criticise the medical evidence of Dr. Eichholz but I have good reasons for thinking that it may not be final. The school is still being conducted as a public elementary school.

Sir John Gorst asked the Secretary to the Board of Education whether he would give the names of the departmental committee which the President of the Board of Education had appointed for the purpose of providing useful and precise information on the physical condition of children in public elementary schools and the date of their appointment; what methods the committee had adopted for obtaining information more precise than that furnished to the Committee on Physical Deterioration by Dr. Eichholz and other witnesses; and to what use the information thus provided had been put.—Sir William Anson said: An inter-departmental committee, consisting of Mr. H. W. Simpkinson, C.B., assistant secretary of the Board of Education, chairman; Dr. H. Franklin Parsons, assistant medical officer under the Local Government Board; Mr. C. Jackson, chief inspector of elementary schools under the Board of Education; the Honourable Maude Lawrence, chief woman inspector of the Board of Education; Mr. R. Walrond, senior examiner of the Board of Education; with Mr. E. H. Pelham, junior examiner of the Board of Education, as secretary, was appointed on March 9th to collect certain information as to the medical inspection of children in elementary schools and as to the provision of meals for such children by voluntary agencies. I am sending the right honourable Member the terms of reference. I am not prepared to state the methods which the committee will employ for obtaining this information. But I hope that it will provide information more thorough and precise than any which we at present possess and will enable deductions to be drawn less indefinite in character than those which are supplied in the report of the Committee on Physical Deterioration.

Sir Walter Foster asked the President of the Local Government Board whether, in view of the evidence given before the Committee on Physical Deterioration relating to the condition of children, he would issue a circular to boards of guardians calling their attention to their powers and duties as to underfed childr[illegible] importance, in the case of giving out-relief to [illegible] milk rather than a large amount of bread.—[illegible] said: So far as I am aware there is no reason to suppose that boards of guardians are not alive to the powers and duties which attach to them in relation to underfed children, where application is made to them for relief. With regard to the latter part of the question I think that boards of guardians may be trusted to use their discretion as to giving milk as out-relief to young children. The Local Government Board called the attention of its inspectors to the subject last year. It does not appear to me to be necessary to issue a circular as suggested.

Underground Bakehouses.

Mr. Field asked the President of the Local Government Board whether his attention had been drawn to the report of a case in which the mayor, aldermen, and council of the borough of Paddington were summoned for refusing to grant a certificate to allow a baker to use his premises; and whether having regard to the observations made by the stipendiary magistrate who dealt with the case (granting at once the necessary certificate) he would in the interests of traders issue a circular to all borough councils and administrative bodies as to their duties under the Acts relating to public health and sanitation.—Mr. Gerald Balfour replied: I [illegible] f the case referred to and have made s[illegible] I understand that the consideratior[illegible] borough council and its officers have administered the enactment under which the proceedings were taken has been acknowledged by a considerable number of the proprietors and lessees of underground bakehouses in the borough, and it does not seem to me necessary to issue any such circular as that suggested.

Combating Plague in India.

Sir Walter Foster asked the Secretary of State for India whether his attention had been drawn to the successful action taken by the Madras municipal authorities in repressing a recent outbreak of plague in the fishing village of Kuppam; whether he was aware that the measures by which plague had been kept out of the city of Madras had met with popular approval; and whether he would invite the Government in other provinces to follow the example of Madras and to take measures for the prevention of plague in consultation with the municipal and rural local authorities.—Mr. Brodrick answered: I have seen accounts of the case which reflects great credit on the local health officers. The hamlet, however, was very favourably situated for the early discovery of the outbreak and for prompt and effective action to stop its spread. All provinces in India have rules which prescribe that similar preventive measures shall be taken by Government officers in consultation with the municipal and rural authorities and with the concurrence of the people. But the degree of success must necessarily depend on local circumstances.

Medical Officers of Health and Practice.

Mr. Weir asked the Lord Advocate how many county medical officer of health in Scotland now engage in general or consultative practice.—The Lord Advocate replied: I am informed by the Local Government Board that the number is six.

TUESDAY, MARCH 21ST.

Limited Liability Companies and Poison Regulations.

Mr. Remnant asked the Home Secretary whether, in view of the fact that limited liability companies were not amenable to the poison regulations prescribed by the Pharmacy Act, 1868, and approved by the Privy Council, and to the statement of the President of the Board of Trade that the question of amending the law to remedy this evil would not be germane to a Companies Bill, he would take into consideration the expediency of recommending that facilities should be given during the present session for the passing of the Pharmacy Acts Amendment Bill, which was designed to place companies in the same position as individuals in regard to the sale of poisons.—Mr. Akers-Douglas replied: I regret that I cannot promise facilities to the Bill referred to by the honourable Member. I am not in a position to add anything to the answer which I gave the other day to Sir John Tuke.

Pauper Alien Lunatics and Imbeciles.

Colonel Legge asked the Home Secretary whether he could give the number of pauper alien lunatics and imbeciles maintained in lunatic asylums and public institutions in the United Kingdom, and whether any means existed of ascertaining the country of origin of such lunatics and imbeciles.—Mr. Akers-Douglas said: The number of pauper alien lunatics maintained in county and borough asylums in England and Wales was in 1903 817, as is shown in Table XIVA on page 146 of the last report of the Commissioners in Lunacy. The same table gives the countries of origin, information as to which is obtained from the medical officers of asylums. I regret that I am unable to give the number of alien imbeciles maintained in public institutions other than asylums and also that, without longer notice, I cannot give the number of alien lunatics for the whole of the United Kingdom.

Vaccination Exemption.

Mr. Weir asked the Home Secretary whether he was aware that a labourer named Harrison was recently refused a certificate of exemption from vaccination for his child by the magistrates sitting at Spilsby and Boston; that he was subsequently summoned and in default of payment of the fine of £1 and £1 2s. 6d. costs was sent to prison for one month; and that since this man's release he was on Feb. 27th again summoned for not obeying the vaccination order; and, in view of the fact that he had repeatedly endeavoured to make clear that he conscientiously believed that vaccination would be prejudicial to the health of his child, would the Home Secretary consider the expediency of directing the attention of the magistrates at Spilsby and Boston to the remarks made by the Lord Chief Justice at Birmingham on July 27th last in regard to the principles on which the Act ought to be administered.—Mr. Akers-Douglas answered: I have made inquiries into this case and I learn that the remarks on the subject of conscientious objection to vaccination made by the Lord Chief Justice at the Birmingham summer assizes were brought to the notice of the Spilsby magistrates before they convicted Harrison. The question whether the circumstances justify the issue of a certificate of exemption is in each case one for the discretion of the magistrates, with which I have no power to interfere.

BOOKS, ETC., RECEIVED.

Government Printing Office, Washington.

Report on the Origin and Spread of Typhoid Fever in U.S. Military Camps during the Spanish War of 1898. By Walter Reed, Major and Surgeon, U.S. Army, Victor C. Vaughan, Major and Division Surgeon, U.S. Volunteers, and Edward O. Shakespeare, Major and Brigade Surgeon, U.S. Volunteers. Vol. I. Vol. II. Maps and Charts.

ımbridge circus, W.C.

'len. By Major Chas E Woodruff, A.M., M D., Surgeon, United States Army. Price 10s. 6d. net

The Modern Mastoid Operation. By Frederick Whiting, A M, M D, Professor of Otology, Cornell University Medical College, Aural Surgeon to New York Eye and Ear Infirmary. Price 27s. 6d. net.

WILLIAMS AND NORGATE, 14, Henrietta street, Covent garden, W C. (For THE UNIVERSITY PRESS of Liverpool.)

Liverpool School of Tropical Medicine Memoir XIV. Report on the Sanitation and Anti Malarial Measures in Practice in Bathurst, Conakry, and Freetown By Rubert Boyce, M B, F R S, Professor of Pathology, the University of Liverpool, Arthur Evans, M.R.C S, L R.C.P.; and H Herbert Clarke, M.A, B C. Cantab. February, 1905. Price not stated.

WRIGHT, JOHN, AND Co, Bristol. (SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO, LIMITED, London)

The Medical Annual. A Year Book of Treatment and Practitioner's Index 1905. Twenty third year. Price 7s. 6d net. Stereo scopes at 2s. or 2s. 6d. extra.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ADAMS, GEORGE BASIL, M.B., B S. Oxon., has been appointed Resident ... Diseases of the

, L.R C S

ynton

nted House

the Chest,

been re appointed

been appointed

Throat and Ear Hospital

BUZZARD, E FARQUHAR, M.D. Oxon, M R C P. Lond., has been appointed Assistant Physician to the National Hospital for the Paralysed and Epileptic, Queen square, London, W C

CHAPMAN, JOHN E, M.R C S, L R.C P. Lond, has been appointed a District Medical Officer by the South Molton (Devon) Board of Guardians

CLAPHAM, LUCY B, M.B Lond., has been appointed Inspector under the Central Midwives Board

COOMBS, CAREY FRANKLIN, M D, B S Lond, has been appointed

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Guardians.

HARVEY, ALFRED, M B Lond, M.R C S, L S A, has been appointed Medical Officer to the Children's Homes by the Bristol Board of Guardians

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JAMES, M R C S, L R C P Lond, has been appointed District Medical Officer by the South Molton (Devon) Board of Guardians

SYDENHAM, GEORGE F., M R C S, L.S A, has been appointed a District Medical Officer by the South Molton (Devon) Board of Guardians.

TAYLER M R C S,

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Winterton

WA

M R C S, L S A, has been re appointed Medical Officer of Health of the Highbridge (Somerset) Urban District

WIGHAM B. HARPER, M.D Durh, M.R C S, has been elected a District Medical Officer by the South Molton (Devon) Board of Guardians

WISE, NICHOLAS VINCENT, L.R C P. & S Irel, has been appointed Medical Officer for the Second District by the Westbury (Wiltshire) Board of Guardians

YOUNG, JAMES, M D, C M. Glasg., has been appointed Medical Officer to the Children's Homes by the Bristol Board of Guardians

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon Salary £80 and fees

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Resident Surgical Officer. Salary £100 per annum.

BIRMINGHAM, RUBERY HILL ASYLUM—Two Junior Assistant Medical

attendance

MIDDLESBROUGH, NORTH RIDING INFIRMARY—House Surgeon, unmarried Salary £100 per annum, with board, residence, and washing

PARISH OF LAMBETH—District Medical Officer. Salary £70 per annum, with fees

ROYAL FREE Gray's Inn road, W C—House Physician and Casualty Board, lodging, and washing Physician and Female House Sur lodging, and washing

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geon, salary

salary £40 per an

and Albert Docks

House Surgeon, salary

washing in each case

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY—Honorary Oph

rary Anæsthetist

geon, unmarried. Salary

AND INFIRMARY.—House Surgeon, unmarried Salary per annum, with residence,

GENERAL HOSPITAL—Assistant

Honorarium at rate of £75 per

ashing

l Officer, unmarried. Salary

nd attendance

Births, Marriages, and Deaths.

BIRTHS.

ALFORD—On March 16th, at Stafford Lodge, Weston super-Mare, the wife of H T Marmaduke Alford, L R.C P Lond, M R C S. Eng, of a daughter

ENSOR—On March 16th, at Southall, Middlesex, the wife of Charles William Ensor, M R C S Eng, L.R C P Lond, of a son

EVANS—On March 16th, at Upper Wimpole street, W., the wife of Willmott Evans M D, F R C S, of a daughter

GLA—On March 15th, at Mildenhall, Suffolk, the wife of Howard

Ham, Essex, the

LES

MARRIAGE.

CREAN—HEREDIA—On March 14th, at St George's, Hanover square, Captain T J. Crean, V C, R A M C, to Victoria, only daughter of Senor Don Tomas Heredia, Malaga, Spain

DEATH.

SWINHOE—On the 18th March, at Park House, Swindon, Wilts, Astley Cooper, third son of George Money Swinhoe, of pneumonia.

N.B—A fee of 5s is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A QUESTION OF FEES.

To the Editors of THE LANCET.

SIRS,—Would you kindly help me with your opinion in the following case? A lady, a patient of mine, has a distant cousin who has to earn her living as a companion with a salary varying from £15 to £20 a year. While staying with her employer at a small country village this cousin is attacked with hæmoptysis and is for some weeks seriously ill. The resident doctor, living quite near, is called in and he advises and supplies medicine for about three months; in all 96 visits are paid, but some of these are at the rate of two and three per day. There is no doubt that the doctor is most kind and attentive, but some of the visits charged, especially in the case of second and third visits, were merely visits of inquiry at the end of the day's round. During the course of the illness my patient pays a visit to her cousin and casually meeting the doctor says, "I hope that you will do what you can for Miss ——." In due course an account is sent to Miss ——, amounting to £32, a sum entirely beyond her power to pay. By degrees her friends, including my patient, help her to pay £12. She is then pressed by the doctor to pay the full sum and he also threatens my patient with the county court. She puts the matter in the hands of her lawyer who advises her that she has no legal liability, informs the doctor that he is ready to accept service of a summons, and hears no more of it.

My patient is not desirous of taking refuge behind a legal technicality from a just claim and is willing to pay a reasonable sum to settle the account. She is, therefore, anxious to ascertain what would be a fair charge in the circumstances. I have advised that 3*s.* 6*d.* a visit to include medicine would be a reasonable sum. The detailed account shows 96 visits charged—this would be £16 16*s.*; £1 1*s.* was paid as a consultation fee and 30*s.* were paid for ice and brandy, making a total of £19 7*s.* Of this £12 has been paid and my patient is ready to pay a further sum of seven guineas to settle the account on behalf of her cousin. Would this be fair?

I am, Sirs, yours faithfully,

March 20th, 1905. A CONSULTANT.

*** We should say from the circumstances detailed above that 3*s.* 6*d.* per visit is a reasonable sum to offer.—ED. L.

THE "SAFETITE" DOOR CATCH.

THIS is an ingenious device for securely fastening an ordinary room door or house door in such a way that it may remain open to the extent of a few inches. On shipboard, especially in vessels which enter warm latitudes, the doors of the officers' and passengers' rooms are usually provided with hooks for this purpose but these are no protection against intruders as they can obviously be unhooked from either side of the door. The "safetite" door catch, on the contrary, is fixed inside the door and can only be applied or unfastened by the occupants of the room. A door may therefore by this means be kept partly open for the purpose of admitting fresh air without the possibility of anyone entering from the outside. This catch works on nearly the same principle as the chain of a front door. A knob, supported by a narrow neck, slides on a short metal rod hinged to the door-post, while at a corresponding level on the door itself there is a tube open at one end and having a longitudinal slot. The knob is made to enter the end of the tube and as the door is gradually opened the neck of the knob slides in the slot until the end of the latter is reached and further progress thereby stopped. The catch is made in three qualities, costing respectively 2*s.* 8*d.*, 3*s.*, and 3*s.* 6*d.* each. It may be obtained at 12, Irwell-chambers West, Union-street, Liverpool.

THE CASE OF DR. A. D. GRIFFITHS.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me to acknowledge the receipt of the following additional contributions? Mr. N. E. Thomas, £1 1*s.*; Dr. S H. Steel, 5*s.*; Mr. Fred. Buckham, 5*s.*; previously acknowledged, £69 18*s.* I am, Sirs, yours faithfully,

ALEX. P. FIDDIAN, M.B. Lond.,
23, The Walk, Cardiff, March 21st, 1905. Honorary Treasurer.

◆

C. A. M.—We do not know of any text-book of "pathology" in which such conditions as "coma" and "delirium" are described. In the larger treatises on medicine, such as Professor Clifford Allbutt's "System," the pathology of delirium and coma will be found to be discussed under the various diseases in which they occur.

K. C.—We sympathise with our correspondent's views in general, but having regard to the particular journal in which the announcement appeared and to the name of the invalid we think that in this instance the offence does not lie with the medical men.

R. C.—We think that Dr. X ought to have made some communication to Dr. A, but perhaps he was assured that this had been done by the patient's family.

Inquirer.—We propose to publish a note on the method.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Wee

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P. Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M. Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-squar (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.). West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Fre (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throa (9.30 A.M.), Royal Ear (2 P.M.), Samaritan (9 30 A.M. and 2.30 P.M. Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Ch (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (29th).—St. Bartholomew's (1.30 P.M.), University Coll (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing C (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's Coll (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P. National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samar (9 30 A.M and 2 30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Nort Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden sq (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Ortho (3 P.M.).

THURSDAY (30th).—St. Bartholomew's (1.30 P.M.), St. Tho (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Mid (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. M (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-sq (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.).

FRIDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1 30 P.M.), Char Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. M (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Northern Central (2.30 P.M.), West London (2.30 P.M.), Lon Throat (9.30 A.M.), Samaritan (9 30 A.M. and 2.30 P.M.), Th Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-sq (2 P.M.), Central London Throat and Ear (2 P.M.), Royal Ear (10 A.M.).

SATURDAY (1st).—Royal Free (9 A.M.), London (2 P.M.), Middles (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A. Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P. Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthal (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (27th).—MEDICAL SOCIETY OF LONDON (11, Chandos street, Cavendish-square, W.).—8 30 P.M. Papers:—Dr. H. D. Rolleston: Pericolitis Sinistra —Dr. A. E. Carrer: Acute Infective Colitis.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.)—7 P.M. Council. 8 P.M. Casual Communication:—Mr. C. A. Clarke: A Sterilisable Bur-Box. Paper:—Mr. J. T. Carter: The Evolution of the Vertebrate Skull, with special reference to the Development and Suspension of the Jaws (illustrated with lantern slides and specimens).

TUESDAY (28th).—ROYAL MEDICAL AND CHIRURGICAL SOC (20, Hanover-square, W.).—8.30 P.M. Papers:—Dr. T. Oli Ankylostomiasis as affecting Miners.—Mr. A. W. M. Robson: (1) the Operation of Jejunostomy (description of a new method); Actinomycosis of the Gall-bladder.

THERAPEUTICAL SOCIETY (Apothecaries' Hall, Blackfriars).—3 30 P. Council Meeting. 4 P.M. Papers:—Dr. J. Burnet: The Therapeutics of Aspirin and Mesotan.—Dr. Hutchison: The Treatme of Graves' Disease by Iodo-ether Injections.

THURSDAY (30th).—CHILDHOOD SOCIETY AND THE BRITISH CHIL STUDY ASSOCIATION (Parkes Museum, Margaret-street, W.) 8 P.M. Discussion on Provision made under the Elementary Edu tion Act, 1899, for Training of Defective Children (opened by F. Beach, Dr. G. E. Shuttleworth, Mrs. D. Berry, M.D., and E. M. Burgwin). (Arranged by the Childhood Society.)

NEUROLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish square, W.).—8.30 P.M. Clinical Evening. Cases in attendance at 8 P.M.

[illegible] NSTRATIONS, &c.

M [illegible] (West London Hospital, [illegible] ter: Anæsthetics.

[illegible] CLINIC (22, Chenies street, [illegible] nique. (Skin.) 5 15 P.M. Prof. W. Cheyne: [illegible] of Joints, their Diagnosis and Treatment.

UESDAY (28th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M. Dr. W. H. Allchin: Some Aspects of Malnutrition. (Lumleian Lecture.)

POST GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.)—5 P.M. Mr. Paget: Surgical Cases.

MEDICAL GRADUATES' [illegible] W.C.).—4 P.M. Dr. [illegible]

N [illegible] ville: Anæsthetics.

WEDNESDAY (29th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—3 P.M. Mr. Dunn: Diseases of the Cornea and their Treatment.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.)—4 P.M. Mr. J. Smith: Clinique. (Surgical.) 5.15 P.M. Mr. W. D. Miles: Rectal Diseases.

THURSDAY (30th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M. Dr. W. H. Allchin: Some Aspects of Malnutrition. (Lumleian Lecture.)

OST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.)—5 P.M. Mr. Baldwin: Practical Surgery.

EDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Dr D. Grant: Some Important Types of Deafness.

OUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE [illegible] M. Lecture:—Mr. H. Scharlieb: [illegible] (Post-Graduate Course.)

[illegible] (Gt. Ormond-street, W.C.).— P.M. Lecture:—Mr. Collier: Some Diseases of the Urinary Organs.

DAY (31st).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.). 5 P.M. Dr. Abraham: Cases of Skin Disease.

DICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. S Stephenson: Clinique. (Eye.)

RTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4 30 P.M. Lecture-Demonstration:—Mr. A. de Prenderville: Anæsthetics.

EDITORIAL NOTICES.

It is most important that communications relating to the [illegible] torial business of THE LANCET should be addressed exclusively "TO THE EDITORS," and not in any case to any [illegible] ntleman who may be supposed to be connected with the [illegible] torial staff. It is urgently necessary that attention be [illegible] n to this notice.

[illegible] especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

[illegible] cannot prescribe or recommend practitioners.

[illegible] l papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

[illegible] ers relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

[illegible] cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1904, which was completed with [illegible] issue of Dec. 31st, and the Title-page to the Volume, [illegible] e given in THE LANCET of Jan. 7th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1904 are now ready. Bound in cloth, gilt lettered, price 18s., carriage extra.

Cases for binding the half year's numbers are also ready. Cloth, gilt lettered, price 2s., by post 2s. 3d.

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
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Subscriptions (which may commence at any time) are [illegible]

THE [illegible]

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTICE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Mar. 23rd, 1905

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rainfall	Solar Radia in Vacuo	Maximum Temp Shade	Min Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 a.m.
Mar. 17	29 55	S W.	0·03	87	64	44	45	47	Fine
" 18	29 62	S W.	0 62	70	57	47	48	49	Raining
" 19	29 93	W.	...	98	57	42	43	45	Fine
" 20	29 98	E.	...	95	56	41	42	44	Cloudy
" 21	29 75	E.	...	76	56	44	43	46	Overcast
" 22	29 86	E	...	94	62	41	43	44	Foggy
" 23	29 76	S	...	72	58	44	49	50	Fine

During the week marked copies of the following newspapers have been received:—*Westminster Gazette, Pall Mall Gazette, Reading Irish Times, Western Daily Press, Surrey Advertiser, Reading Mercury, Literary Digest (New York), Scientific American, Mining Journal, Daily News, Australasian Medical Gazette, Daily Chronicle, Western Mail (Cardiff), Plymouth Mercury, Freeman's Journal, Herefordshire Mercury, Windsor and Eton Express, Psycho therapeutic Journal, Belfast Whig, Halifax Courier, Echo, &c.*

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